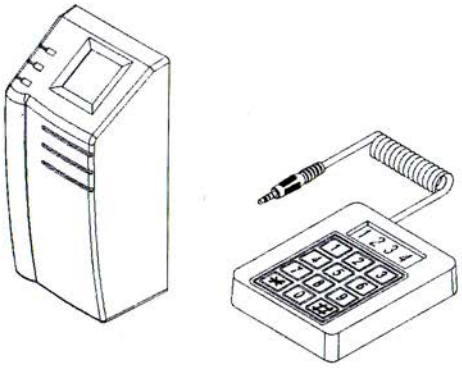
SOCA®

SF-2000

FINGERPRINT
OPERATION AND INSTALLATION



SOCA TECHNOLOGY CO.,LTD.
2005 AUGUSY

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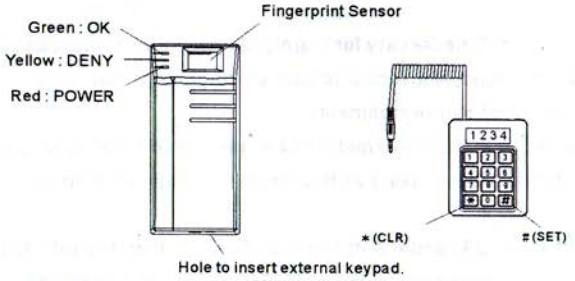
1. Specifications

1. No card or ID necseeary for fingerprint matching.Just press your finger onto the fingerprint sensor to activate fingerprint matching.
2. Maximum of 1000 enrollments.
3. The capacity data input/output can reach up to 2,000 by single reader operation. When linking with computer, its data input/output capacity can be unlimited.
4. Built-in RS-232 and RS-485 communication interface with 32 sets and can be expanded to maximum of 255 sets when connected with repeater. With an optional of modem or TCP/IP for online data transmitting control.
5. Door open methods :
   (1) Proximity and fingerprint matching(faster).
   (2) Fingerprint matching(depends on the volume of registered fingerprint).
   (3) Proximity door opening.
   (4) Push button door opening(time zone restriction).
6. Each user can register 3 separate sets of fingerprints in case of any injured fingers unable to recognize when register, and the last fingerprint enrolled is set as anti-duress fingerprint.
7. Built-in access control function which has an output of RELAY and to identify validation of the card.
8. 3 LED lights(Red : POWER , Green : OK , Yellow : DENY).
9. Built-in perpetual calendar and battery.
10. 10 time zones. Every time zone has seven days (Monday to Sunday)and each day has eight time frames to set.
11. Anti-tampered. Siren will be activated when it is being vandalized. Fingerprint sensor glass is made of tampered glass which sustains major scratches (hardness of 7 and above).
12. Specific software to alter reader number and optional sensor parameter.
13. Optional external keypad used to set single card proximity,single card number entry,and single card deletion.
14. Use of the same software of SF-1000 for easier operation.
15. Built-in card sensor (Frequency EM:125KHz , Mifare:13.56MHZ).
16. Opertion temperature : 0°C-55°C ; Humidity : 85%Rh Max.

2. Reader Front Panel



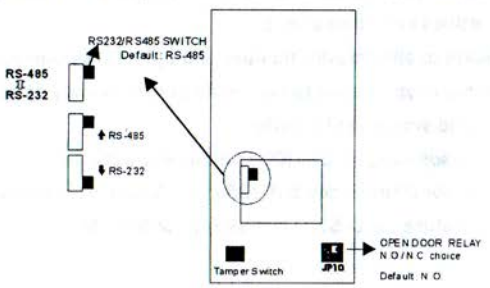
※ Keypad (Optional)

※ All functions are disable except setting mode when keypad is inserted.

