

***Star* FINGER006**
***iPASS* IP-FINGER006**
***IDTECK* FINGER006SR**

Fingerprint Identification
Proximity / PIN Reader



IDTECK

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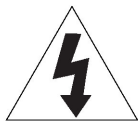
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Safety Information

1



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK) NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



This symbol indicates that dangerous voltage consisting a risk of electric shock is present within this unit.



This exclamation point symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING

To reduce the risk of fire or electric shock, do not expose this appliance to rain or moisture.

WARNING

1. Be sure to use only the standard adapter that is specified in the specification sheet. Using any other adapter could cause fire, electrical shock, or damage to the product.
2. Incorrectly connecting the power supply or replacing battery may cause explosion, fire,

electric shock, or damage to the product.

3. Do not connect multiple controllers to a single adapter. Exceeding the capacity may cause abnormal heat generation or fire.
4. Securely plug the power cord into the power receptacle. Insecure connection may cause fire.
5. When installing the controller, fasten it securely and firmly. The fall of controller may cause personal injury.
6. Do not place conductive objects (e.g. screwdrivers, coins, metal parts, etc.) or containers filled with water on top of the controller. Doing so may cause personal injury due to fire, electric shock, or falling objects.
7. Do not install the unit in humid, dusty, or sooty locations. Doing so may cause fire or electric shock.
8. If any unusual smells or smoke come from the unit, stop using the product. In such case, immediately disconnect the power source and contact the service center. Continued use in such a condition may cause fire or electric shock.
9. If this product fails to operate normally, contact the nearest service center. Never disassemble or modify this product in any way. (SAMSUNG is not liable for problems caused by unauthorized modifications or attempted repair.)
10. When cleaning, do not spray water directly onto parts of the product. Doing so may cause fire or electric shock.

CAUTION

1. Do not drop objects on the product or apply strong blows to it. Keep away from a location subject to excessive vibration or magnetic interference.
2. Do not install in a location subject to high temperature (over 50°C), low temperature (below -30°C), or high humidity. Doing so may cause fire or electric shock.
3. If you want to relocate the already installed product, be sure to turn off the power and then move or reinstall it.
4. Remove the power plug from the outlet when there is a lightning storm. Neglecting to do so may cause fire or damage to the product.
5. Keep out of direct sunlight and heat radiation sources. It may cause fire.
6. Install it in a place with good ventilation.
7. Avoid aiming the controller directly towards extremely bright objects such as sun.
8. Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.
9. The Mains plug is used as a disconnect device and shall stay readily operable at any time.

1 IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus.
13. Unplug this apparatus when a card is used. Use caution when moving the cart/ apparatus combination to avoid injury from tip-over.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

The **Star FGR006 / iPASS IP-FGR006 / IDTECK FGR006SR** is a Fingerprint Identification Proximity Reader which can be connected to a control panel. The **Star FGR006 / iPASS IP-FGR006 / IDTECK FGR006SR** provides high level security by integrating functions of proximity reader and fingerprint identification, and permitting access only when card ID and a fingerprint are matched.

It is easy to install on metal mullions or flat surfaces, and its elegant design and credible fingerprint recognition technology give you full satisfaction.

- 1:1 Verification and 1:N Identification
 - Identification Method: by Auto Touch Sensor
 - Verification Method: by 1:1 Matching of Card and Fingerprint
- 125 KHz Proximity and Fingerprint Recognition
- 1,000 / 2,000 / 4,000 Fingerprint Users (Selectable)
- Various Operating Modes
 - RF Only/ Fingerprint Only/ RF + Fingerprint
- RF Only mode is provided for users whose fingerprints are not applicable.
- Fingerprint Registration/Deletion and Reader Mode Setting using Master Card
- Network Communication via RS232 / RS422 / RS485 (Max.255ch)
- Upload Fingerprint Templates to PC, Download Fingerprint Templates from PC
 - Optional RS232C Stereo Jack is required
- Output format : 26bit Wiegand (Default) and ABA Track II (Option)
- 1ea of External Reader Port
 - 26/ 34bit Wiegand, ABA TRACK II and 4 / 8bit Burst Signal Reception
- High Protection from Scratch and ESD (Electro Static Discharge)
- High Quality Optical Sensor
- Tamper Switch for theft prevention
- Option: RS232C Stereo Jack
- Compatible Software: STARWATCH DUAL PRO I / II, STARWATCH iTDC PRO I / II FINGERPRINT ENROLLMENT PRO
- Compatible Controller: iCON100, iTDC, iMDC, Third Party Standalone Controller
- **Comparison Table**

FGR006	PSK Format, Built-in 125KHz (4") Proximity Reader
	RF Only / *Fingerprint Only / RF+ Fingerprint
IP-FGR006	ASK[EM] Format, Built-in 125KHz (4") Proximity Reader
	RF Only / *Fingerprint Only / RF+ Fingerprint
FGR006SR	Built-in 13.56MHz (4") Contactless Smart Card Reader
	Smart Card Only / *Fingerprint Only / Smart + Fingerprint



* NOTE: Auto Touch Sensor is optional for some product depending on their version.

