AY-B9250BT

Professional Fingerprint Reader

User Manual

ROSSLARE
SECURITY PRODUCTS

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1. Before Getting Started

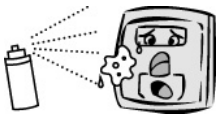
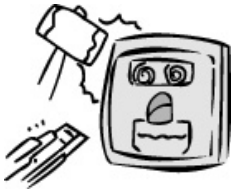
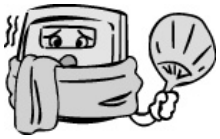
1.1. Safety Notes

- Warning

Do not operate the terminal with wet hands, and pay attention not to let any liquid such as water enter inside the terminal. - > Otherwise, malfunction or electric shock may be caused.	Keep the terminal away from inflammables. - > Otherwise, it may cause a fire.
Do not disassemble, repair or remodel the terminal at your disposal. - > Otherwise, it may cause malfunction, electric shock, or a fire.	Do not allow children to touch the terminal carelessly. - > Otherwise, it may cause safety accidents of children or malfunction.

- Non-compliance of safety notes may cause death or serious injury for users.

- Cautions

Do not install the terminal in a place exposed to direct sunlight. → Otherwise, it may cause malfunction, deformation and discoloration.	Do not install the terminal in humid or dusty places. → Otherwise, it may cause malfunction.
Do not clean this terminal by sprinkling water, nor wipe it with benzene, thinner, and alcohol. → Otherwise, it may cause electric shock or a fire.	Keep the terminal away from magnets. → Otherwise, it may cause failure and malfunction.
Keep the fingerprint input section clean. → Otherwise, the fingerprint cannot be recognized correctly.	Do not spray insecticides or inflammables on the terminal. → Otherwise, it may cause deformation and discoloration. 
Keep the terminal away from shock or sharp objects. → Otherwise, it may damage the terminal and result in malfunction. 	Do not install the terminal in a place where there is a severe change in temperature. → Otherwise, it may cause malfunction. 

- Non-compliance of safety notes may cause personal injury or property damage for users.

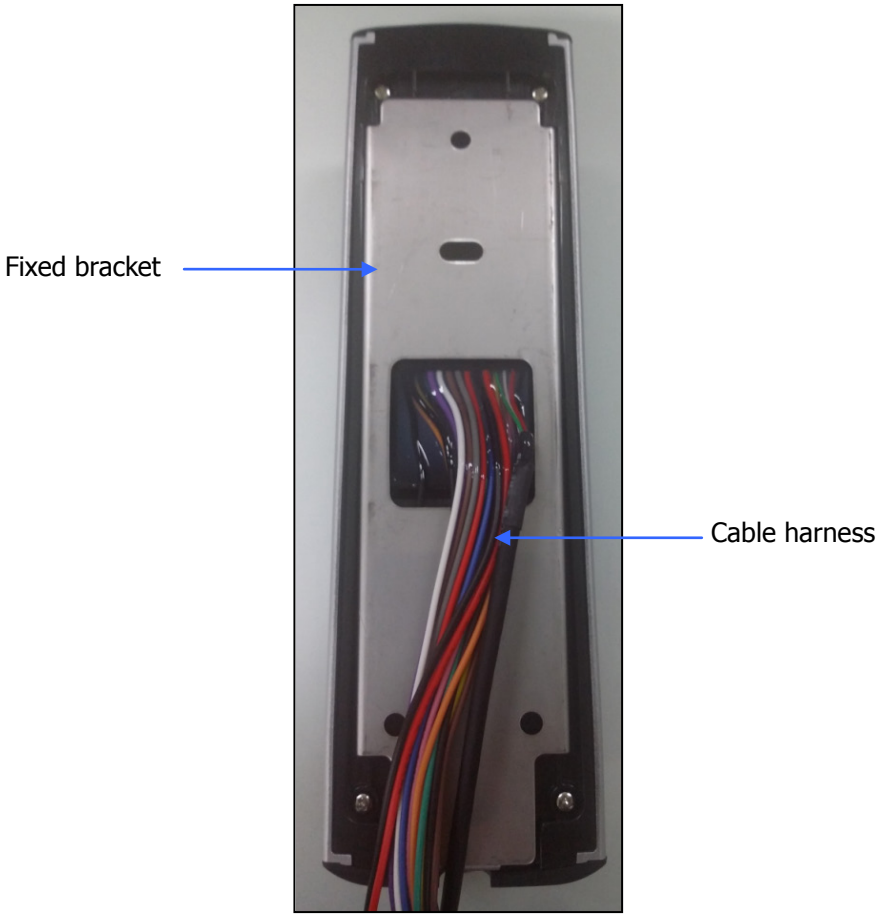
* We are not responsible for any accidents and damage that may arise from non-compliance of the information in this manual.

1.2. Product Details

1.2.1. FRONT

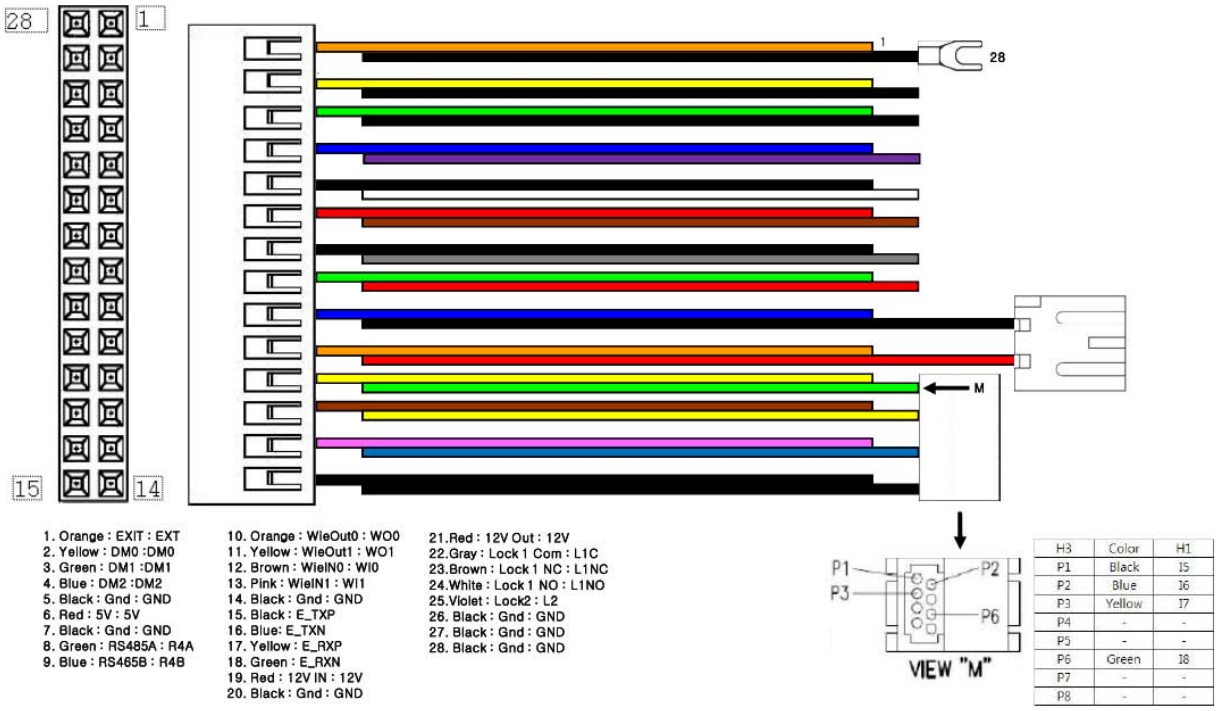
BLE embedded
State LED
Camera
LCD
Function KEY (F1~F4)
Speaker
Fingerprint Sensor
Card Sensor (EM/SC/HID)
USB assist device (UDL10) connection
ROSSLARE
SECURITY PRODUCTS
F1
F2
F3
F4
CARD

1.2.2. REAR



1.2.3. Input / Output

1.2.3.1. Cable & Connector



1.2.3.2. Pin Details

Pin number	Line color	Label (Line name)	Explanation	IN/OUT	Note
1	ORANGE	EXT	Inside open	IN	Connect to Exit button
2	YELLOW	DM0	DoorMonitor0	IN	Sense door state(DM0)
3	GREEN	DM1	DoorMonitor1	IN	Sense door state(DM1)
4	BLUE	DM2	DoorMonitor2	IN	Sense door state(DM2)
5	BLACK	GND	GND	-	Ground connection(for door monitor)
6	RED	5V	DC5V	OUT	DC 5V output
7	BLACK	PGND	Power GND	-	Power supply ground connection
8	GREEN	R4A	RS485A	BI	RS-485 interface
9	BLUE	R4B	RS485B	BI	RS-485 interface
10	ORANGE	WO0	WIE_OUT0	OUT	Output WIGAND (WO0)
11	YELLOW	WO1	WIE_OUT1	OUT	Output WIGAND (WO1)
12	BROWN	WI0	WIE_IN0	IN	Input WIGAND (WI0)
13	PURPLE	WI1	WIE_IN1	IN	Input WIGAND (WI1)
14	BLACK	GND	GND	-	Ground connection (WIGAND signal)
15	RED	-	N_TXN	OUT	LAN I/F (LAN cable)
16	BLACK	-	N_TXP	OUT	LAN I/F (LAN cable)
17	GREEN	-	N_RXN	IN	LAN I/F (LAN cable)
18	WHITE	-	N_RXP	IN	LAN I/F (LAN cable)
19	RED	12V	DC12V	IN	DC 12V power supply input
20	BLACK	GND	Power GND	-	Power supply ground connection (Adapter)
21	RED	12V	DC12V	OUT	DC 12V put out power

22	GRAY	L1C	LOCK1_COM	OUT	Lock1 COM terminal
23	BROWN	L1NC	LOCK1_NC	OUT	Lock1 NC terminal
24	WHITE	L1NO	LOCK1_NO	OUT	Lock1 NO terminal
25	PURPLE	L2	LOCK2	OUT	Lock2 terminal
26	BLACK	GND	GND	-	Ground connection (Lock connecter)
27	BLACK	PGND	Power GND	-	Power supply ground connection (Lock power)
28	BLACK	PGND	Panel GND	-	Panel ground connection (Earth)

1.2.3.3. Terminal <- > MCP040 wiring

Category	T2 terminal (Line name)	MCP040
RS485A	R4A (green)	RDRA+
RS485B	R4B (blue)	RDRA-
ground connection	GND (black)	G

1.2.3.4. Terminal <- > LC015B wiring

Category	T2 terminal (Line name)	LC015B
RS485A	R4A (green)	485A
RS485B	R4B (blue)	485B
ground connection	GND (black)	GND
DOOR MONITOR		IN1 (If this pin is not used, connect to GND pin.)
INSIDE OPEN		IN0
DC12V (LC015B separate power supply)		DC12V IN
ground connection (Power only for LC015B)		GND

But, door open time can be set with DIP SWITCH of LC015B (Maximum open time is 5 sec.)

1.2.3.5. Terminal <- > EM Type Door Lock wiring

Category	T2 terminal (Line name)	EM Door Lock
Lock	L1NC (Green)	+
GND	GND (Black)	-
Door Monitor	DM0 (Black)	NC(Normal Close)

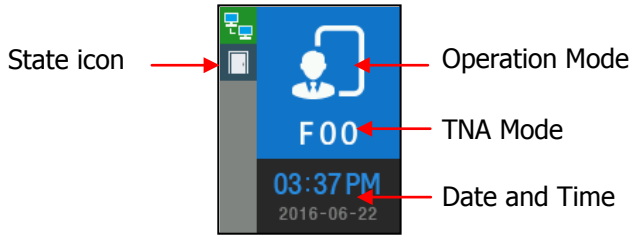
1.2.3.6. Terminal <- > WIEGAND Device wiring

Category	T2 terminal (Line name)	WIEGAND Device
WIEGAND INPUT0	WI0	Wiegand output0
WIEGAND INPUT1	WI1	Wiegand output1
WIEGAND OUTPUT0	WO0	Wiegand input0
WIEGAND OUTPUT1	WO1	Wiegand input1
GND	GND	GND

1.3. Screen information during operation

1.3.1. Initial Screen

When powering on at first, the screen is displayed as follow.