3. Lights and beep sounds

		Normal mode	Setting mode(Keypad inserted)
Lights	Red LED	Red light is on when power is on.	Flashing every 0.5 second.(Password is entered and master fingerprint is matched correctly)
	Yellow LED	DENY:Light is off after beep sound when invalid card or fingerprint is entered. Busy:Flashing when data is transmitting.Light is on when uploading data is in process (proximity card and fingerprint matching are disable during this stage).	Light is on while entering setting mode.Light is flashing every 0.5 second while waiting for fingerprint to enter.
	Green LED	Light is on when card or fingerprint is entered correctly and door is opened.	Light is off after beep sound when correct data are entered.
Beeps	1 short Beep	Confirmation sound	Entering or confirmation sound.
	2 short Beep	Nil	Insert keypad and correct password is entered.
	1 long Beep	Nil	Change of setting value is confirmed.
	3 short Beep	Invalid sound	Invalid sound.

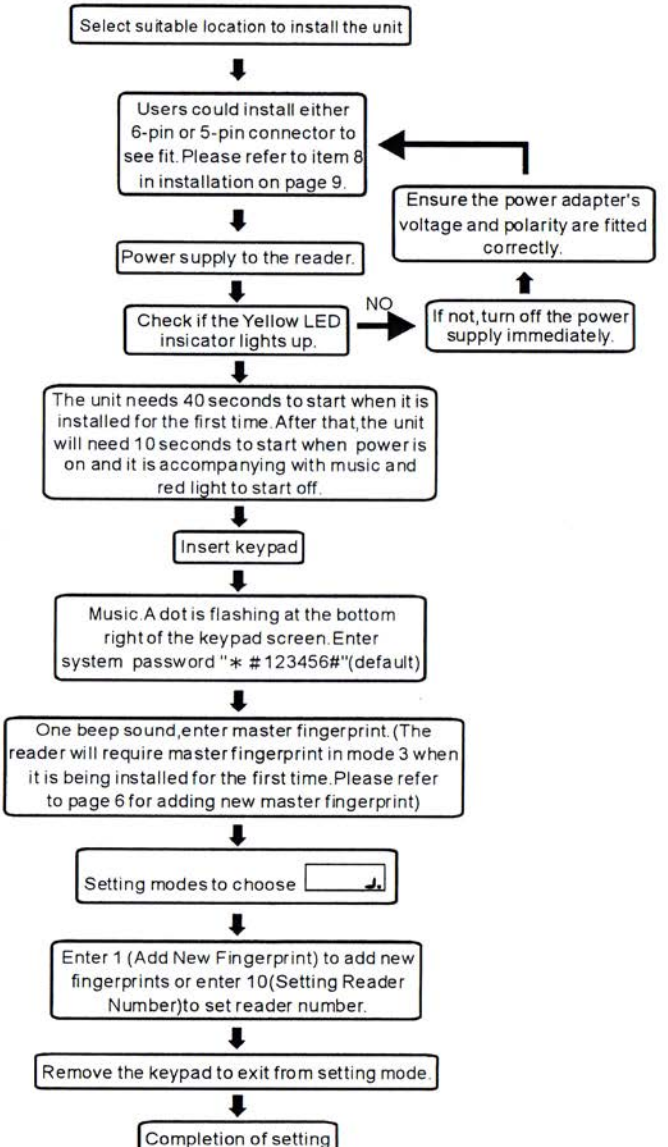
4. Back Panel :



5. SF-2000P Display

1.FP.1	: Add new first fingerprint ; ready to press for the first time.
1.FP.2	: Add new first fingerprint ; ready to press for the second time.
2.FP.1	: Add new second fingerprint ; ready to press for the first time.
2.FP.2	: Add new second fingerprint ; ready to press for the second time.
3.FP.1	: Add the third fingerprint ; ready to press for the first time.
3.FP.2	: Add the third fingerprint ; ready to press for the second time.
0.FP.	: Total fingerprint of the user is zero.
1.FP.	: Total fingerprint of the user is one.
2.FP.	: Total fingerprint of the user is two.
3.FP.	: Total fingerprint of the user is three.
.FP.	: Adding new fingerprint ; ready to remove finger.
.	: Keypad is insered ; ready to enter correct password.
FP. ⌟	: Keypad is insered and password is entered correctly ; ready to press master fingerprint. Ready to press fingerprint when it is in setting mode 30.
⌟.	: Setting modes to choose.
1.	: Setting mode 1.
2.	: Setting mode 2.
3.	: Settinf mode 3.
37. 1	: Setting mode 37 , current setting value as 1.
Err.	: Error.