FGR006 v7.4.0 or above, IP-FGR006 v8.1.0 or above and FGR006SR v 3.3.0 or above: Auto Touch Sensor is included.

FGR006 below v7.4.0, IP-FGR006 below v8.1.0 and FGR006SR below v 3.3.0: Auto Touch Sensor is optional.

Specification

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Model			FGR006
CPU			32bit ARM9 and Dual 8bit Microprocessor
Memory	Fingerprint Module	Program Memory	1MByte Flash Memory
		Data Memory	1MByte/ 4MByte Flash Memory 8MB SDRAM
	Controller	Program Memory	128KByte Flash Memory
		Data Memory	256KByte Serial Flash Memory, 4KByte SRAM
Fingerprint User			1,000 / 2,000 / 4,000 Fingerprint Users
Fingerprint Template Size			800 Bytes for 2 Fingerprint Templates
Read Range	Passive Type	FGR006	IDK50 / IMC125: Up to 2 inches (5cm)IDC80 / IDC170: Up to 4 inches (10cm)
		IP-FGR006	IPK50: Up to 2 inches (5cm)IPC80 / IPC170: Up to 4 inches (10cm)
		FGR006SR	ISK50 / IHC80 / IMC135: Up to 2 inches (5cm)ISC80: Up to 4 inches (10cm)
Reading Time (Card)			30ms
Verification / Identification Time			Less than 1sec. / Less than 2sec.
Power / Current			DC 12V / Max. 350mA
		FGR006 / IP-FGR006	1 port (4/8bit Burst for PIN, 26bit Wiegand, ABA Track II)
		FGR006SR	1 port

		(4/8bit Burst for PIN, 34bit Wiegand, ABA Track II)
Communication		RS232 / RS422 / RS485 (Max.255ch)
		TCP/IP (External LAN Converter Required)
Baud Rate		9,600bps (Recommended) / 4,800bps, 19,200bps and 38,400bps (Selectable)
Input Port		3 ports (LED Control In, Buzzer Control In, Tamper Switch)
Output Port		3 ports (Error Signal Out, OK Signal Out, Tamper Switch Out (Open Collector Out put))
LED Indicator / Beeper		3 LED Indicators (Red and Green) / Piezo Buzzer
Operating Temperature	Fingerprint Module	-20 to +60C (-4 to +140F)
	RF Reader	-35 to + 65C (-31 to +149F)
Operating Humidity		10% to 90% relative humidity non-condensing
Color / Material		Pearl Dark Gray and Light Gray / Polycarbonate
Weight / Dimension (W x H x T)		259.5g (0.57lbs) / 66mm x 129mm x 52mm (2.6" x 5.1" x 2.0")
Certification		FCC, CE, KC

- Finger Module Specification

Resolution	500dpi
Capture Image Size	356 X 292 pixels
Extraction Image Size	248 X 292 pixels
Sensing Area	12.7 X 14.9mm
Scanner	High Quality Optical Sensor
FAR(False Acceptance Ratio)	0.001%
FRR(False Reject Ratio)	0.1%
ESD(Electro Static Discharge)	15KV
Verification Time	Less than 1sec.
Identification	Less than 2sec.

Identifying Supplied Parts

5

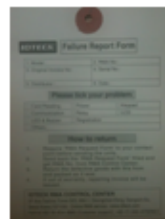
Please unpack and check the contents of the box.



FGR006
(1ea)



User Manual
(1ea)



A/S Request Form
(1ea)



Master Card
(1ea)



RS232C Stereo Jack
(Optional)



3.0*30 Screw
(2ea)



4.0*40 Screw
(2ea)



6.0*30 Anchor Bolt
(2ea)

1 Functions

1.1 Registration Mode

In the registration mode, you can register new user cards or delete existing cards. You need a Master Card to enter the Registration Mode.

1.2 Reader Mode

In Reader Mode, you can choose either RF Only mode or RF+FINGER mode. You need a Master Card to enter the Reader Mode. There are 2 kinds of Reader Mode as below.



- **RF Only Mode:** In this mode you need only card authorization to obtain access. If card authorization is successful the corresponding card number will be transmitted to the controller. This mode is useful for the user whose fingerprint is not applicable.

- **RF + FINGER Mode:** In this mode you need both card and fingerprint authorization to obtain access. If card and fingerprint authorization is successful, the corresponding card number will be transmitted to the controller. For a user who did not register one's fingerprint, RF Only mode is applied automatically.

1.3 Card Number Input Format

When an external reader is connected, FGR006/IP-FGR006 accepts input data from the external reader via 26 Wiegand, ABA Track II, and 4/8bit Burst format. FGR006SR accepts input data from external reader via 34 Wiegand, ABA TRACK II and 4/8bit Burst format.