1.3.2. Icons

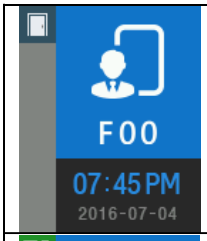
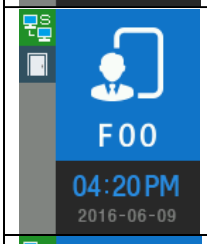
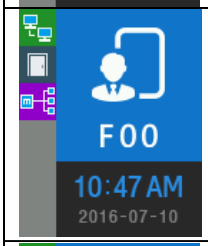
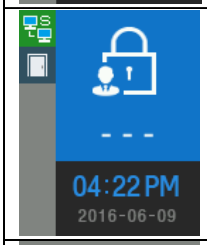
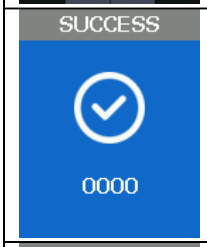
Server connection State	NONE	: No use network
		: LAN line is disconnected.
		: LAN line is connected (only link is connected)
		: Connected with server
Gate State		: Gate is closed.
		: Gate is opened
		: Gate is opened forcedly (unusual door open state)
		: Gate communication problem
Warning signal State	NONE	: Normal
		: Terminal Disassembly State
Fire detection State	NONE	: Normal
		: Sensed by fire detector (valid on DM2 fire set)
BLE connection State	NONE	: Disconnected with Admin App
		: Connected with Admin App
MCP040 connection State	NONE	: MCP040 is not used (Normal state)
		: MCP040 Mode and bad communication state
		: MCP040 Mode and normal communication state
UDL connection State	NONE	: UDL is not used (Normal state)
		: UDL is connected

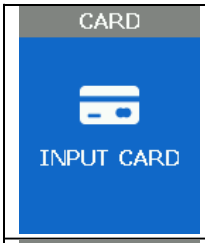
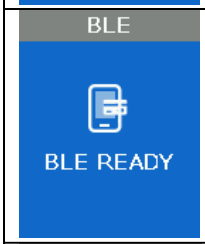
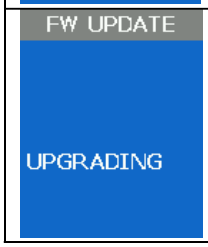
1.3.3. Function KEY

Icon	Meaning	Function Key	Explanation
	UP	F1	Move cursor up
	DOWN	F3	Move cursor down
	LEFT	F2	Move cursor to left
	ESC	F2 long	Move to upper menu
	RIGHT	F4	Move cursor to right
	ENTER	F4 long or	Move to submenu

		F4	
	ENABLE DISABLE	F2	Category choice (ENABLE or DISABLE)

1.3.4. Main Screen

	Operating in Exclusive mode Initial Screen
	Operating in Network mode Initial Screen
	Operating in Dummy mode Initial Screen
	Operating in lock mode (Reject all users authentication)
	Menu of Initial Screen
	Authentication success
	Authentication failure

	Waiting for Card Input
	Waiting for Fingerprint Input
	Waiting for Admin App registration
	Upgrading firmware

1.4. LED information during operation

LED	Operating state	Remark
RED	Normal	OFF
	Alarm	ON or Flash
	Authentication Failure	ON (Maintain during authentication time) → OFF
GREEN	Normal	OFF
	LOCK OPEN	ON
	Authentication Success	ON (Maintain during authentication time) → OFF
BLUE	Terminal Normal(alive)	Flash at intervals of 5 seconds
Function Key LED	Enter menu	Always ON
	Touch in initial screen.	ON(Maintain for 10 seconds) → OFF

1.5. Voice information during operation

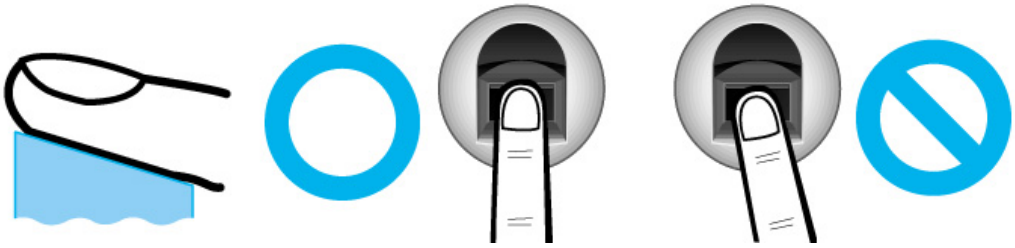
Category	Voice information
Fingerprint Input	Please enter your fingerprint.
Authentication success	You are authorized.
Authentication failure	Please try again.

1.6. Buzzer guide announced during operation

Buzzer Sound	State	Explanation
Beep	Key touch Card tag Fingerprint touch	-Pressing key or reading card -When inputting fingerprint, input has been completed and hands can take off.
2 Beeps	Failure	If authentication fails or the user's input is wrong
Long Beep	Waiting for input	It shows the state for waiting user's input such as fingerprint or password.
Short Beeps	Success	Authentication success or setting completion

1.7. How to register and enter the correct fingerprint

- Correct fingerprint input method
  Enter your fingerprint as if you take a thumbprint by using your forefinger if possible.
  The fingerprint cannot be correctly registered and entered only by your fingertips.
  The center of the fingerprint should be touched with the fingerprint input section.



- Enter the fingerprint of your forefinger if possible.
  When using your forefinger, you can enter your fingerprint correctly and safely.

- Make sure that the fingerprint is unclear or wounded.
  Too dry, wet, blurry or wounded fingerprints are difficult to recognize. In this case, the fingerprint of another finger should be registered.

- Precautions subject to your fingerprint state.
  The availability of the fingerprint may vary subject to your fingerprint state.

  - This product consists of a fingerprint recognition system and cannot recognize the damaged or unclear fingerprints. The fingerprint should be registered using the RF card.

- **If your hands are dry, you can blow your breath on the system** to operate it more smoothly.

- For children, too small or unclear fingerprints may be difficult or impossible to use. They need to register a new fingerprint every six months.

- For seniors, the fingerprint with too many lines may not be registered.
- It is recommended that you register more than two fingerprints if possible.
- In order to increase the fingerprint authentication rate, it is recommended to use six of the ten fingers as illustrated below (both thumbs, forefingers, middle fingers).

2. Product Description

2.1. Product Features

● BLE is equipped. Door Control with smartphone is possible at close range.

● It is equipped with Color Camera, and it saves the visitor's video when authentication succeeds or fails.

● Optional, Available to use as RF(125kHz), Smart Card(13.56MHz), HID Reader

● Easy to verify your ID via fingerprint
- The use of the fingerprint recognition technology (Biometrics) can prevent forgetting your password, losing your card or key, or avoid the risk of their theft. The use of personal fingerprints enhances the security of authentication.

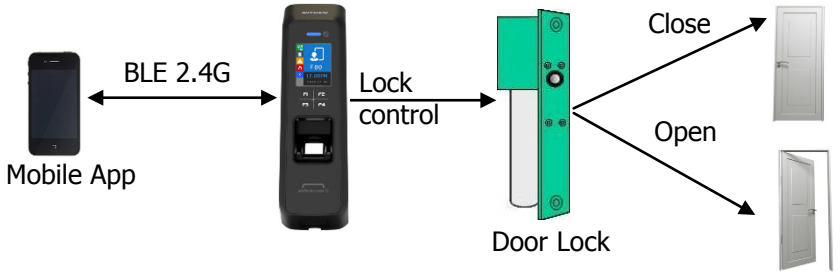
● Access control system using the local area network (LAN)
- The fingerprint reader communicates with the authentication server using a TCP/IP protocol. Therefore, this terminal can be applied to the existing LAN and has easy expandability. It ensures a fast speed by **10/100 Mbps Auto Detect** and facilitates management and monitoring via the network.

● Provide various registration and authentication method

Fingerprint	Fingerprint registration Fingerprint authentication
Card	Card registration Card authentication
Card or Fingerprint	Card, Fingerprint registration Card or Fingerprint authentication
Card and Fingerprint	Card, Fingerprint registration Fingerprint authentication after Card authentication
Mobile card	Mobile Card registration (registration only via server and admin App) Mobile Card authentication

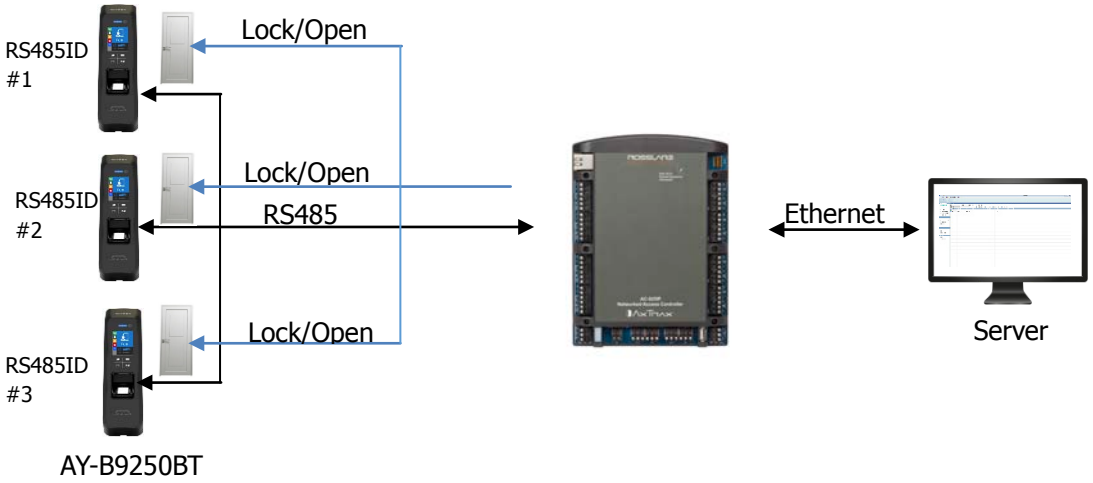
2.2. Diagram

2.2.1. Single Type (Door Lock)

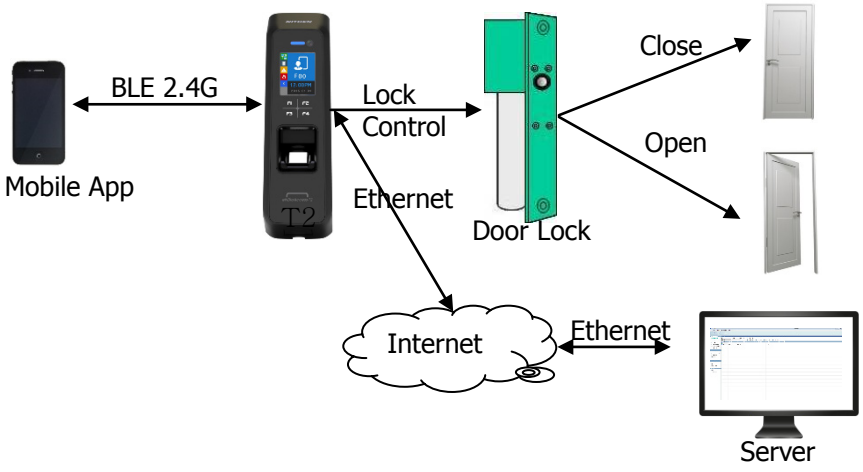


2.2.2. Single Type (Lock Controller)

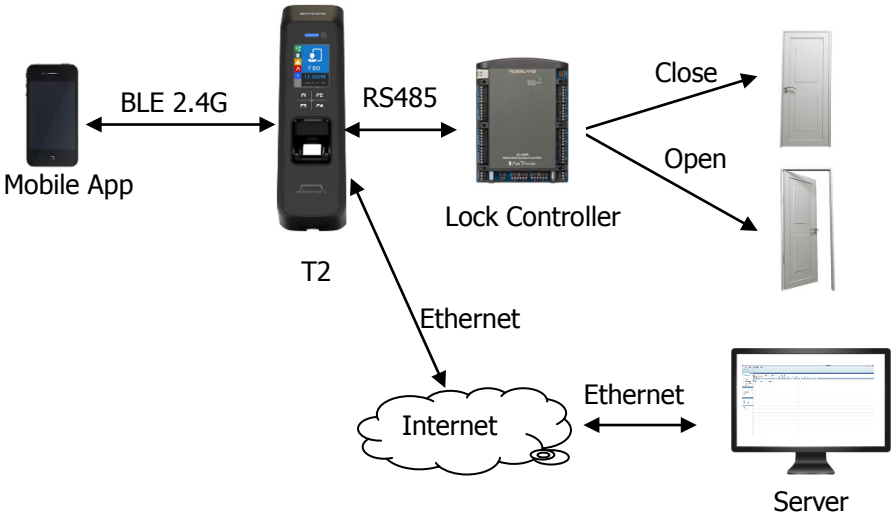
2.2.3. Dummy Type



2.2.4. Network Type (Door Lock)



2.2.5. Network Type (Lock Controller)



2.3. Product Specification

Category	Spec
CPU	32Bit RISC CPU(400MHz)
MEMORY	64M DDR RAM, 32M NOR,128M NAND
Camera	VGA, F2.8, View angle 61 degree
LCD	1.77″ Color LCD
Fingerprint Sensor	Optical / 500 DPI
Authentication Method	Fingerprint, RF Card, Mobile Card
Authentication Speed	1:N < within 1 sec. (based on 1,000 fingerprints)
Fingerprint capacity	20,000 Fingerprints, 10,000 users (Two identical fingerprints registration per user) Note) Similar fingerprint inspection is possible when the number of fingerprints is less than 200.
Log capacity	100,000 logs
Communication interface	TCP/IP, Wiegand In/Out (26/34bit),RS485
Lock	Deadbolt, EM Lock, Door Strike, Automatic Door
Temperature / Humidity	-20~60 ℃ / < RH 90%
Certification	KC, CE, FCC
Size	58mm(W) * 191mm(H) * 62mm(D)

3. Environment Setting

3.1. Checkpoints before Environment Setting

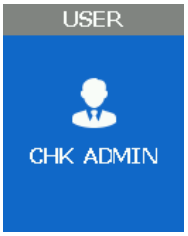
3.1.1. Menu

Press F4 long until the menu screen is displayed.

It is available to enter the menu without authentication because the manager doesn't register when shipping the product.

3.1.2. Administration authentication

When the administrator is registered, the admin authentication screen is displayed at first as follows.



▶ **Administrator authentication**

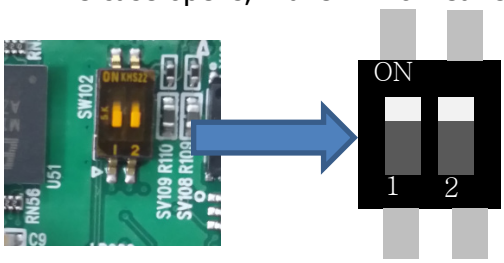
Administrator authentication is progressed with fingerprint and card. You can access each menu if the authentication succeeds.