6. Installation Procedures

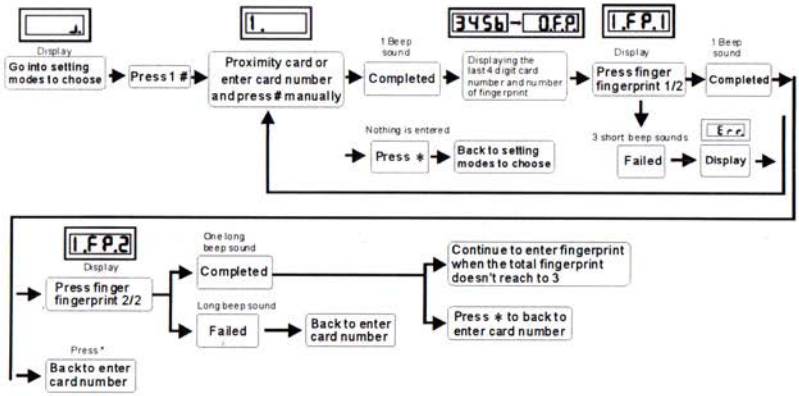


7. SETTING MODES & FUNCTIONS
(Require optional keypad to operate)

- Enter system password * #123456# to enter system modes. The reader will automatically enter into Add New Master Fingerprint function when it is being installed for the first time.
- Enter system password * #123456# (default)and then master fingerprint before entering into setting mode.

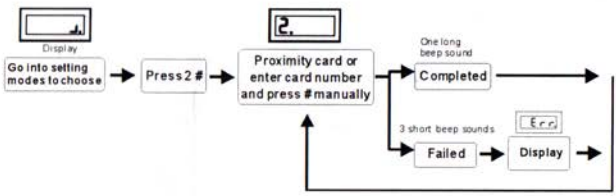
1. Add New Fingerprint

Example of card number 123456 to enter for the first time.

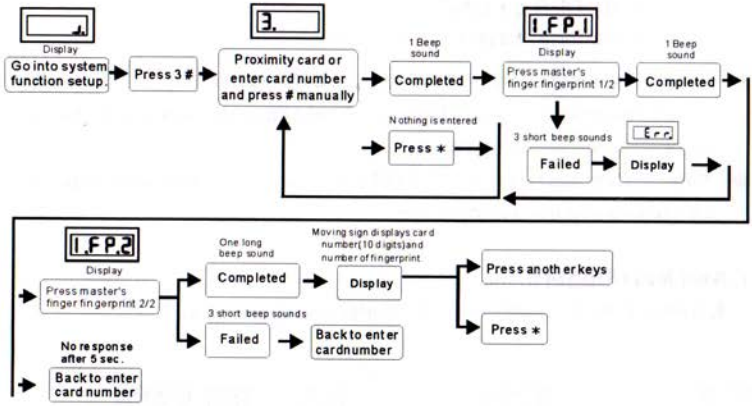


※ Press 2 times for the same fingerprint.