1.4 Card Number Output Format

If a fingerprint data is authorized, FGR006/IP-FGR006 transmits the corresponding card number to the controller via 26/34bit Wiegand or ABA Track II depending on output setting

1.5 *¹OK Signal Output (Applicable when output setting is 26/34bit Wiegand, Open collector Output)

Transmit OK Signal to notify that fingerprint is used to authorization. In case of authorization without fingerprint, the FINGER006 does not transmit OK Signal. Transmitting OK signal needs connecting OK Signal wire (Orange) to an input port of the controller.

1.6 Error Signal Output (Applicable when output setting is 26/34bit Wiegand, Open collector Output)

Transmit ERROR Signal when any type of authorization is failed. Transmitting ERROR signal needs connecting OK Signal wire (Orange with black stripe) to an input port of the controller.

What FGR006 Transmits

	In case of success	In case of failure (Normal Mode)	In case of failure (Extension Mode)
Fingerprint Only	Card ID, OK Signal	ERROR Signal	ERROR Signal
Fingerprint + RF Card	Card ID, OK Signal	ERROR Signal	Card ID, ERROR Signal

¹ * In normal mode, the FGR006 transmits Card ID only when authorization is a success. But if you set 'Extension mode' by application software, the FGR006 transmits Card ID also when authorization is failed. In this case, you can get information of users whose authorization is failed. However, because a Card ID is transmitted to the controller, users who failed authorization of the FGR006 can get access to a door depending on setting of the controller. (Default is Normal Mode)

	In case of success	In case of failure (Normal Mode)	In case of failure (Extension Mode)
RF Card Only	Card ID	ERROR Signal	Card ID, ERROR Signal



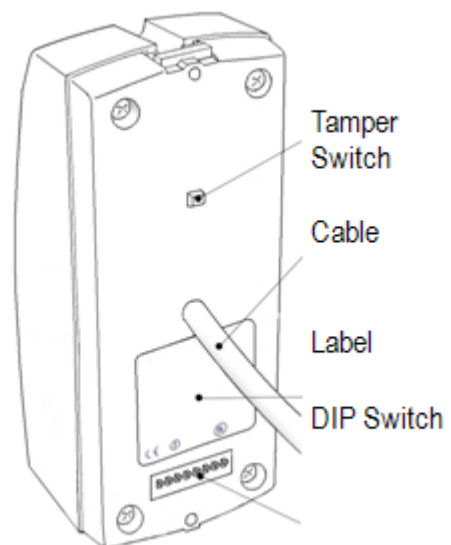
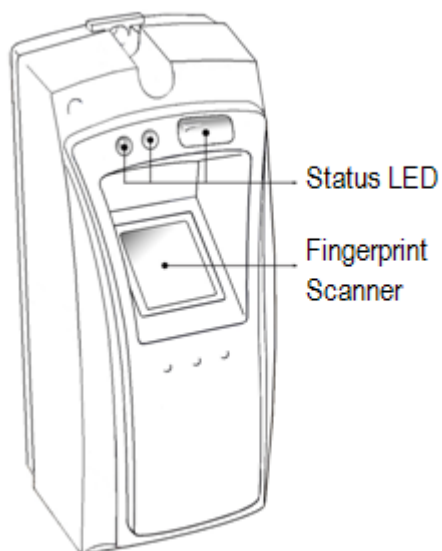
*Please refer to p.24 for output mode.

1.7 Dual Finger Mode

Dual Finger Mode is a function that allows a user to register two fingers for one ID so that the user can receive authorization with either of the two registered fingers. It can be used when user's fingers have injured.

2 Product Explanation

2.1 Panel Description



2.2 Color Coded & Wiring Table

Signal	Color
Main Power (+12V)	Red
Power Ground (GND)	Black
Wiegand Data 0 Out / ABA Track II Data Out	Green
Wiegand Data 1 Out / ABA Track II Clock Out	White
Error Signal Out / ABA Track II CP Out	Orange
OK Signal Out	Orange with Black stripe
Tamper Switch Out	Purple
Wiegand Data 0 In	Pink
Wiegand Data 1 In	Cyan
LED Control In	Blue with White stripe
Buzzer Control In	White with Red stripe
RS422 (TX+)	Gray
RS422 (TX-)	Yellow
RS422 (RX+)	Brown
RS422 (RX-)	Blue



*RS485 communication, you should combine Gray (TX+) wire and Brown (RX+) wire, Yellow (TX-) wire and Blue (RX-) wire and then connect the two combined wires to a converter. We recommend you to use an INC300 converter.

Installation Tips & Check Points

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1 Recommended Cable Type and Permissible Length of Cable

DESCRIPTION	CABLE SPECIFICATION	MAXIMUM DISTANCE
Reader (Power and Data)	Belden #9512, 22 AWG	150m
Reader <--> ACU	4 conductor, shielded	
	Belden #9514, 22 AWG	
	8 conductor, shielded	



* Should use a wire that is thicker than a wire which can handle maximum current of the reader.