Admin authentication is displayed only if there is a registered user. Admin authentication displays only if admin is enrolled already. The admin authentication is needed only in accessing menu mode. It enables to access every menu until you completely escape from main menu.

3.1.3. How to access the menu without administrator authentication

This is the method to enter the Menu in exceptional cases such as losing your administrator card that is registered in the terminal or inability to make a fingerprint authentication because of absence of administrator.

① Power terminal OFF.
② Disassemble device and make case open state.
③ While case opens, make DIP of rear side switch ON state as follows.



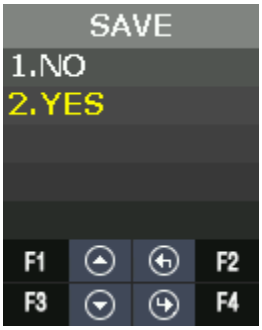
OFF ON

④ Power terminal ON.
⑤ After the terminal completely booted, Press F1 longer to enter the menu with buzzer sound "Ppiririk".

★ Caution: You should return DIP SWITCH OFF after modification.

3.1.4. Save Settings

▶ If there are some changes, the following screen appears.



▶ If you select "YES", then save them with buzzer sound "Ppibibig" and reboot.

▶ If there are no changes, it returns to the previous menu screen.

▶ While changing the settings in the menu, if there is no input for 30 seconds, it returns to the previous menu.

3.1.5. Default Setting

Category	Default setting
MENU > NETWORK	USE
MENU > NETWORK > USE > AUTH MODE	TN
MENU > NETWORK > USE > TERMINAL ID	1
MENU > NETWORK > USE > TERMINAL >	STATIC
MENU > NETWORK > USE > TERMINAL > STATIC >	IP:192.168.0.3 SN:255.255.255.0 GW:192.168.0.1
MENU > NETWORK > USE > SERVER	IP:192.168.0.2 PORT: 7332
MENU > OPTION > ATTEND > TYPE	F1~F4
MENU > OPTION > ATTEND > AUTO TNA	NO
MENU > OPTION > SCREEN > LANGUAGE	English
MENU > OPTION > SCREEN > SHOW ID	YES
MENU > OPTION > SCREEN > USER LOGO	NO
MENU > OPTION > SCREEN > USER ID LEN	4
MENU > OPTION > SCREEN > DATE > FORMAT	YYMMDD
MENU > OPTION > SAVE > LOG SAVE	Yes
MENU > OPTION > SAVE > IMAGE SAVE	No
MENU > OPTION > TIME OUT > RESULT	1sec
MENU > OPTION > TIME OUT > NET ERROR	30sec
MENU > OPTION > TIME OUT > PING	60sec
MENU > OPTION > LOCKING	NO USE
MENU > INT DEVICE > FP SENSOR > 1:1 LEVEL	5
MENU > INT DEVICE > FP SENSOR > 1:N LEVEL	8
MENU > INT DEVICE > FP SENSOR > LFD LEVEL	NONE
MENU > INT DEVICE > FP SENSOR > AUTH TIME	5sec
MENU > INT DEVICE > BEEP	3
MENU > INT DEVICE > VOICE	3
MENU > INT DEVICE > TAMPER	Alarm
MENU > EXT DEVICE > DOORLOCK > LOCK1 > TYPE	STRIKE/OK
MENU > EXT DEVICE > DOORLOCK > LOCK1 > OPEN TIME	3sec
MENU > EXT DEVICE > DOORLOCK > LOCK2 > TYPE	None
MENU > EXT DEVICE > DOORLOCK > LOCK2 > OPEN TIME	3sec
MENU > EXT DEVICE > DOORLOCK > OPEN ALARM	5sec
MENU > EXT DEVICE > DOORLOCK > DM0	NONE
MENU > EXT DEVICE > DOORLOCK > DM1	NONE
MENU > EXT DEVICE > DOORLOCK > DM2	NONE
MENU > EXT DEVICE > RS485 > TYPE	NONE
MENU > EXT DEVICE > RS485 > DEV ID	0
MENU > EXT DEVICE > WIEGAND > WIRE-INPUT	NONE
MENU > EXT DEVICE > WIEGAND > WIRE-OUTPUT	NONE
MENU > EXT DEVICE > WIEGAND > WIRE-OUTPUT> 26 BIT or 34 BIT > SITE CODE	0
MENU > EXT DEVICE > WIEGAND > WIRE-OUTPUT> 26 BIT or 34 BIT > SITE CODE > SEND INFO	UID

3.1.6. Setting guide for Network Configuration

3.1.6.1. Single Type (Door Lock=STRIKE)

Menu position	Possible setting
MENU>NETWORK>	NO USE
MENU>EXT DEVICE>DOORLOCK>LOCK1>TYPE	STRIKE/OK
MENU>EXT DEVICE>DOORLOCK>DM0	N/O or N/C
MENU>EXT DEVICE>DOORLOCK>LOCK2>TYPE	NONE
MENU>EXT DEVICE>DOORLOCK>DM1	NONE
MENU>EXT DEVICE>DOORLOCK>DM2	NONE
MENU>EXT DEVICE>RS485>TYPE	NONE

3.1.6.2. Single Type (Door Lock=MOTOR)

Menu position	Possible setting
MENU>NETWORK>	NO USE
MENU>EXT DEVICE>DOORLOCK>LOCK1>TYPE	MOTOR1
MENU>EXT DEVICE>DOORLOCK>DM0	N/O or N/C
MENU>EXT DEVICE>DOORLOCK>LOCK2>TYPE	MOTOR2
MENU>EXT DEVICE>DOORLOCK>DM1	N/O or N/C
MENU>EXT DEVICE>DOORLOCK>DM2	NONE
MENU>EXT DEVICE>RS485>TYPE	NONE

3.1.6.3. Single Type (Lock Controller=LC010)

Menu position	Possible setting
MENU>NETWORK>	NO USE
MENU>EXT DEVICE>DOORLOCK>LOCK1>TYPE	NONE
MENU>EXT DEVICE>DOORLOCK>DM0	NONE
MENU>EXT DEVICE>DOORLOCK>LOCK2>TYPE	NONE
MENU>EXT DEVICE>DOORLOCK>DM1	NONE
MENU>EXT DEVICE>DOORLOCK>DM2	NONE
MENU>EXT DEVICE>RS485>TYPE	LC010
MENU>EXT DEVICE>RS485>DEV ID	0

3.1.6.4. Single Type (Lock Controller=LC015)

Menu Position	Possible setting
MENU>NETWORK>	NO USE
MENU>EXT DEVICE>DOORLOCK>LOCK1>TYPE	NONE
MENU>EXT DEVICE>DOORLOCK>DM0	NONE
MENU>EXT DEVICE>DOORLOCK>LOCK2>TYPE	NONE
MENU>EXT DEVICE>DOORLOCK>DM1	NONE
MENU>EXT DEVICE>DOORLOCK>DM2	NONE
MENU>EXT DEVICE>RS485>TYPE	LC015
MENU>EXT DEVICE>RS485>DEV ID	0

3.1.6.5. Dummy Type (RS485=MCP040)

Menu Position	Possible setting
MENU>NETWORK>	N/A

	(Use : When only downloading DB)
MENU>EXT DEVICE>DOORLOCK>LOCK1>TYPE	NONE
MENU>EXT DEVICE>DOORLOCK>DM0	NONE
MENU>EXT DEVICE>DOORLOCK>LOCK2>TYPE	NONE
MENU>EXT DEVICE>DOORLOCK>DM1	NONE
MENU>EXT DEVICE>DOORLOCK>DM2	NONE
MENU>EXT DEVICE>RS485>TYPE	MCP040
MENU>EXT DEVICE>RS485>DEV ID	Use in 1~7

3.1.6.6. Network Type (Door Lock=STRIKE)

Menu Position	Possible setting
MENU>NETWORK>	USE
MENU>NETWORK>USE>AUTH MODE	TN
MENU>NETWORK>USE>TERMINAL ID	0001
MENU>NETWORK>USE>TERMINAL>STATIC	IP:192.168.0.3 SN:255.255.255.0 GW:192.168.0.1
MENU>NETWORK>USE>SERVER	IP:192.168.0.2 PORT:7332
MENU>EXT DEVICE>DOORLOCK>LOCK1>TYPE	STRIKE/OK
MENU>EXT DEVICE>DOORLOCK>DM0	N/O or N/C
MENU>EXT DEVICE>DOORLOCK>LOCK2>TYPE	NONE
MENU>EXT DEVICE>DOORLOCK>DM1	NONE
MENU>EXT DEVICE>DOORLOCK>DM2	NONE
MENU>EXT DEVICE>RS485>TYPE	NONE

3.1.6.7. Network Type (Door Lock=MOTOR)

Menu Position	Possible setting
MENU>NETWORK>	USE
MENU>NETWORK>USE>AUTH MODE	TN
MENU>NETWORK>USE>TERMINAL ID	0001
MENU>NETWORK>USE>TERMINAL>STATIC	IP:192.168.0.3 SN:255.255.255.0 GW:192.168.0.1
MENU>NETWORK>USE>SERVER	IP:192.168.0.2 PORT:7332
MENU>EXT DEVICE>DOORLOCK>LOCK1>TYPE	MOTOR1
MENU>EXT DEVICE>DOORLOCK>DM0	N/O or N/C
MENU>EXT DEVICE>DOORLOCK>LOCK2>TYPE	MOTOR2
MENU>EXT DEVICE>DOORLOCK>DM1	N/O or N/C
MENU>EXT DEVICE>DOORLOCK>DM2	NONE
MENU>EXT DEVICE>RS485>TYPE	NONE

3.1.6.8. Network Type (Lock Controller=LC010)

Menu Position	Possible setting
MENU>NETWORK>	Use
MENU>NETWORK>USE>AUTH MODE	TN
MENU>NETWORK>USE>TERMINAL ID	0001
MENU>NETWORK>USE>TERMINAL>STATIC	IP:192.168.0.3 SN:255.255.255.0

	GW:192.168.0.1
MENU>NETWORK>USE>SERVER	IP:192.168.0.2 PORT:7332
MENU>EXT DEVICE>DOORLOCK>LOCK1>TYPE	NONE
MENU>EXT DEVICE>DOORLOCK>DM0	NONE
MENU>EXT DEVICE>DOORLOCK>LOCK2>TYPE	NONE
MENU>EXT DEVICE>DOORLOCK>DM1	NONE
MENU>EXT DEVICE>DOORLOCK>DM2	NONE
MENU>EXT DEVICE>RS485>TYPE	LC010
MENU>EXT DEVICE>RS485>DEV ID	0

3.1.6.9. Network Type (Lock Controller=LC015)

Menu Position	Possible setting
MENU>NETWORK>	USE
MENU>NETWORK>USE>AUTH MODE	TN
MENU>NETWORK>USE>TERMINAL ID	0001
MENU>NETWORK>USE>TERMINAL>STATIC	IP:192.168.0.3 SN:255.255.255.0 GW:192.168.0.1
MENU>NETWORK>USE>SERVER	IP:192.168.0.2 PORT:7332
MENU>EXT DEVICE>DOORLOCK>LOCK1>TYPE	NONE
MENU>EXT DEVICE>DOORLOCK>DM0	NONE
MENU>EXT DEVICE>DOORLOCK>LOCK2>TYPE	NONE
MENU>EXT DEVICE>DOORLOCK>DM1	NONE
MENU>EXT DEVICE>DOORLOCK>DM2	NONE
MENU>EXT DEVICE>RS485>TYPE	LC015
MENU>EXT DEVICE>RS485>DEV ID	0

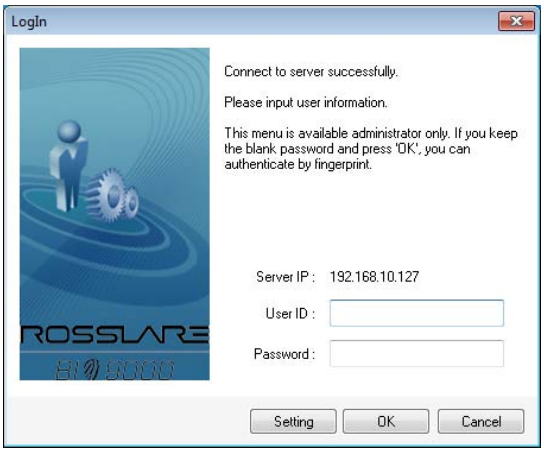
3.2. Access and Registration between Rosslare Bio9000 and terminal

3.2.1. Install Rosslare Bio9000

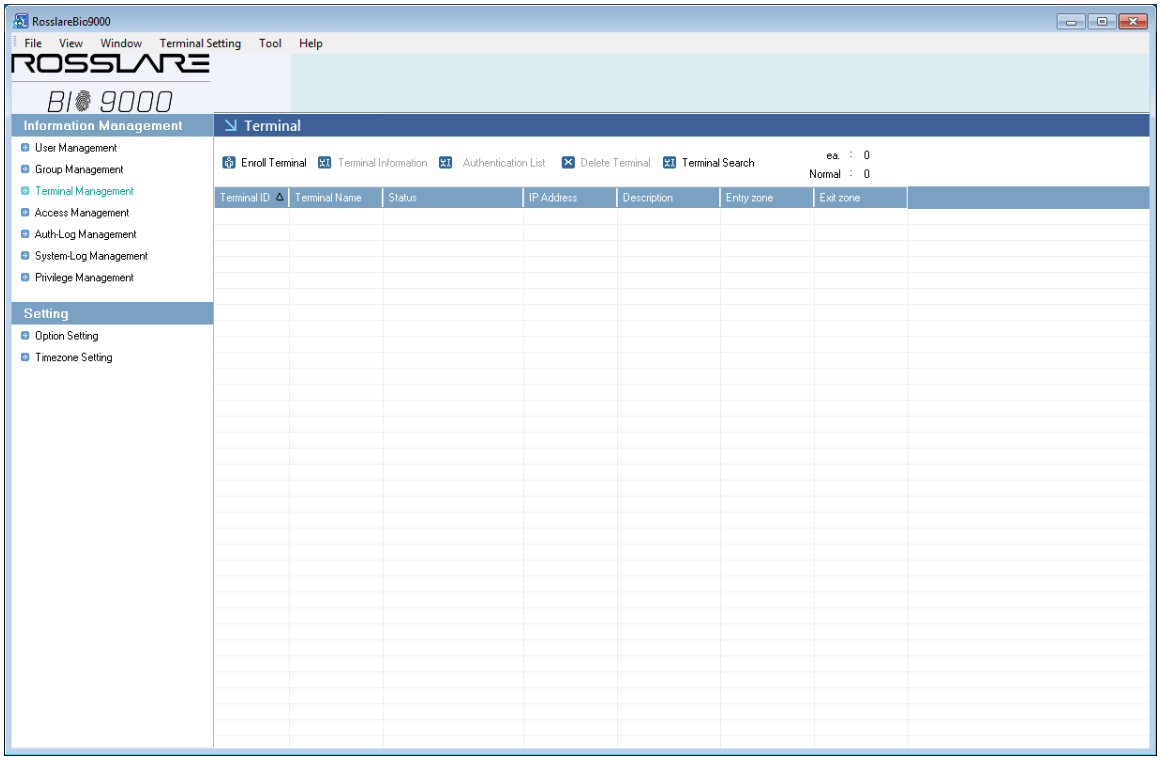
When shipping the product, it comes with a CD to install Rosslare Bio9000 on your PC.
For installation guide, please refer to the relevant document.