2. Delete Fingerprint(Fingerprint or Card)

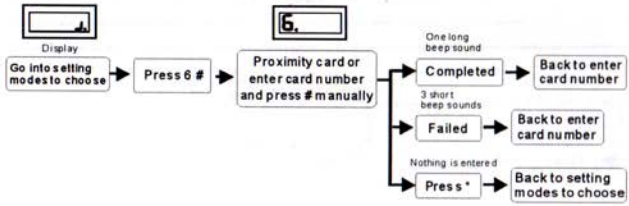


3. Add New Master Fingerprint



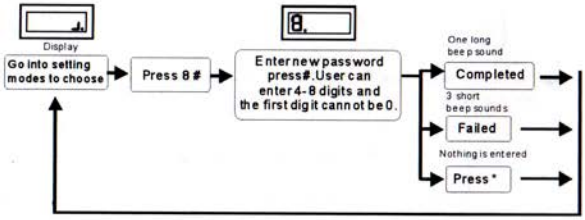
※ Only 5 master fingerprints are allowed to enter for every unit ; not 5 master ID.

4. Add New Card

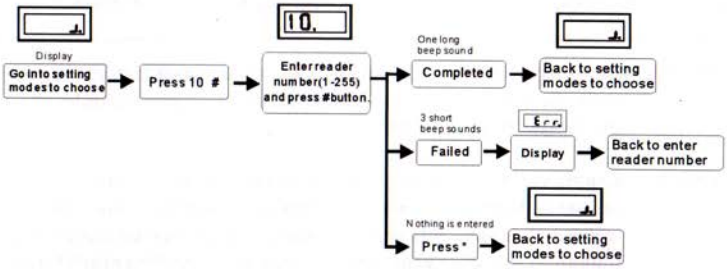


5. Change System Password

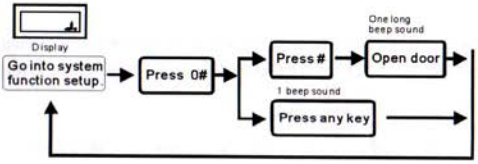
New password which is more than 4 digits will be shown as moving sign.
New password should be between 4-8 digits and the first digit cannot be 0.



6. Setting Reader Number



7. Door Opening



Setting fingerprint optic parameter . (Please seek professional assistance and do not simply change the default value of the unit)

Do not simply change the default value without any professional assistance.

Function30 : Autotuning Optic unit to adjust its brightness and gain value automatically which is used for high contrast of brightness outdoors,or low temperature in winter.

Function 31 : Brightness setting.Adjusting brightness range is 17~999.Lower the value when light is strong.Adjusting to higher value when light is dim.Lower the value when humidity is higher or with wet finger. Adjusting to higher value when humidity is low. Fingerprint traits will become too dark to identify when the value is set too high with wet finger.Default value as 200.

Function 32 : Adjusting gain value range is 1~63. It is suggested do not adjust the default value 40.

Function 33 : Security levels as 1:1(Seculevel) . 1 represents the lowest security level and 9 represents the highest security level. The default value of 1:1 is set as 5.

Function 34 : Security levels as 1:N(Iseulevel). The default value of 1:N is set as 3. It is suggested to set the value as 5 for access control and 3-4 for time and attendance.

Function 35 : Blinking process.1 represents multiple blinking process and it is set as high security level and lower speed which is suitable for access control;0 represents single blinking process and it is set as lower security level and higher speed which suitable for time and attendance.

Function 37 : SMARTCAPTURE,Smartcapture will disable function 31 and function 32 as it will capture the fingerprints according to the external environment.It is suggested to use this functionat the environment which changes a lot (humidity or temperature) or unclear fingerprint traits.It is not suggested to use it at places with dim light.

Note : ① 1:1 matching requires user to enter fingerprint code to match with its feature file.

② 1:N matching scans and matches user's fingerprint with all the registered fingerprints automatically.