2 Reader Connection

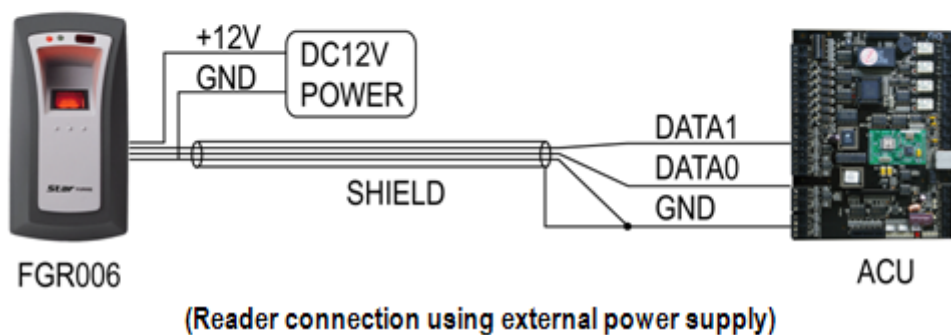
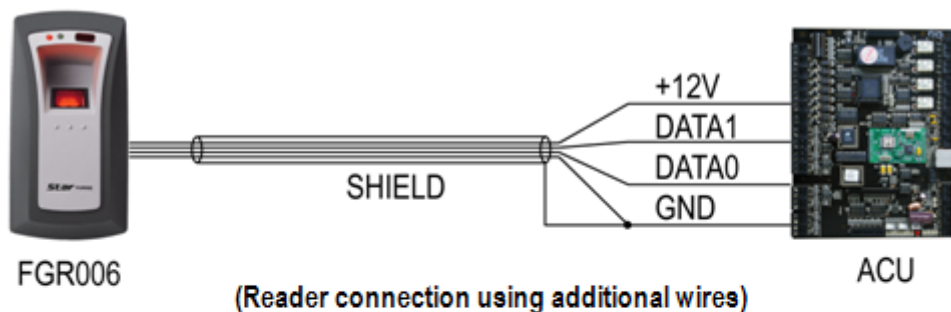
Long distance between the product and ACU(Access Control Unit) may cause voltage drop. For example, if you install a reader that consumes 100mA current 100m away from ACU and supply power to the reader from the ACU, the voltage drop is 1V. In this case, ACU cannot

recognize the Wiegand data signal from the reader because ACU cannot recognize voltage level which is inputted as “1” or “0”. Following methods below can reduce voltage drop.



☒ Reduce the DC resistance of wire; using a thick cable or add more wires to the wire in parallel. If you connect 4 wires in parallel, the DC resistance of the wire will be reduced to 1/4 of the DC resistance of the single wire.

☒ Use separate power for the reader; In case of using external power for the reader and not supplying power from the ACU, there is no voltage drop.

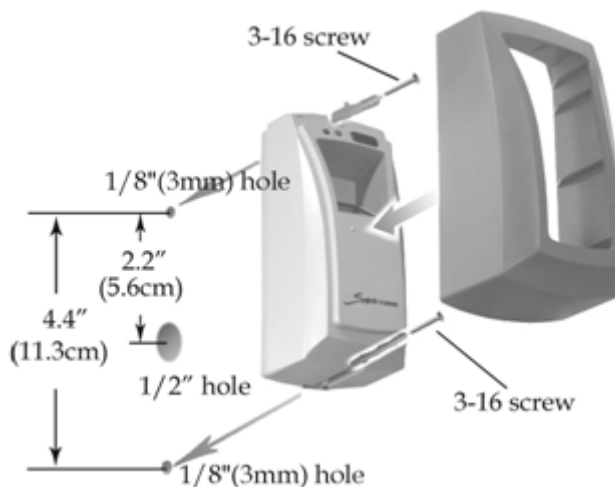


Installation of the Product

8

1 Mullion and Wall Mount

1. Drill two $\text{Ø}1/8"$ (3mm) holes, 4.4" (113mm) apart vertically and drill one $\text{Ø}1/2"$ hole in the center of the two holes for the reader cable.
2. Connect wires between the controller and the FGR006, and then put the reader cable into the center hole and install the main unit by using two 3-16 screws.
3. Put the bezel into the main unit and until you hear the locking sound.



2 System Initialization

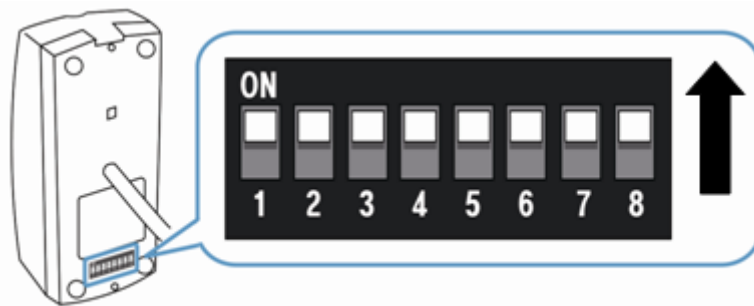
You can initialize the FGR006/IP-FGR006/FGR006SR by DIP switch on the back of the product.

The method of initialization differs depending on version of the product, thus make sure to check version exactly and then initialize it.