3.2.2. Execute Rosslare Bio9000

If executing the program, login screen is displayed.
Enter User ID that is previously registered and password and then press **OK**.

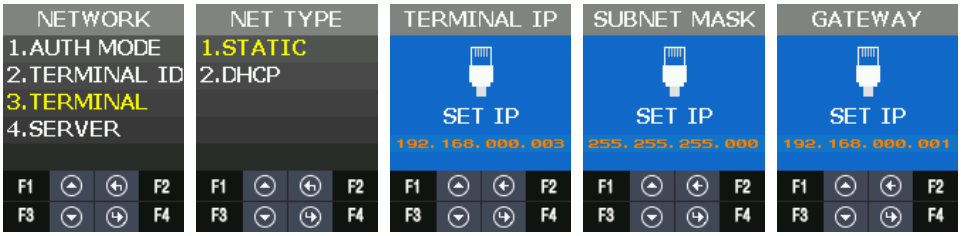


If login is successful, the screen is displayed as follows.

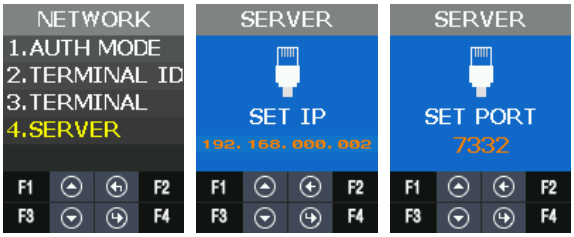


3.2.3. Set in terminal

In order to connect the terminal to the server, set to the network mode and set the information.
Move to **MENU** > **NETWORK** > **USE** > **TERMINAL** and check whether lower information is correct or not. If you have not changed the device network information, it is displayed as follows.

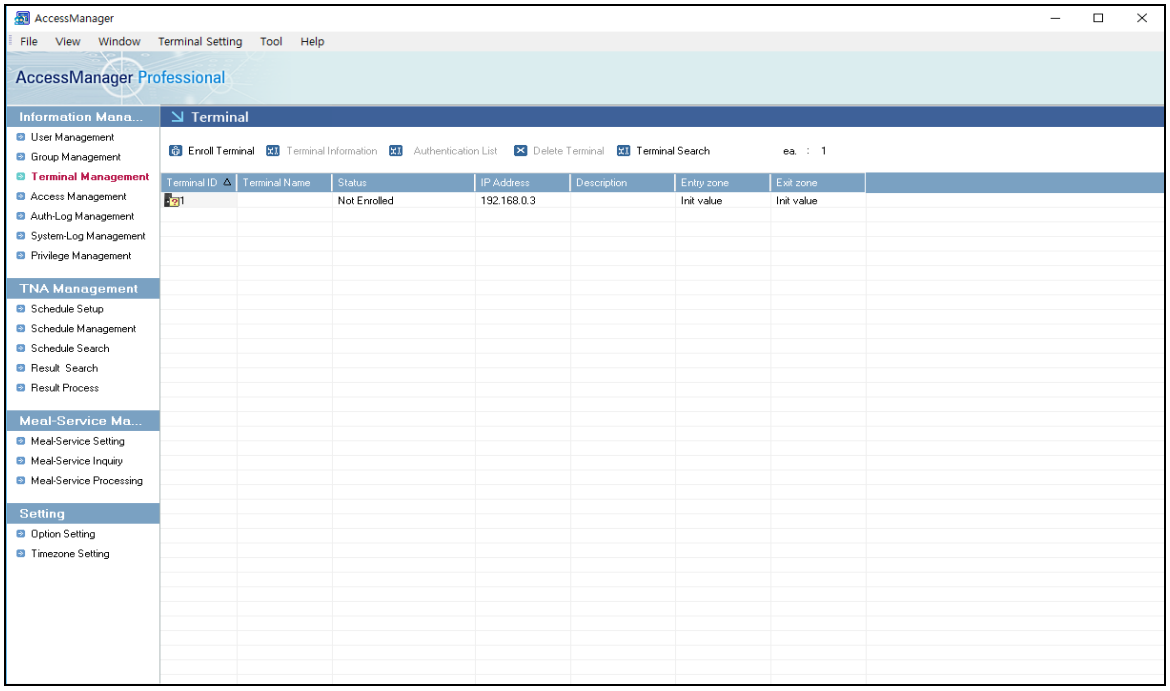


In order to access the server
Move to **MENU** > **NETWORK** > **USE** > **SERVER** and check the lower information correctly sets or not. If you do not change the server network information, it is displayed as follows.



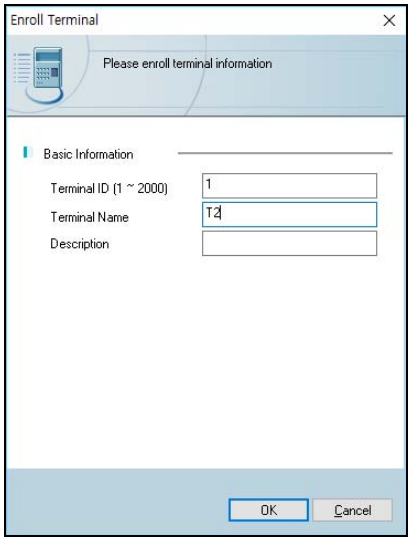
3.2.4. LAN connection in terminal

At first, you can see the unregistered state because the terminal is not registered.

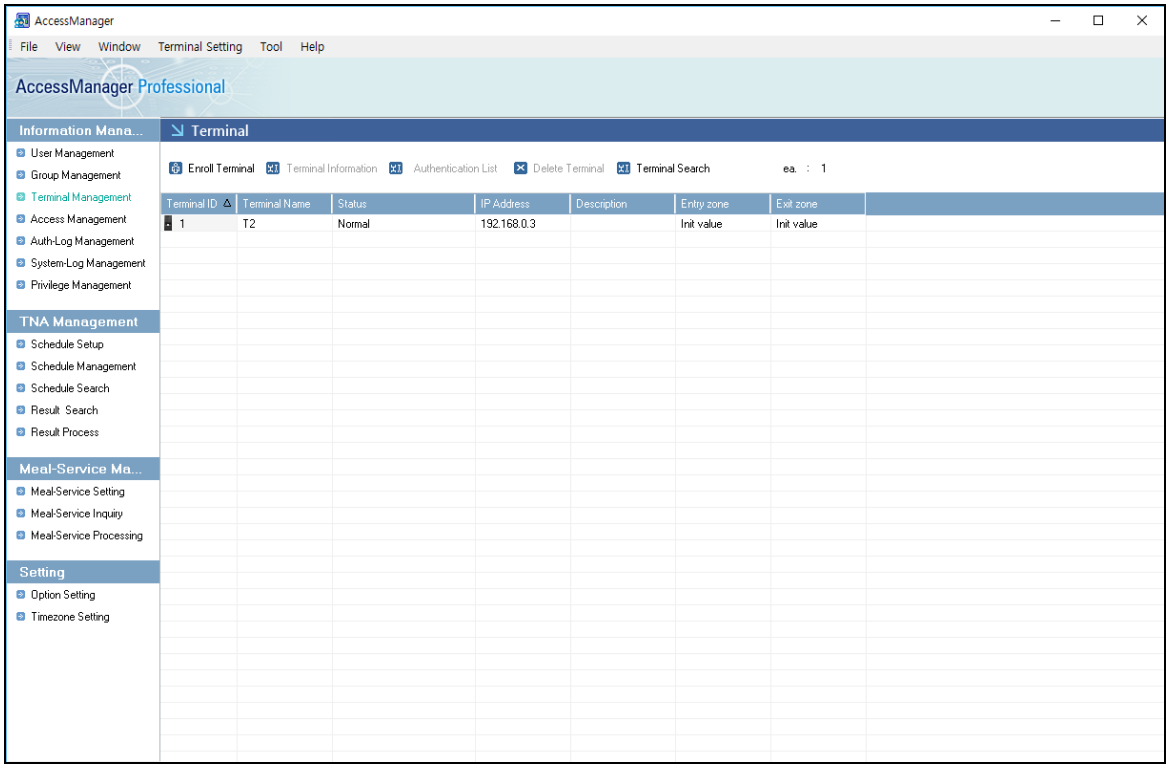


3.2.5. Register the terminal in Rosslare Bio9000

Select the unregistered terminal and press **Registration** button to activate the screen below. Enter device name and explanation to press OK.



If the registration is successful, the screen is displayed as follow.



For more details about Rosslare Bio9000 operation, please refer to the guide document.

3.3. Menu Configuration

The whole menu is composed of seven, and main characteristics are as follows.

Menu	Submenu1	Submenu2	Submenu3
USER	ADD	USER	USER ADMIN
		INPUT ID	
		*Authentication Type Card FP MCARD *Authentication Condition OR AND ※ MCARD is OR condition only. ※ MCARD is not admitted to set up, state check only.	
		Password	
	AUTO ADD	FP	UID > FP1 > FP2 > OK
		Card	UID > Card > OK
	MODIFY	INPUT ID	
		*Authentication Type Card FP MCARD *Authentication Condition OR AND ※ MCARD is OR condition only. ※ MCARD is not admitted to set up, state check only.	
		FP registration (When checking authentication mode)	
		Card registration (When checking authentication mode)	
	DELETE	Delete ID	
	DELETE ALL		
NETWORK	NO USE	Operate in single mode	
	USE	AUTH MODE	Server/Terminal Terminal/Server Server Terminal

		TERMINAL ID		TERMINAL ID
		STATIC DHCP	STATIC	IP
				Subnet mask
				Gateway
			DHCP	
		SERVER		SERVER
				Port No
OPTION	ATTEND	TYPE		NONE M1 F1~F2 M2 F1~F4 M3 F1~F49
		AUTO TNA		NO YES
	SCREEN	LANGUAGE ENGLISH(0) KOREAN(1) INDONESIAN(2) MULTILINGUAL(3) ARABIC(4) SPANISH(5) PORTUGUESE(6) FRENCH(7) RUSSIAN(8) FARSI(9) JAPANESE(10) CHINESE(11)		
		SHOW ID		NO YES
		USER LOGO		NO USE USE
		USER ID LEN		4~16
	SAVE	LOG SAVE		NO YES
		IMAGE SAVE		NO YES
	TIMEOUT	RESULT		
		NET ERROR		
		PING		
	Date	FORM		YYMMDD DDMMYY MMDDYY
		SETTING		YYYYMMDD-hhmmss
INT DEVICE	FP SENSOR	1:1 LEVEL (1~9)		
		1:N LEVEL (5~9)		
		LFD LEVEL		NONE LOW MIDDLE HIGH

		AUTH TIME	
	BEEP	0~3	
	VOICE	0~5	
	BLE	BLE READY	
	TAMPER	NO ALARM ALARM	
EXT DEVICE	DOOR LOCK	LOCK1	*TYPE Not Use Strike/OK Indication Motor1 Schedule alarm *OPEN TIME 3[1~20sec]
		LOCK2	* TYPE NONE Fail Indication Motor2 Schedule alarm * OPEN TIME 3[1~20sec]
		OPEN ALARM TIME	5[0~20sec] 0: No Alarm 1~20: Alarm
		DM0	NONE Lock Normal Open Lock Normal Close
		DM1	NONE Lock Normal Open Lock Normal Close
		DM2	Not use Normal Open Normal Close Fire Normal Open Fire Normal Close Panic Normal Open Panic Normal Close Urgent Norm Open Urgent Normal Close
	RS485	TYPE	NONE LC010 LC015 SR100 MCP040
		DEV ID: 0~255	
	WIEGAND	WIRE-INPUT	*TYPE NONE WIE26BIT WIE34BIT CUSTOM