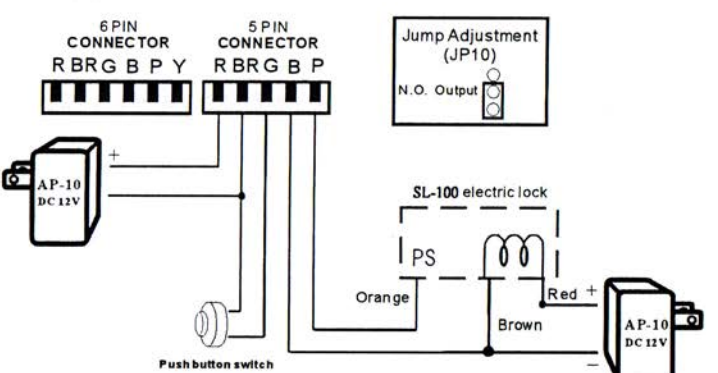
8. INSTALLATION OF PROXIMITY READER :

1. SF-2000 Connections

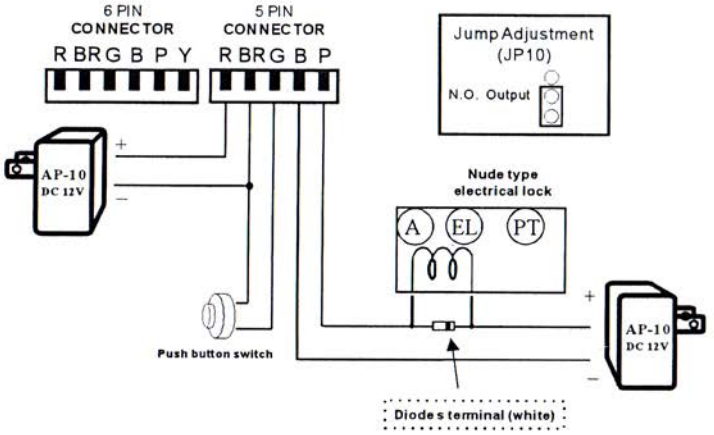
5 PIN	PURPLE	Open door relay NO. or NC.
	BLUE	Open door relay COM
	GREEN	Exit push button
	BROWN	Input power,negative GND
	RED	Input power,negative +12V
6 PIN	YELLOW	Anti-Duress alarm output
	PURPLE	Alarm Output
	BLUE	Door sensing
	GREEN	Communication RXD
	BROWN	G N D
	RED	Communication TXD

2. Wiring connection for additional electric lock and push button door open switch.
   There are mainly three types of wiring for different electric locks :

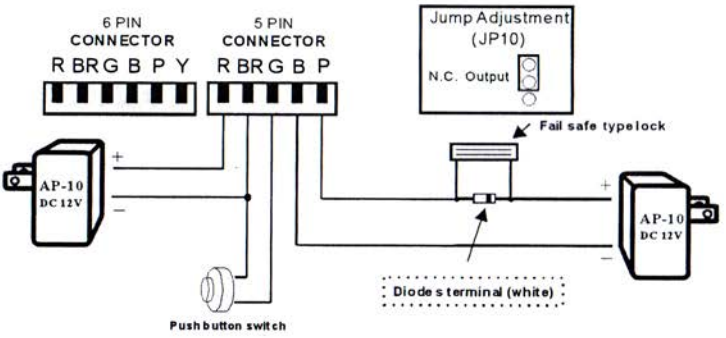
A. SOCA SL-100 Fail safe electric lock



B. Fail secure :

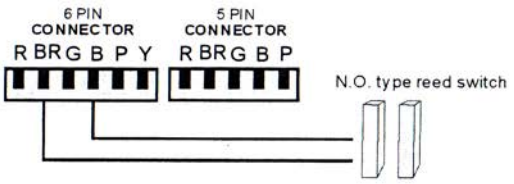


C. Fail safe :



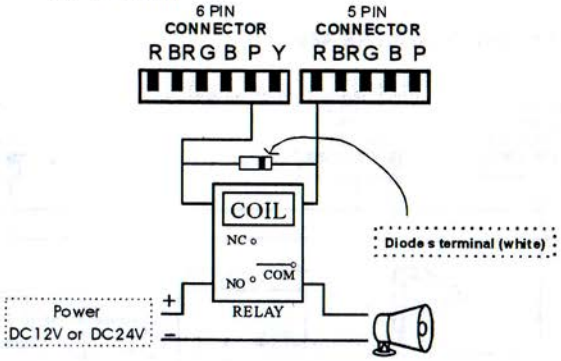
(3)Wiring connection for additional magnetic door sensing.