2.1 For 8.0.0 and higher version of FGR006 / 8.1.0 and higher version of IP-FGR006 / 4.0.0 and higher version of FGR006SR

Follow the steps below for initialization

1. Turn on the power and then make all the DIP switches position up. (ON position).
2. Initialization starts with buzzer sound. When initializing process has finished, the light of fingerprint scanner is blinking.
3. Place the DIP switch to the original position.

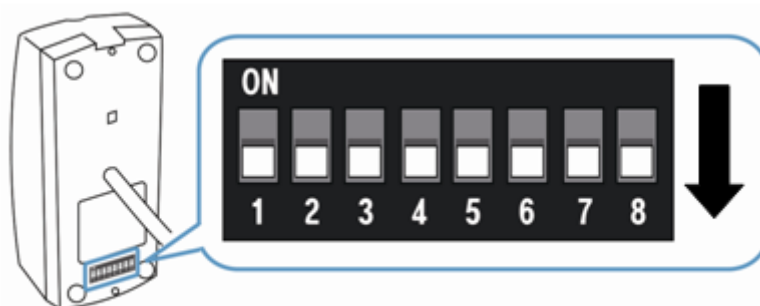


(Figure: the position of DIP Switch and its magnified figure)

2.2 For lower version of 8.0.0 FGR006 / lower version of 8.1.0 IP-FGR006 / lower version of 4.0.0 FGR006SR

Follow the steps below for initialization

1. Turn on the power and then make all the DIP switches position down. (OFF position).
2. Initialization starts with buzzer sound. When initializing process has finished, the light of fingerprint scanner is blinking.
3. Place the DIP switch to the original position.

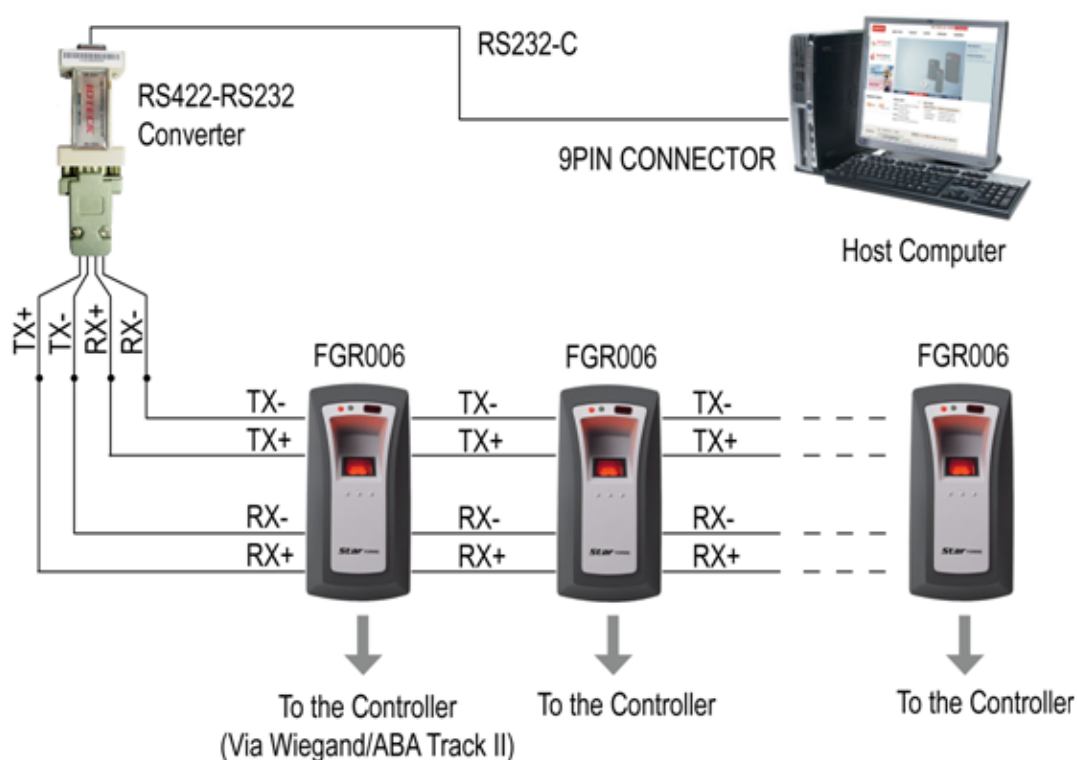


(Figure: the position of DIP Switch and its magnified figure)



If the device is initialized, all data stored in the device will be cleared and the default setting values (factory setting values) will be reloaded. Therefore, the Initialization should be performed by authorized person only.