		WIRE-OUTPUT	*TYPE NONE WIE26BIT WIE34BIT CUSTOM *SiteCode *More Information UID CARD
STATE	DB INFO	USER CNT: USER MAX: ADMIN: FP CNT: FP MAX: CARD CNT: CARD MAX: M.CD CNT: LOG CNT: LOG MAX:	
	NETWORK	TID: xxxx NET: YES, MODE:TN NET TYPE: STATIC ENCRYPT: DES CIP/SN/GW--------- xxx.xxx.xxx.xxx xxx.xxx.xxx.xxx xxx.xxx.xxx.xxx MAC: xx: xx: xx: xx: xx: xx SIP/PORT--------- xxx.xxx.xxx.xxx xxxx	
	OPTION	ATTEND: M2(F1~F4) AUTO TNA: YES LANGUAGE: English SHOW ID: YES LOGO USE: NO UID LEN:4 DATE: YYMMDD LOG SAVE: YES IMG SAVE:NO SHOW TO: x PING TO: x NET TO: x:	
	INT DEVICE	CARD TYPE: RF/SC CARD FMT: STD FP1:1:x FP1: N:x LFD: xx AUTH TIME: BEEP VOL: VOICE VOL:	

		BLE Name/MAC---- XXXXXXX (BLE Name) XXXXXXXXXXXXXXXXX TAMPER:ALARM	
	EXT DEVICE	LOCK1---------- TYPE: STRIKE/OK OUT: N/O OPEN: 3000ms LOCK2 ---------- TYPE: NONE OUT: N/O OPEN: 3000ms DOOR WARN: 0sec FORCE OPEN:NO RS485: LC010 RS485 ID: xxx WIEGAND---------- IN/OUT :34B/34B SITECODE: xxx SEND:USERID	
	I/O PORT	LOCK1: HIGH LOCK2: HIGH DM0: HIGH DM1: HIGH DM2: HIGH W0IN: HIGH W1IN: HIGH INSIDE: HIGH TAMPER SW:HIGH	
	VERSION	HW FW Card BLE SN(Serial Number)	
RECOVERY	INITIALIZE	CONFIG	
		LOG DB	
		FACTORY	
	SELF TEST	INT DEVICE	VOICE CARD FP SENSOR CAMERA LED
		EXT DEVICE	DOORLOCK SENSOR IN
	BACKUP	LOG EXPORT	
		USER EXPORT	
		USER IMPORT	
		FW UPDATE	
	REBOOT		

3.4. USER Menu

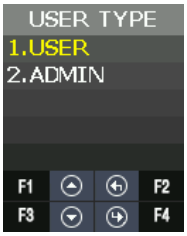
USER menu has the feature as follows.

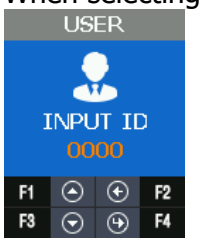
Category	Explanation
ADD	Use to add user and admin with various certification conditions.
AUTO ADD	Use to add Card or Fingerprint user automatically.
MODIFY	Use to add certification conditions, card or fingerprint of registered user.
DELETE	Use to delete a registered particular user.
DELETE ALL	Use to delete all registered users.

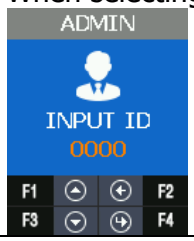
3.4.1. ADD

3.4.1.1. USER TYPE

If you press **ADD** in the menu, the screen asking the user type is displayed as follow.



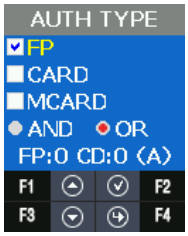
USER TYPE	Explanation
USER	Only available for authentication No Authorization to access menu When selecting user, the screen is displayed as follow. 

ADMIN	Available to add and delete user. Available to access menu and modify it. When selecting the administrator, the screen is displayed as follows. 

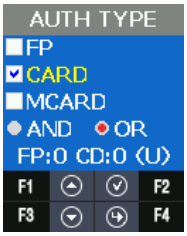
3.4.1.2. AUTH TYPE

There are FP (Fingerprint), Card, and MCARD (Mobile card) in the menu.
But MCARD can only provide the check state, and do not provide checking or unchecking. For checking or unchecking with MCARD, it is only available via **Server** and **Admin App**.
There are **AND** and **OR** in authentication conditions.
In **AND**, all authentication conditions should be satisfactory and then authentication succeeds.
In **OR**, one of authentication conditions should be satisfactory and authentication succeeds.

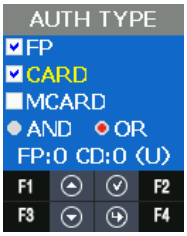
FP:0 ➔ FP is abbreviation of Finger Print.
0 means the registered FP number. (1FP means 2 fingerprints)
CD:0➔ CD is abbreviation of CARD.
0 means the registered CARD number.
Maximum card number is 1.
(U) ➔ Means your Registration Authority is general user (USER).
(A) ➔ Means your Registration Authority is administrator (ADMIN).



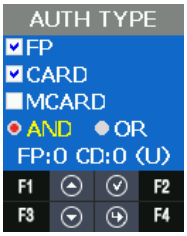
[FR Authentication]



[Card Authentication]



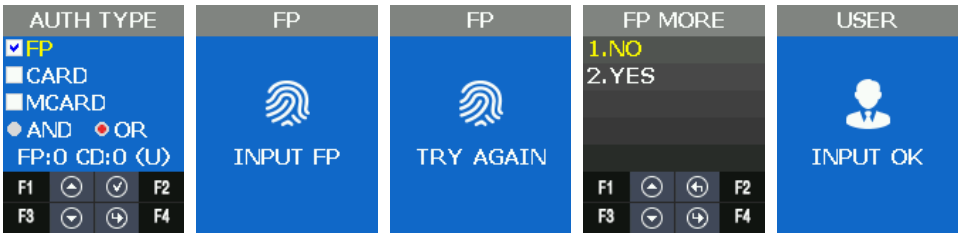
[FP or Card Authentication]



[FP and Card Authentication]

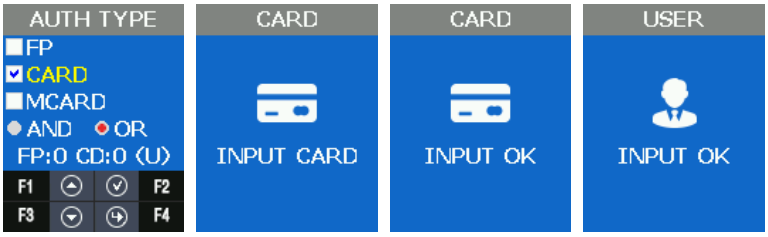
3.4.1.3. INPUT FP

Input the same fingerprint twice when you check the Fingerprint as authentication type. If you want to add only one fingerprint, select **1. NO**. If you input the fingerprint second times and they are normal, **INPUT OK** is displayed. If you want to add more fingerprints, select **2. YES**. One user can register 20 people for maximum.



3.4.1.4. INPUT CARD

When you check **Card** as **AUTH TYPE**, you need to follow steps as below. If you input CARD on Waiting state, registration completes and **INPUT OK** screen is displayed.



EM CARD ex) Card No.(5byte): 08h 01h 16h 1Dh D6h

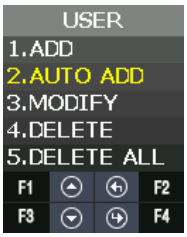
Card Format	Card No.	Display Method
Standard	02207638 (16001DD6)	(3+5)digits Decimal [022(16h)+07638(1DD6h)]

SC CARD ex) Card No.(4byte): 52h 9Dh 06h E3h

Card Format	Card No.	Display Method
Standard	529D06E3	8digits Hex

3.4.2. AUTO ADD

AUTO ADD is used when you want to register general users (not admin user) consecutively with card or fingerprint.
If you select **FP**, it adds users by increasing ID consecutively only with fingerprint.
If you select **CARD**, it adds users by increasing ID consecutively only with card.

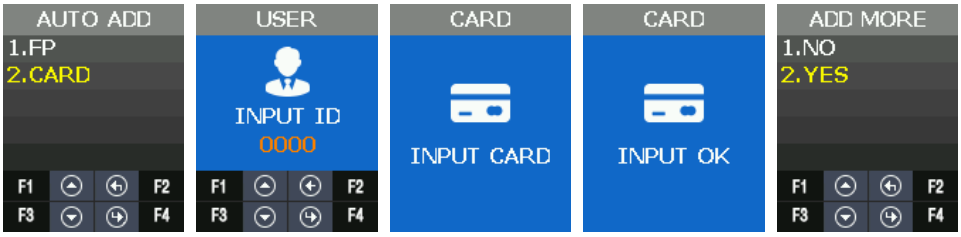


3.4.2.1. AUTO ADD – 1. FP

This is the menu when registering the users continuously only by fingerprint.
Input fingerprint in twice and then the registration succeeded. If you want to add more users, select **2. YES,** and continue the registration. User ID increases automatically.

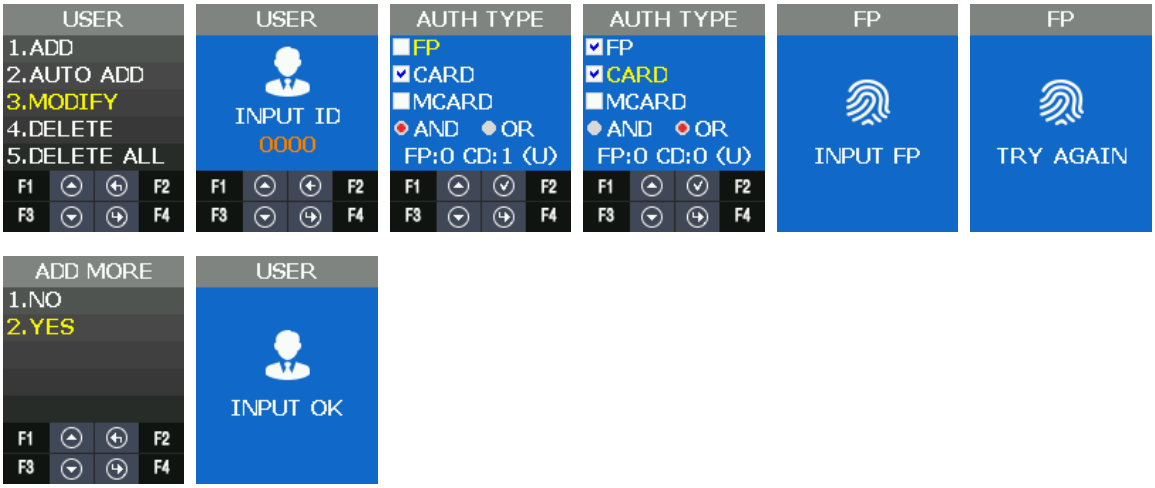
3.4.2.2. AUTO ADD

This is the menu when registering the users continuously only by card.
After inputting the card, **INPUT OK** is displayed on the screen.
If you want to add the other user, select **2. YES,** and register the user.
User IDs increases automatically.



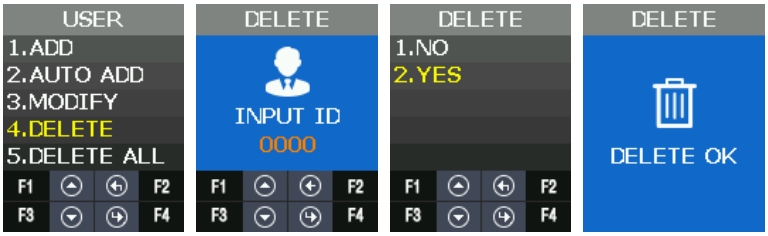
3.4.3. MODIFY

It is used when modifying the authentication type of the registered user.
In authentication type, authentication type (fingerprint, card) and authentication condition (AND, OR) can be changed.
If the modification type is modified, authentication information about the authentication type can be input.



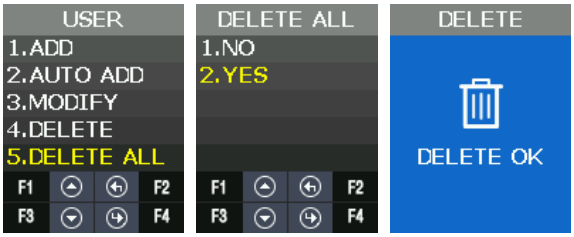
3.4.4. DELETE

It is used when deleting the registered users.



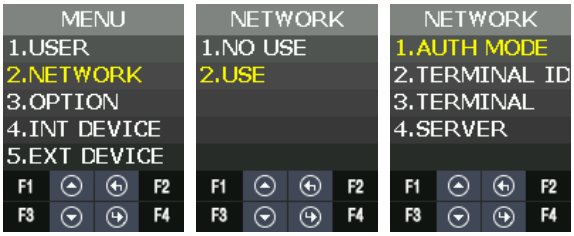
3.4.5. DELETE ALL

It is used when deleting all the registered users. It should be careful when trying to delete, because all the users (general user, administrator) are deleted.



3.5. NETWORK Menu

Network menu has the following features.