※ Only support N.O. type reed switch

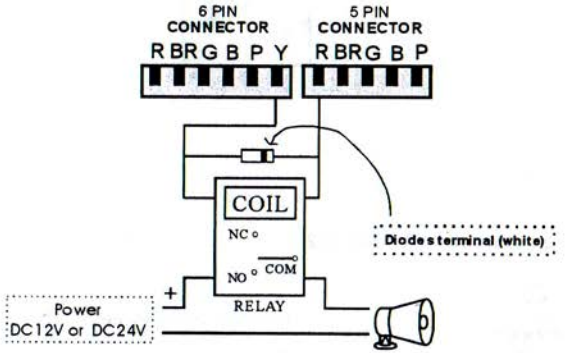


4. Wiring connection for additional alarm

A. (ALARM)

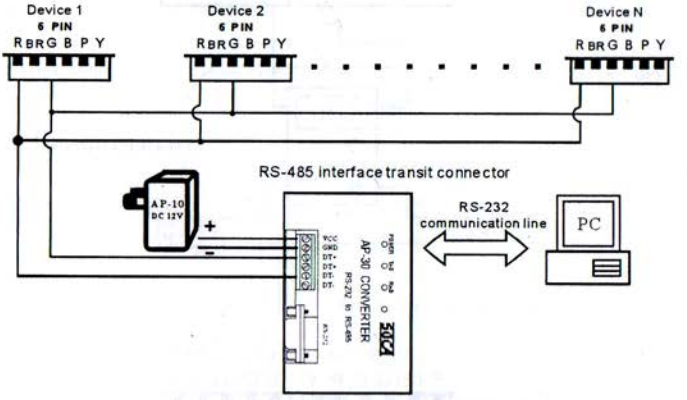


B. Anti-duress alarm :

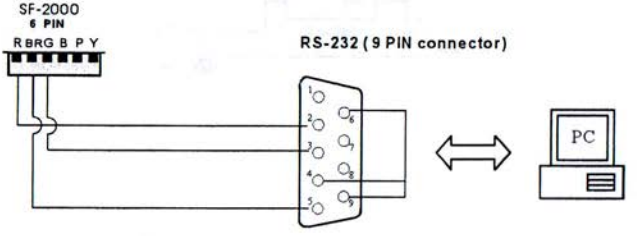


5. Wiring connection for linking with computer

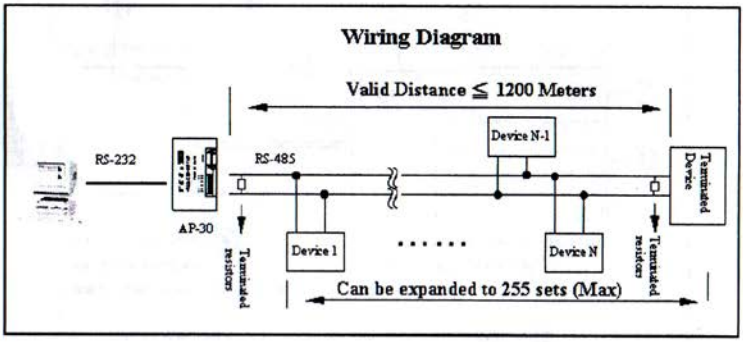
A. Wiring connection for RS-485



B. Wiring connection for RS-232



Conneting multi-terminal or parallel connection of terminals is suggested to connect the last terminal to an end resistor.



Please note:

*Twisted pair wire with shield (24 AWG and above) for Internet communication use.

*Using RS-232 to connect: Standard length is limited within 15m.