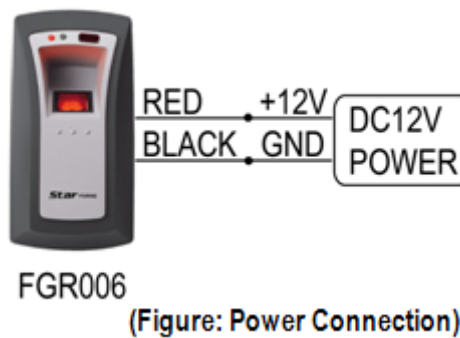
3 FGR006 Network Configuration



4 Wiring

4.1 Power Connections

1. Connect +12V(+) wire of Power Supply to Red wire of FGR006
2. Connect GND(-) wire of Power Supply to Black wire of FGR006

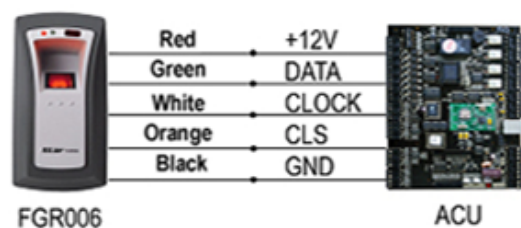
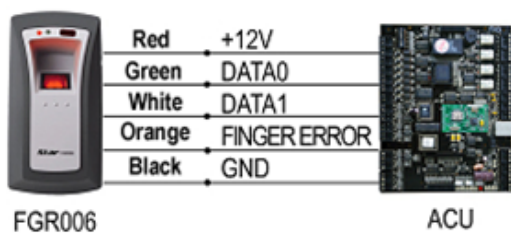


* Even in case of using external power, you MUST connect GND(-).

4.2 Input Connection

- The Green LED is turned on if the LED Control Input(Blue with White stripe) wire is connected to the GND.
- A beep is generated if the Beeper Control Input(White with Red stripe) wire is connected to the GND.

4.3 Output Connections



4.4 External Reader Connection



(Figure: External Reader Connection)

1 Board ID Setting for RS485 / RS422 Communication

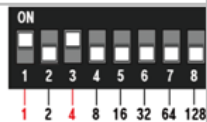
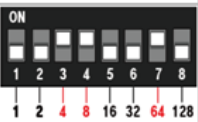
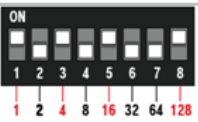
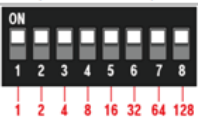
Board ID is the unique address of the device to communicate with PC and it is set by 8 DIP switches. Each DIP switch has assigned address values. Board ID is decided depending on positions of switch set to 'ON' or 'OFF' position.

From '000' to '254', total 255ea of Board ID can be set and Board ID 255 is used for system initialization, thus; you cannot use it as Board ID.

The method of setting Board ID differs depending on the version of product. Therefore, you should check the version and then set Board ID.

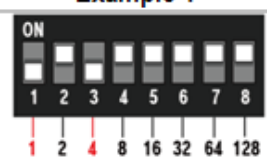
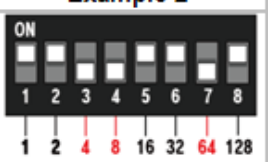
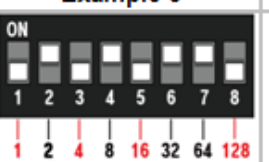
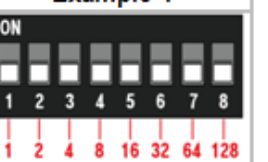
1.1 For 8.0.0 and higher version of FGR006 / 8.1.0 and higher version of IP-FGR006 / 4.0.0 and higher version of FGR006SR

Each of 8 DIP switches has assigned address values as figure below. **Board ID is sum values of each switch that are set to 'ON' position.** Refer to the examples below and set Board ID.

Example 1	Example 2	Example 3	Example 4 (Initialization)
			
1+4=5 (Board ID =5)	4+8+64=76 (Board ID =76)	1+4+16+128=149 (Board ID =149)	Board ID =255 (Initialization)

1.2 For lower version of 8.0.0 FGR006 / lower version of 8.1.0 IP-FGR006 / lower version of 4.0.0 FGR006SR

Each of 8 DIP switches has assigned address values. Board ID is sum values of each switch that are set to 'OFF' position. Refer to the examples below and set Board ID.

Example 1	Example 2	Example 3	Example 4
			
1+4=5 (Board ID =5)	4+8+64=76 (Board ID =76)	1+4+16+128=149 (Board ID =149)	Board ID =255 (Initialization)



Each Board ID on the same communication loop must not be duplicated. If there are duplicated Board ID in the same communication roof, the communication error may occur.

2 RS232 Communication Connection

For RS232 communication, you should use an external RS232C stereo jack.

- Connect the RS232C stereo jack between the stereo jack plug on the bottom of the FGR006 and the COM1 or COM2 port of the Host Computer
- Install and run the application software.



For more information, refer to 10.5 External RS232C stereo jack (OPTION).

3 RS485 Communication Connection

FGR006		RS485/RS232 Converter
Combined wire of Gray wire and Brown wire	RS485-A	RS485+
Combined wire of Yellow wire and Blue wire	RS485-B	RS485-

An RS485/RS232 converter is required to connect between a FGR006 and the Host Computer via RS485 Communication.