Category	Explanation	Remarks
NO USE	Network not used	Standalone
USE	AUTH MODE TERMINAL ID TERMINAL SERVER	Network mode

Operation Mode	Explanation
Standalone	This is the operation mode independently without server and communication. The administrator can control all the functions of the terminal. Authentication log is saved in the terminal but is not sent to server. After converting Standalone mode into Network mode and accessing in server, the authentication log saved internally is sent to sever. If you want to see the authentication log data in Standalone mode, move RECOVERY > BACKUP > LOG EXPORT from main menu, download it in USB through UDL module and check it by Rosslare Bio9000 program.
Network Mode	This is the operation mode by communicating with the server and it can control the functions of the terminal by the remote-control. Depending on the authentication mode, the order of authentication can be different. (Authentication order about whether trying to authenticate in the terminal or the server first) Authentication log is sent to the server if the network is connected regardless of authentication mode.

3.5.1. AUTH Mode

Authentication mode means the authentication priority to determine whether authentication

processing is done in the terminal or the server when user-authentication.
It is a valid setting only when using the network. All authentication log is sent to server through the network.

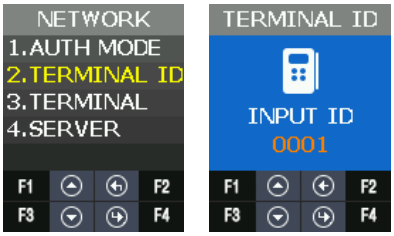
AUTH MODE	Explanation
Server/Terminal	Server ➔ Terminal After trying to do server authentication at first, terminal authentication is processed.
Terminal/Server	Terminal ➔ Server After trying to do terminal authentication at first, server authentication is processed.
Server	Server only Authentication is processed only in server.
Terminal	Terminal only Authentication is processed only in terminal. Even if it is "Terminal Only", authentication log is sent to server.

★ In Server Only" mode, if the network is disconnected, all the authentication is processed in fail. If the mode is not "Server Only" (Server/Terminal, Terminal/Server, Terminal) and the network is disconnected, authentication is processed in the base of DB in the terminal.

3.5.2. Terminal ID

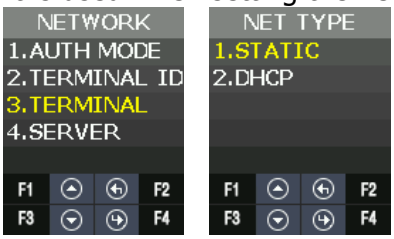
Terminal ID is a valid information only when using the network, and it can be set in the range of 1~200.

If a user registered in the terminal exists, you can't change the Terminal ID.



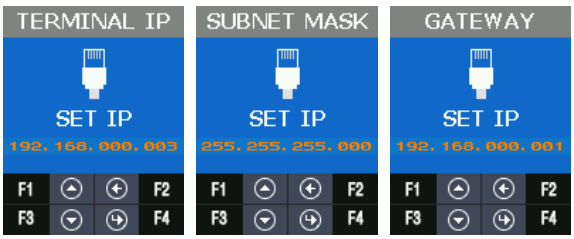
3.5.3. Terminal

It is used when setting the network information in the terminal.



Network setting in the terminal can be set in Static IP and DHCP.
STATIC: Set the value as a user wants.
DHCP: Allocated flexibly. (It can be operated normally when using the router supporting DHCP.)

If **STATIC** is used, it is used when setting IP, Subnet mark and Gateway address of the terminal.
The following is the default setting value.



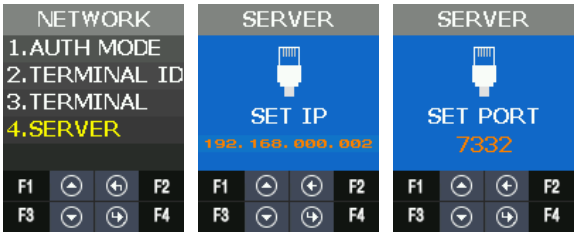
Category	Default Setting Value
Terminal IP	192.168.0.3
SUBNET MASK	255.255.255.0
GATEWAY	192.168.0.1

It can set the address value as follows.

Function Key	Function Explanation
F1	Increase the setting value
F3	Decrease the setting value
F2	Move to left
F4	Move to right
F4 Long	Save the setting value

3.5.4. Server

When the terminal accesses in server through the network, set the information.

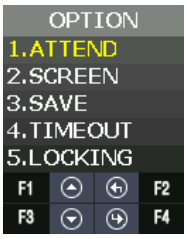


Default setting value is as follows.

Category	Default Setting Value
Server IP	192.168.0.2
Port number	7332

3.6. OPTION Menu

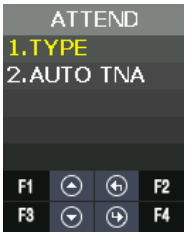
User menu has the same function as follows.



Category	Explanation
ATTEND	TYPE AUTO TNA
SCREEN	LANGUAGE SHOW ID USER LOGO USER ID LEN DATE
SAVE	LOGO SAVE IMAGE SAVE
TIMEOUT	RESULT NET ERROR PING
LOCKING	NO USE / USE

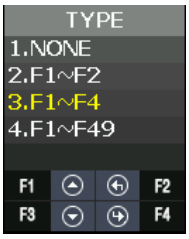
3.6.1. ATTEND

TNA related menu is configured.



Category	Explanation
TYPE	When Function Key is used in time and attendance option, it is used.
AUTO TNA	Use to determine whether to remain Function Key or not shown in the default screen.

3.6.1.1. TYPE



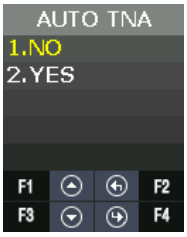
It is used when setting ATTEND mode. If setting ATTEND mode, ATTEND mode is displayed in the screen when pressing Function Key shortly (F1~F4) in the default screen.

Mode	Explanation
NONE	F00 is only displayed in default screen.
F1~F2	F1~F2 Function Key is recognized and F01, F02 are displayed in default screen.
F1~F4	F1~F4 Function Key is recognized and, F01, F02, F03, F04 are displayed in default screen.
F1~F49	F1~F4 Function Key is recognized and F01, F02, F03, F04, F11~F49 are displayed.

Function Key	Meaning
F00	ACCESS MODE
F01	CLOCK-IN MODE
F02	CLOCK-OUT MODE
F03	CHECK-OUT MODE
F04	CHECK-IN MODE
F11~F49	EXPANDED MODE

TNA mode (F00~F49) is converted into F00 after 10 seconds if you don't use AUTO TNA.

3.6.1.2. AUTO TNA

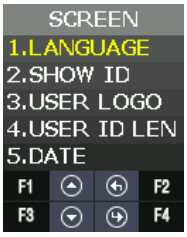


AUTO TNA is the menu to determine whether to remain continually the setting TNA mode or not.

Category	Explanation
NO	The TNA mode is automatically returned into F00 after 10 seconds.
YES	The TNA mode is continuously displayed.

3.6.2. Screen

The screen display related menu is configured.



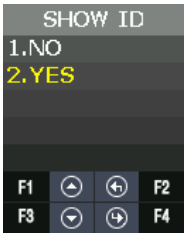
Category	Explanation
LANGUAGE	Change the language which is displayed in the screen and is spoken.
SHOW ID	When authentication succeeds, you can set whether showing ID or not.
USER LOGO	You can set whether the logo image for customers is used or not in the default screen.
USER ID LEN	It is used when modifying the length of user's ID.
DATE	It is used when modifying Year/ Month/ Day and time displayed in the

	default screen.

3.6.2.1. Language

It is used to change the voice language and menu text displayed on the screen.
Voice guidance is available in English, Korean, Indonesian, Thai, Arabic, Spanish, Portuguese, French, Russian, Farsi, Japanese, and Chinese.
Language support for all menu text is in English, Korean, Indonesian, Spanish, Portuguese, French, Japanese and Chinese.
Language support for some text is in Farsi, Arabic, Thai and Russian.

3.6.2.2. SHOW ID

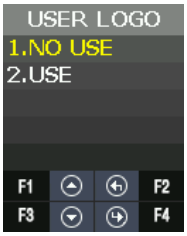


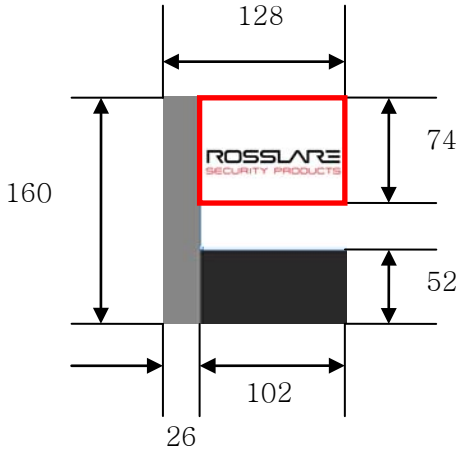
It is used to determine whether to show your ID at the time of authentication success window.

Category	Explanation
NO USE	Do not show your ID at the time of authentication success Screen Yes "****" When authentication successes, it doesn't show user's ID on the screen. For example, "****".
USE	When authentication successes, it shows user's ID on the screen. For example, "****".

3.6.2.3. USER LOGO

It is used to determine whether the displayed image shows the customer's logo or not in the default screen.



Category	Explanation
NO USE	Use basically the provided default image
USE	Use the customer's logo image To use the customer's logo image, you should update the customer's image through the server first and then the customer's image is displayed in the default screen. When editing the customer's image, it should be edited in the red box as the left picture. The full image size is 128 (W) x160 (H) pixel, and the red box image size is 102 (W) x74 (H) pixel. 

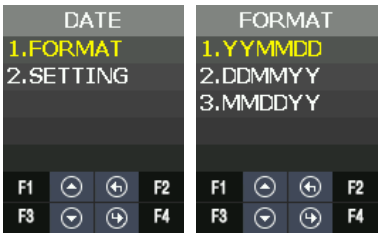
3.6.2.4. USER ID LEN

It is used to change the length of user's ID. If changing the user's ID, it should change in the absence of a DB because it affects user's DB that is internally registered. The setting range can be set from 4 to 16.

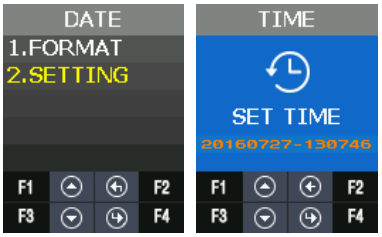
If a user registered in the terminal exists, you can't change the length of User ID.

3.6.2.5. DATE

It is used to select the order of Year, Month and Day displayed in the default screen.
YY: Year
MM: Month
DD: Day

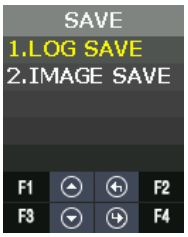


Through SETTING, you can set current Year, Month, Day and Time.



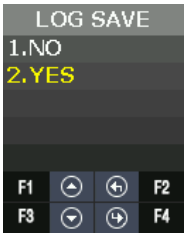
3.6.3. SAVE

It is the menu including the function related to SAVE.



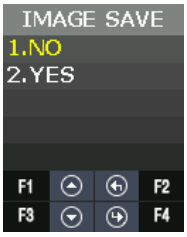
3.6.3.1. LOG SAVE

It is used to set whether to save the authentication log in memory or not.
The default setting is YES.



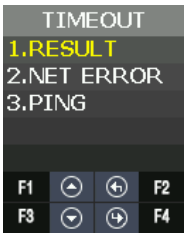
3.6.3.2. IMAGE SAVE

It is used to set whether to save the captured photo from camera when authentication successes or fails. The default setting is Fail.



3.6.4. TIMEOUT

It is the menu that has the setting related with timeout.



3.6.4.1. RESULT

It is used to set the authentication result display how long it keeps for a seconds.
The setting range can be set from 0 to 5 seconds. If it set to 0, then don't display the authentication result.

3.6.4.2. NET ERROR

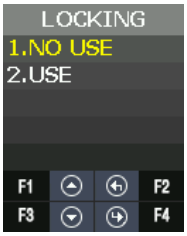
If it does not communicate with the server over a period of time, it is used to set whether there is a network communication error.
If PING doesn't come for a setting time in the server, it retries to connect the terminal.
The setting range is available for 60~600 seconds.

3.6.4.3. PING

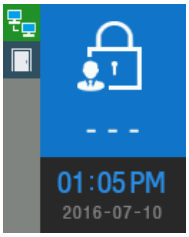
It sets the cycle that terminal sets PING command to the server.
The setting range is available for 30~255 seconds.

3.6.5. LOCKING

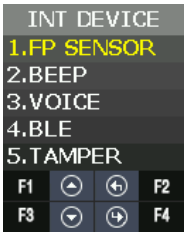
Locking mode is the function that it rejects the authentication of all users until the administrator enters the menu and releases the locking mode.
The default setting is **NO USE**.



The default screen is displayed as follows when setting to use locking mode.



3.7. INT DEVICE Menu

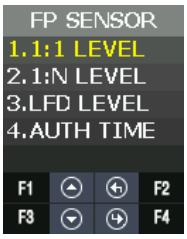


INT DEVICE menu has the features as follows.

Category	Explanation
FP SENSOR	1:1 LEVEL 1: N LEVEL LFD LEVEL AUTH TIME
BEEP	Set Beep Sound.
VOICE	Set Voice Sound
BLE	BLE registration mode
TAMPER	Set the alarm when opening terminal case.

3.7.1. FP SENSOR

For the fingerprint recognition, it sets for the user registration and authentication about the module installed inside.



3.7.1.1. 1:1 LEVEL

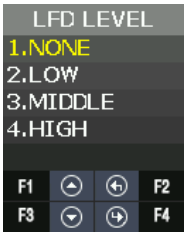
It is the authentication level used when it tries 1:1 fingerprint authentication.

3.7.1.2. 1: N LEVEL

It is the authentication level used when it tries 1: N fingerprint authentication.