*Using RS-485 to connect:Each terminal (RS-485)

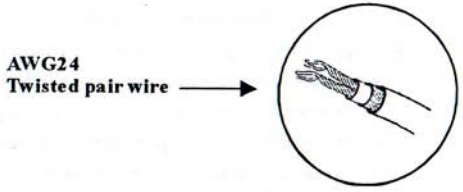
Resistor specifications:

330 ohm : When both are parallel connected within 300M.

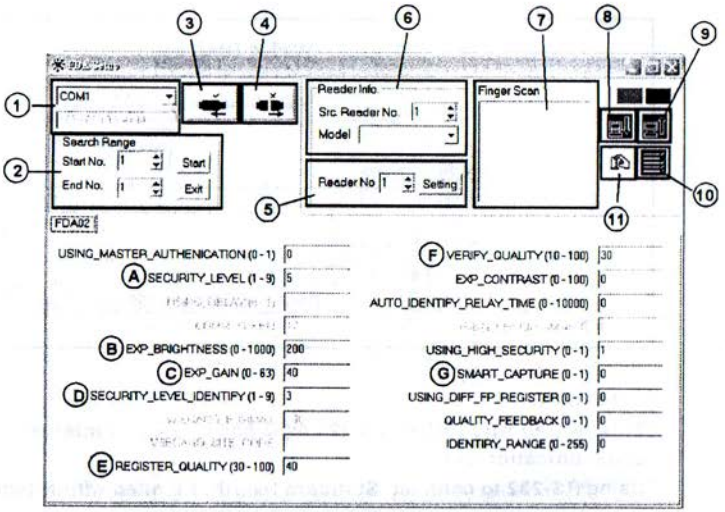
220 ohm : When both are parallel connected within 600M.

110 ohm : When both are parallel connected within 1.2Km.

Note: The above values are for reference, please adjust according to the specific conditions.



9. Optical Module Parameter Setting :



① Com Port
② Search Range
③ Connect
④ Disconnect
⑤ Setting reader number
⑥ Reader Information
⑦ Information Column
⑧ Download Parameter
⑨ Upload Parameter
⑩ Default Value
⑪ Auto-adjusting Optical Sensor

Ⓐ 1 : 1 security level,default value as 5.

Ⓑ Brightness setting.Adjusting brightness range is 17~999.Lower the value when light is strong.Adjusting to higher value when light is dim.Lower the value when humidity is higher or with wet finger.Adjusting to higher value when humidity is low.Fingerprint traits will become too dark to identify when the value is set too high with wet finger.Default value as 200.

Ⓒ Adjusting gain value range is 1~63.It is suggested do not adjust the default value 40.

Ⓓ 1 : N Security level,default value as 3.1 is set as the lowest security level and 9 as the highest security level.

Ⓔ Register quality.Adjusting value is 30~100 and default value is 40.The higher the value the higher the security level to identify the registered fingerprint quality.Therefore, it will cause higher fail rate to identify fingerprints.

Ⓕ 1 : 1 Verifing quality.Adjusting value is 10~100.The value is able to function during 1:1 which to reinforce 1:1 security level.

Ⓖ SMARTCAPTURE · Smartcapture will disable function Ⓑ and Ⓒ as it will capture the fingerprints according to the external environment. It is suggested to use this function at the enviroment which changes a lot (humidity or temperature) or unclear fingerprint traits. It is not suggested to use it at places with dim light.

※ Setting Steps :

1. Select com port ① and press connect ③.
2. Select reader number range ②.
   ※ All reader numbers are set as default when it is installed for the first time. Change the reader number individually to avoid any repetition of reader number which will unable to connect.
3. Information column ⑦ displays the reader numbers which are being searched.
4. Setting reader number.Enter reader number at ⑤ and press SETTING.
5. Adjust any values at the optical module parameter and then press upload parameter ⑨.

※ Note

Please do not simply alter the parameter value to avoid any malfunction of the reader.