- Connect RS485-A (Combined wire of Gray and Brown wires) of a FGR 006 to RS485+ of Converter.
- Connect RS485-B (Combined wire of Yellow and Blue wires) of a FGR 006 to RS485- of Converter.
- Plug the RS232 9-pin connector of INC300 converter into COM1 or COM2 Port of Computer.
- Install and run the application software.

4 RS422 Communication Connection

FGR006		RS422/RS232 Converter
Yellow	RS422-Tx[-]	Rx-
Gray	RS422-Tx[+]	Rx+
Blue	RS422-Rx[-]	
Brown	RS422-Rx[+]	

An RS422/RS232 converter is required for RS422 communication between the FGR006 and the Host Computer.

- Connect RS422 Tx[-], Yellow wire of FGR006 to Rx[-] port of Converter.
- Connect RS422 Tx[+], Gray wire of FGR006 to Rx[+] port of Converter.
- Connect RS422 Rx[-], Blue wire of FGR006 to Tx[-] port of Converter.
- Connect RS422 Rx[+], Brown wire of FGR006 to Tx[+] port of Converter.
- Plug the RS232 9-pin connector of INC400 Converter into COM1 or COM2 Port of Host

Computer.

- Install and run the application software.

1 Master Card Registration Mode

1.1 Master Card Registration

The card presented to the FGR006 for the first time after initialization becomes the master card.

For more information on the system indication during the master card registration process, refer to the 11.Operating Status of FGR006 of this manual.



※ NOTE: For Master Card, fingerprint data is not needed.

1.2 Master Card Change

You can change the Master Card again after system initialization.

Alternatively, you can change the Master Card using the application software.

Using the application software keeps the user data unchanged. Refer to the software manual for more details.



If the device is initialized, all data stored in the device will be cleared and the default setting values (factory setting values) will be reloaded. Therefore, the Initialization

n should be performed by authorized person only.

1.3 Master Card Function.

The Master Card is used to toggle the FGR006 between the Reader Mode and the Registration Mode.

※ For example,

If you present the master card in the Reader Mode, the FGR006 shifts to the Registration Mode.

If you present the master card in the Registration Mode, the FGR006 shifts to the Reader Mode.

2 Registration Mode

2.1 Registration Mode Function

In the Registration Mode, you can register new user cards or delete registered user cards.

If you present a registered user card, it will be removed from the FGR006. (4 beeps)

If you present an unregistered user card, it will be newly registered to the FGR006. (3 beeps)

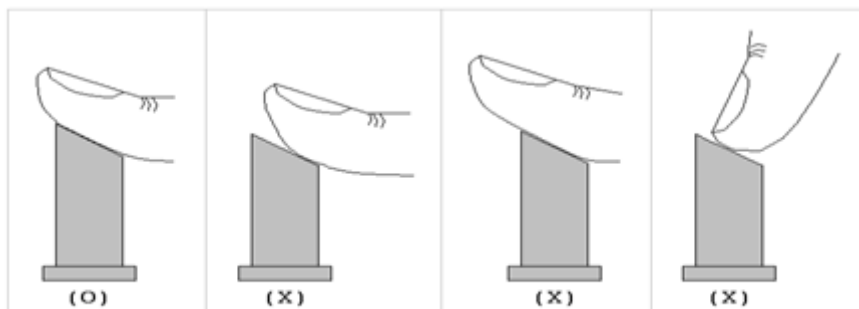
2.2 User Card Registration.

RF + FINGER MODE:

After presenting the user card you'd like to register, you should enter the desired fingerprint twice. Follow the steps below to register a new user card;

1. Present the designated card to the FGR006.
2. When the red light is turned on from the fingerprint scanner, place the fingerprint on it. When the red light is turned off, remove the fingerprint. When the red light is turned on again from the fingerprint scanner, place the fingerprint on it one more time. (Refer to the figure below 'Correct placement of fingerprint')
3. You can hear 3 beeps if the registration is successfully completed, or 2 beeps if the registration is not successful.

4. If you'd like to register more user cards, repeat the steps above.
 5. If you'd like to finish registration, present the Master Card to return to the Reader Mode.
- ※ You can use application software to register users.



(Figure: Correct placement of fingerprint)

RF Only:

If you'd like to register a new user without use of fingerprint, follow the steps below.

1. Just present the user card you'd like to register.
2. While red light is illuminated from the fingerprint scanner, don't place the fingerprint on it and wait until the red light turns off automatically.
3. After the registration is successfully completed, you'll hear 3 beeps.
4. If you'd like to register more user cards, repeat the procedure above. Or, if you'd like to finish registration, present the Master Card to return to the Reader Mode.



※ NOTE: You can delete user cards by using the application software.

3 Reader Mode

3.1 Reader Mode Function.

In the Reader Mode, when a card is presented, access of registered users is accepted and access of unregistered users is denied.

- If a user is authorized, the FGR006 transmits the card number to the controller.

- If a user fails to be authorized, the FGR006 transmits the error signal to the controller.