3.7.1.3. LFD LEVEL

It sets LFD LEVEL to prevent the duress fingerprint.
If setting LFD LEVEL higher and higher, the ability to prevent the input of duress fingerprint produced by rubber, paper, film, and silicon etc. reinforces but too dry fingerprint cannot be input well. Also the authentication speed can be slow.

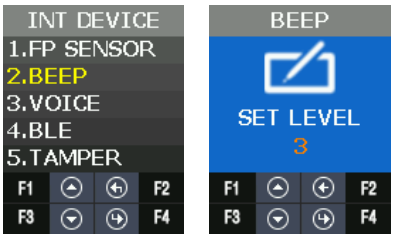


3.7.1.4. AUTH TIME

It means the maximum time to process 1: N authentication. If the authentication time exceeds, authentication timeout occurs. The authentication time is 2 to 10 seconds, the default is 5 seconds.

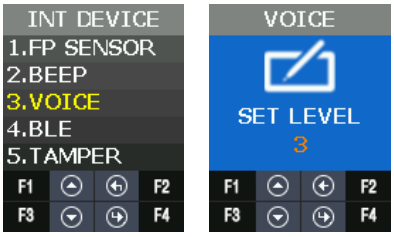
3.7.2. BEEP

It informs key touch, authentication success, and failure as beep and sets the beep level. The beep level is available from 0 to 3.



3.7.3. VOICE

It supports the notice such as authentication success/failure and authentication retrial. It sets the authentication level. The voice level is available from 0 to 5.

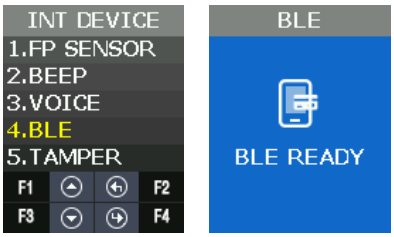


3.7.4. BLE

When registering the terminal in Administrator's App, this menu is required.

By using this menu, it can make the terminal BLE READY. Only if the terminal is BLE READY, it can perform the registration procedure of the terminal after the administrator app accesses the terminal.

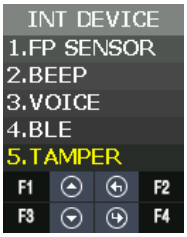
When pressing F3 long in the default screen of the terminal, it performs same operation with this menu.



Regarding the method to register the terminal in the administrator APP, please refer **3.2 How to register the terminal** in the administrator App.

3.7.5. TAMPER

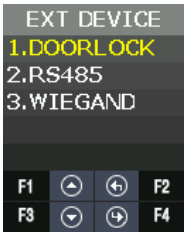
When disassembling the terminal randomly, it sets whether to sound the alarm.



If selecting **1. NO ALARM**, even if disassembling the terminal, the alarm doesn't sound but icon is displayed.

If selecting **2. ALARM**, icon displays and the beep sounds in at regular intervals.

3.8. EXT DEVICE Menu

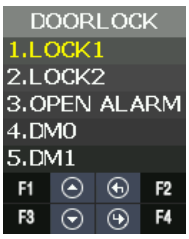


EXT DEVICE has the features as follows.

Category	Explanation
DOORLOCK	It sets the control device to lock through the internal relay.
RS485	It sets the devices using RS485.
WIEGAND	It sets the device using WIEGAND.

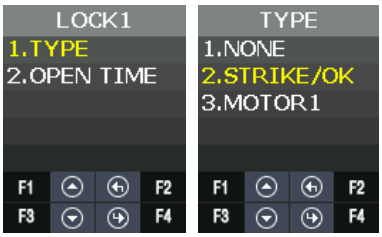
3.8.1. DOORLOCK

It is the menu to set lock device (Strike, Motor type door lock) by using LOCK1 and LOCK2 port.



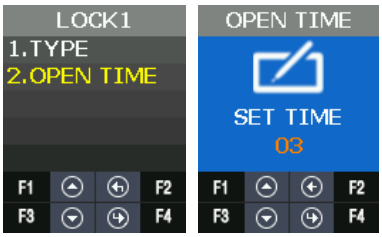
3.8.1.1. LOCK1 type

Category	Explanation
NONE	No Use
Strike/OK	When connecting the light to mark authentication success/failure or **2. STRIKE/OK**.
MOTOR1	When connecting Motor lock



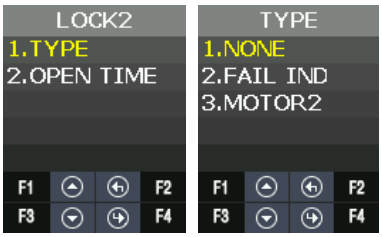
3.8.1.2. LOCK1 OPEN TIME

It sets the time to give the signal when LOCK 1 sets **2. STRIKE/OK**. Strike type means the time from opening to locking the door after authenticating. The default value is 3 seconds and the input range is 1 to 20 seconds.



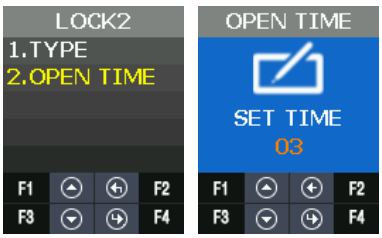
3.8.1.3. LOCK2 type

NONE	When not using
FAIL IND	When connecting the light to mark authentication failure in Lock 2
MOTOR2	When connecting motor lock



3.8.1.4. LOCK2 OPEN TIME

If Lock 2 sets FAIL IND, it sets the time to give the signal. The default value is 3 seconds and the input range is 1 to 20 seconds.

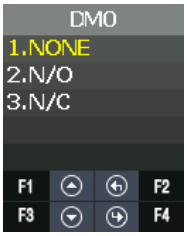


3.8.1.5. OPEN ALARM

When the door open time expires and the door open alarm time is exceeded, the alarm sounds.
The default value is 5 seconds and the input range is 0 ~ 20 seconds. If it is set to 0, it does not beep. If it is set to 1 ~ 20 seconds, it does beep.

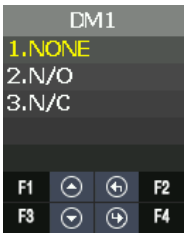
3.8.1.6. DM0

DM0(Door Monitor 0) is the input port and it is used to detect the signal state of door open.



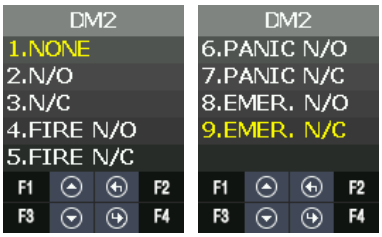
3.8.1.7. DM1

DM1(Door Monitor 1) is the input port and it is used to detect the signal state of lock.

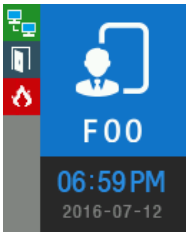


3.8.1.8. DM2

DM2(Door Monitor 2) is the input port and it is used to detect a various of sensor and alarm.

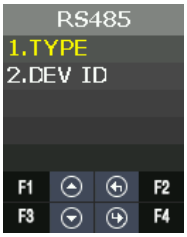


For example, if connecting with fire sensor, it should set 4. FIRE N/O or 5. FIRE N/C and it may cause fire alarm and icon in case of fire. In case of fire, the door automatically opens for safety.

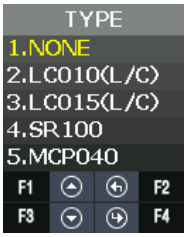


3.8.2. RS485

It is the setting for the device with RS485 communication to interface with external.



3.8.2.1. TYPE



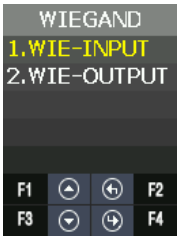
TYPE	Explanation
NONE	It doesn't use RS485.
LC010	Lock Controller It controls LOCK through the other external module.
LC015	Lock Controller It controls LOCK through the other external module.
SR100	FP Dummy Reader When it installs the other FP dummy reader device in external and then operates, it is used.
MCP040	Terminal operates as the dummy reader. If Terminal is connected with MCP040 device, icon is displayed in the defa ult screen. If Terminal is not connected with MCP040, icon is displayed. The authentication result is determines whether or not successful by MCP040. RS485ID uses 1~7.

3.8.2.2. DEV ID

DEV ID is the ID that distinguishes devices and it can be set up 0-7 during RS484 communication.

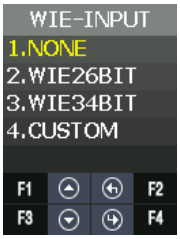
3.8.3. WIEGAND

WIEGAND supports each one of Input port and Output port.



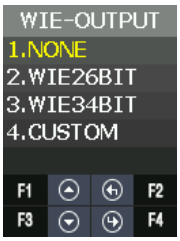
3.8.3.1. WIRE-INPUT

It is used to set the input type when working with the device connected into WIEGAND input port.



Category	Explanation
NONE	WIEGAND input port is not used.
WIE26BIT	EM, HID26 Card Module
WIE34BIT	MIFARE Card Modules
CUSTOM	Use Access Manager program and set Wiegand format.

3.8.3.2. WIRE-OUTPUT



Category	Explanation
NONE	WIEGAND output port is not used.
WIE26BIT	EM, HID26 Card Module
WIE34BIT	MIFARE Card Modules
CUSTOM	Use Access Manager program and set Wiegand format.

3.8.3.3. CUSTOM BIT LENGTH

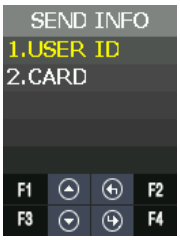
It can set BIT length as 1~128.

3.8.3.4. SITE CODE

It is used to set the value of Site Code that is sent to WIEGAND output port.

3.8.3.5. SEND INFO

It is used to select the transmitting data by the output port.



SEND INFO	Type	None
USER ID	26 Bit	E.Parity(1)+ Site Code(8bit) + ID(16bit) + O.Parity(1)
	34 Bit	E.Parity(1)+ Site Code(8bit) + ID(24bit) + O.Parity(1) If the length of the User ID greater than 8, and sent in the following format without site code: E.Parity(1)+ ID(32bit) + O.Parity(1)
Card	26 Bit	E.Parity(1) + 24bit Card Number+ O.Parity(1)
	34 Bit	E.Parity(1) + 32bit Card Number + O.Parity(1)

3.9. STATUS Menu

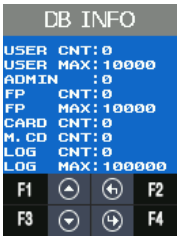
STATE menu has the following features.

STATE information	Explanation
DB INFO	User DB, Authentication log data

NETWORK	The setting information related to network
OPTION	TNA, Screen setting, Saving, Time out, Lock mode
INT DEVICE	Display the setting state related to the internal device.
EXT DEVICE	Display the setting state related to the external device.
I/O PORT	Display the current signal of Input / Output port that interfaces with outside.
VERSION	Display the version of the equipped device in the terminal.

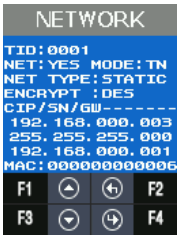
3.9.1. DB INFO

It displays User's DB information and the authentication log information.



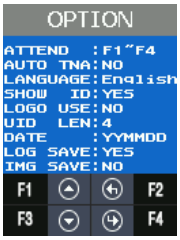
3.9.2. NETWORK

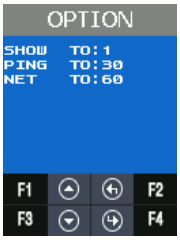
It displays the network setting value.



3.9.3. OPTION

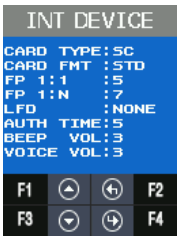
It displays the option setting value.





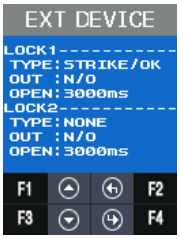
3.9.4. INT DEVICE

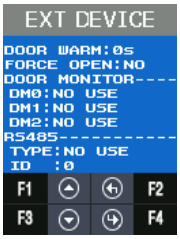
It displays the setting value related to the internal device.

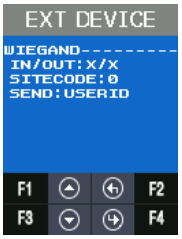


3.9.5. EXT DEVICE

It displays the setting information related to the external device.

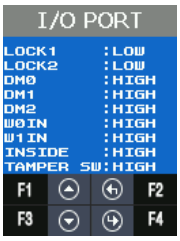






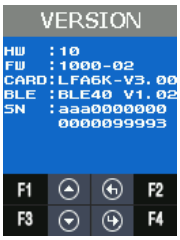
3.9.6. I/O PORT

It reflects the current I/O Port state and displays it on the screen.
Output Port: LOCK1, LOCK2
Input Port: DM0~DM2, W0IN, W1IN, INSIDE Open, Tamper
When the input port shorts GND, the signal modifies from **HIGH** to **LOW**.



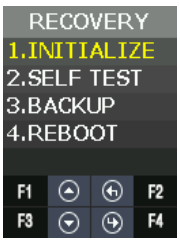
3.9.7. VERSION

It displays the equipped module in the terminal and other version information.



3.10. RECOVERY Menu

RECOVERY has the features as follows.



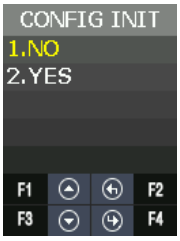
Category	Explanation
INITIALIZE	CONFIG LOG DB FACTORY
SELF TEST	INT DEVICE EXT DEVICE
BACKUP	LOG EXPORT USER EXPORT USER IMPORT FW UPDATE
REBOOT	REBOOT

3.10.1. INITIALIZE

It is used to initialize CONFIG, LOG DB, and FACTORY in the terminal.

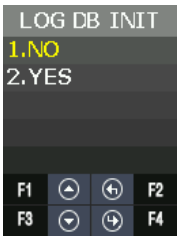
3.10.1.1. CONFIG

It is used to initialize the modified setting value in the menu as the default value when shipping from factory.
If a user registered in the terminal exists, you can't initialize the configuration information.



3.10.1.2. LOG DB INIT

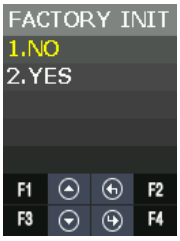
It is used to delete the user authentication log saved in the terminal.



3.10.1.3. FACTORY INIT

If trying FACTORY INIT, setting data, authentication log data, and user registration information are initialized as setting state when shipping from factory.

★ It should be careful because the current data can be lost when you setting wrong.

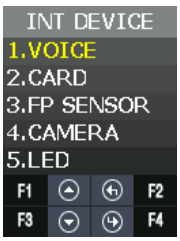


3.10.2. SELF TEST

It is used when the terminal tests the operation state about internal & external device by itself.

3.10.2.1. INT DEVICE

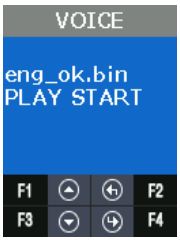
It could test VOICE, CARD, FP SENSOR, CAMERA and LED equipped internally by itself.



Category	Explanation
VOICE	Voice output test
CARD	Card recognition test
FP SENSOR	Fingerprint recognition test
CAMERA	Camera equipment test
LED	LED output test

<u>Voice Test</u>

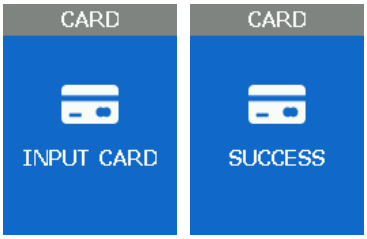
When authentication successes, it repeats and play voice guidance.



Card Test

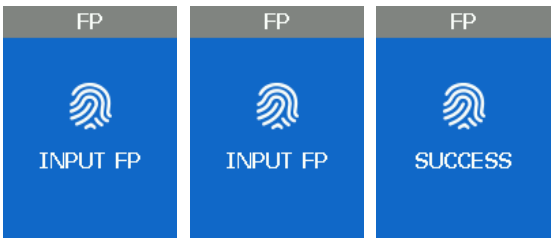
As you see below, the screen displays "INPUT CARD" state at first.

When recognizing the card, "Success" screen displays and it returns "INPUT CARD" state again. If you want to stop testing, press **F2**.



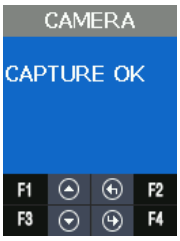
FP Sensor Test

FP Sensor Test is used to test the operation state of FP sensor from terminal.
Input your fingerprint twice, if they are same, it shows "Success" screen.
Otherwise, if not, it shows "Failure" screen.



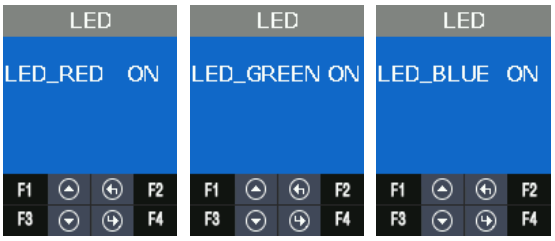
Camera Test

It is used to check whether the camera state is normal in the terminal to capture photos.



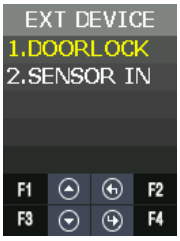
LED Test

It is used to check whether the state is normal about RED, GREEN and BLUE LED used to inform the operation state.
At intervals of 2 seconds, RED, GREEN and BLUE LED changes from ON to OFF.



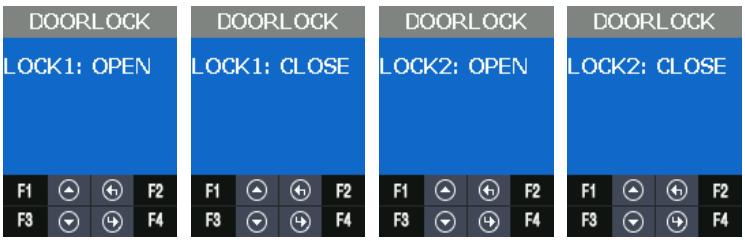
3.10.2.2. EXT DEVICE

It can test the features related to the external device by itself.

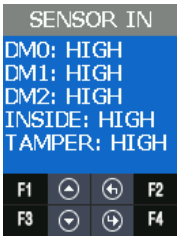


Category	Explanation
DOORLOCK	Lock1, Lock2
SENSOR IN	DM0 DM1 DM2 INSIDE OPEN TAMPER

<u>DOORLOCK Test</u>
It is used to check the state of LOCK1, LOCK2 OPEN /CLOSE from the terminal.
The procedure is as follows.

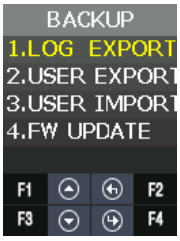


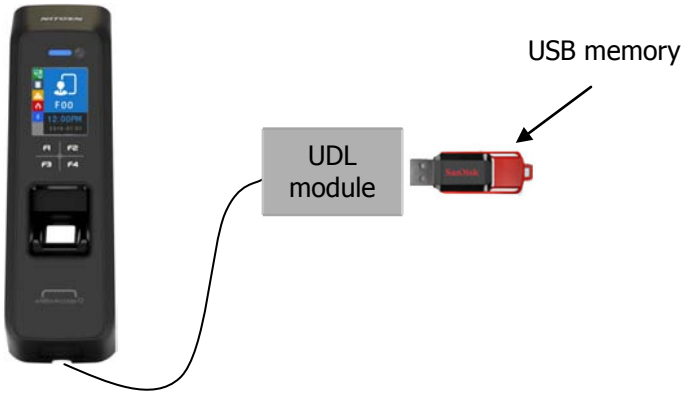
<u>SENSOR IN</u>
It is used to check the signal state about the input port.
When the port shorts GND, if signal changes LOW, it is normal.



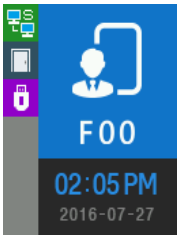
3.10.3. BACKUP

When the saved data from the terminal sends to USB by using UDL device or brings the data from USB memory and then applies it, it is used. It is available only when the UDL module is. UDL is the option module, so it is not basically provided. If you want to get more information about UDL module, please contact customer service. USB memory recommends using SanDisk.(NOTICE: UDL Device is not supported for all USB memory. UDL module may not work depending on the USB memory size, manufacturer, and method.)





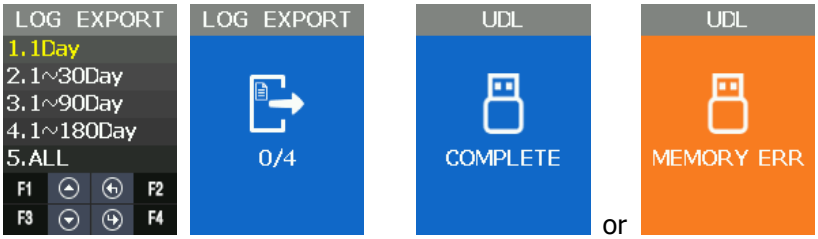
If Terminal detect UDL Device and USB memory, icon is displayed in the default screen.
If icon isn't displayed, all backup function doesn't operate.



3.10.3.1. LOG EXPORT

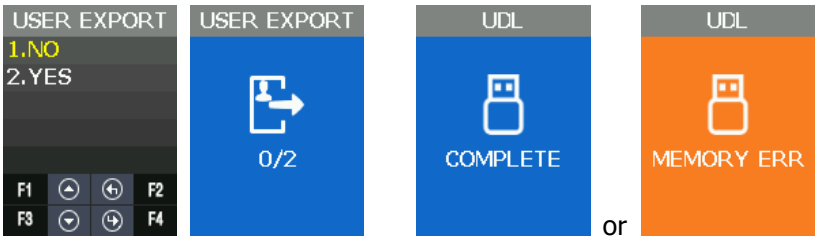
The saved log data from terminal saves in USB memory through UDL (User Data Downloader module).
Only the log data in the selected period sends to USB and saves it through UDL.
The file name saved in USB memory is divided by period as follows.

1. 1Day: L1Day.NLG,
2. 1~30Day: L30Day.NLG
3. 1~90Day: L90Day.NLG
4. 1~180Day: L180Day.NLG
5. ALL: ALL.NLG



3.10.3.2. USER EXPORT

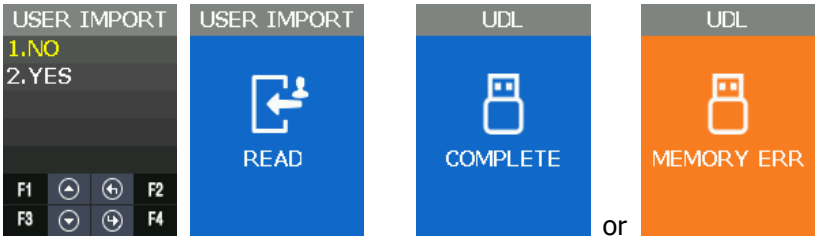
The saved User DB from the terminal saves in USB memory through UDL.
It saves as USER.NDB file.



3.10.3.3. USER INPUT

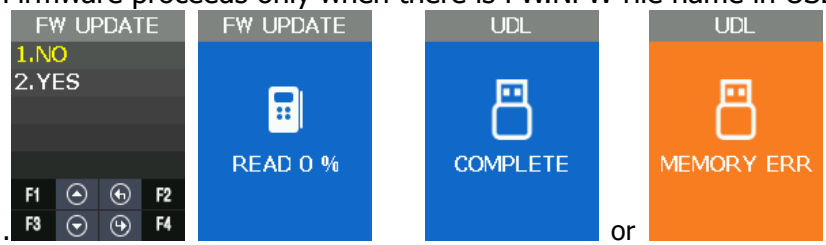
It reads the user DB from USB memory through UDL and adds it in terminal user DB.
If inputting user DB in the terminal, all existing user DB are deleted.
If you need the existing user DB saved in the terminal, back up first and try to input the user.
It opens USER.NDB file in USB memory and brings into the terminal through UDL.
The user registration data that you brought is reflected in the internal DB and added.

※ CAUTION: If you press F2 Key to stop in READ state, user loading fails.



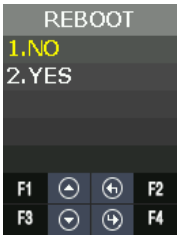
3.10.3.4. FW UPDATE

It is used when reading the firmware from USB memory through UDL and updating the terminal firmware.
Firmware proceeds only when there is FW.NFW file name in USB memory.



3.10.4. REBOOT

It is used when rebooting the terminal.



Appendix 1. Glossary

<Glossary >

- Administrator (Admin)
  - The administrator can access the terminal menu mode. He/she has the authority to add/modify/delete terminal users and to change the operating environment by changing settings.
  - If there is no registered administrator in the terminal, anybody can access to the terminal menu and change settings. **It is recommended that more than one administrator be registered in the terminal**.
  - The administrator has the authority to change critical environmental settings of the fingerprint reader. So, special attention is required to its registration and operation.

- 1:1 Authentication
  - The user fingerprint is verified after entering User ID or Card.
  - Only User ID or the user fingerprint registered to the card is compared. This is called One-to-One Authentication.

- 1: N Identification
  - The user is searched only by the fingerprint.
  - The same fingerprint as the input fingerprint is identified among the registered fingerprints without User ID or Card entered. This is called One-to-N Identification.

- Authentication Level
  - As a level used for fingerprint authentication, it is displayed in Step 1 to 9. Authentication cannot be allowed before the degree of match between two fingerprints is higher than the set authorization level.
  - The higher authentication level may ensure the higher security. But it requires the relatively high concordance rate. When authenticating User ID, it high likely to deny authentication.
  - 1:1 Level: Authentication level applied when 1:1 authentication
  - 1: N Level: Authentication level applied when 1: n authentication

- Authentication Method
  - It refers FP (Fingerprint) Authentication, RF (Card) Authentication and a various types of authentication methods made by each of a combination.

- LFD (Live Finger Detection): Fake fingerprint prevention function
  - The LFD allows only actual fingerprints to be entered, except for any fake fingerprints made of rubber, paper, film, and silicon and the like.

Appendix 2. Declaration of Conformity

- This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
  - This device may not cause harmful interference.
  - This device must accept any interference received, including interference that may cause undesired operation.
- Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

CAUTION: Exposure to radio frequency radiation

This equipment should be installed and operated with a minimum distance of 20 cm between the radiator and your body.

Appendix 3. Radio Equipment Directive (RED)

Rosslare hereby declares that the AY-H6355BT is in compliance with essential requirements and other relevant provisions of Directive 2014/53/EU.

Appendix 4. RoHS Directive

Under our sole responsibility that the following labeled AY-U9xxBT is tested to conform to the Restriction of Hazardous Substances (RoHS) directive – 2011/65/EU – in electrical and electronic equipment.

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