For information on the system indication in the Reader Mode, refer to 11.Operating Status of the FGR006 of this manual.

3.2 Authorization

RF + FINGER MODE:

1. Present a registered card to the FGR006.
2. When the card is recognized and the red light is turned on from the scanner, place a registered fingerprint on the scanner.
3. If the fingerprint is successfully authorized, the green LED is turned on and beep sound is generated for one second. And the FGR006 transmits the ID information to the controller according to the set output mode.
4. If the fingerprint is not successfully authorized, beep sound is generated twice shortly. And the FGR006 transmits fingerprint error signal (low active pulse) for 500ms if the output mode is set to 26/34Bit Wiegand.

RF-ONLY MODE:

1. Present a card which is registered without fingerprint.
2. You don't need to place your fingerprint on the fingerprint scanner.
3. If the presented card is successfully authorized the green LED is turned on and beep sound is generated for one second. And the FGR006 transmits the ID information to the controller according to the set output mode.
4. If the fingerprint is not successfully authorized, beep sound is generated twice shortly. And the FGR006 transmits fingerprint error signal (low active pulse) for 500ms if the output mode is set to 26/34Bit Wiegand.

4 Identification Mode

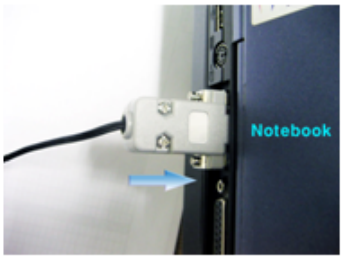
This feature is used in the Reader Mode. If the Identification Mode is applied, users can gain access by simply placing their fingerprint on the fingerprint scanner (without having to present the proximity card). The fingerprint scanner will be automatically activated when the user places the finger onto the fingerprint scanner.

4.1 IDENTIFICATION MODE:

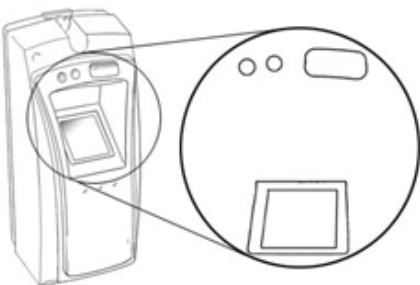
1. Put your finger onto the fingerprint scanner.
2. Red light is automatically turned on from the fingerprint scanner. Keep the fingerprint s till on the canner until the red light is turned off.
3. If the fingerprint is successfully authorized, the green LED is turned on and beep sound is generated for one second. And the FGR006 transmits the ID information to the contr oller according to the set output mode.
4. If the fingerprint is not successfully authorized, the FGR006 will make 2 beeps and it wil l also generate a fingerprint error signal of low active pulse for 500ms if the output mo de is set to 26/34Bit Wiegand.

5 External RS232C Stereo Jack (Option)

This below instructions can be followed to connect the FGR006 directly to the Host Computer.

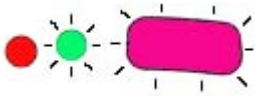
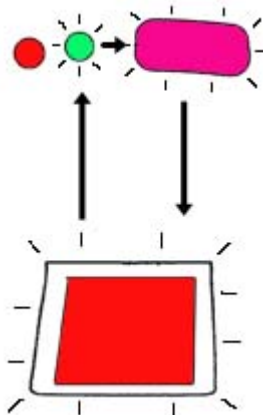
	
This cable is used to connect the FGR006 to the RS232 port of the Host Computer.	Lift off the Top Case of FGR006. Pull the Top Case down and take it out.
	
This is the figure of taking off the Top Case.	This is RS232C Stereo Jack port.
	
Insert the RS232C Stereo Jack to the bottom of the FGR006	Connect the D-sub Connector to the RS232 port of the Host Computer.

Applicable to
FGR006: V 3.0.0 or above



1 LED Indicators Status

LED	STATUS	FUNCTION
	Booting	Power has supplied and the system is booting.
	Register Master Card	After the system initialization is completed, the first card presented to the FGR006 becomes the Master Card.
	Registration Mode	You can register or delete user cards.
	Reader Mode	Users can access the door in this mode.

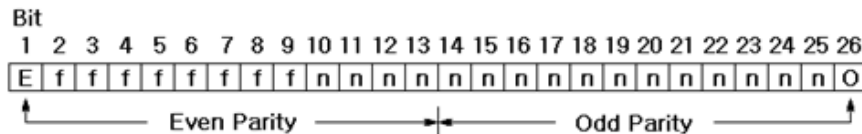
LED	STATUS	FUNCTION
	Initialization is proceeding.	If system initialization is performed, all registered users are deleted.
	Initialization Completion	System initialization is completed.

2 Beeper Sound Status

BEEP	NUMBER OF BEEPS	STATUS
	1 beep (1 sec.)	Access Granted
	2 beeps	Error (Fingerprint or operation error)
	3 beeps	User Card is Registered
	4 beeps	User Card is Deleted

1 26bit Wiegand Output Format

26bit Wiegand Output Format



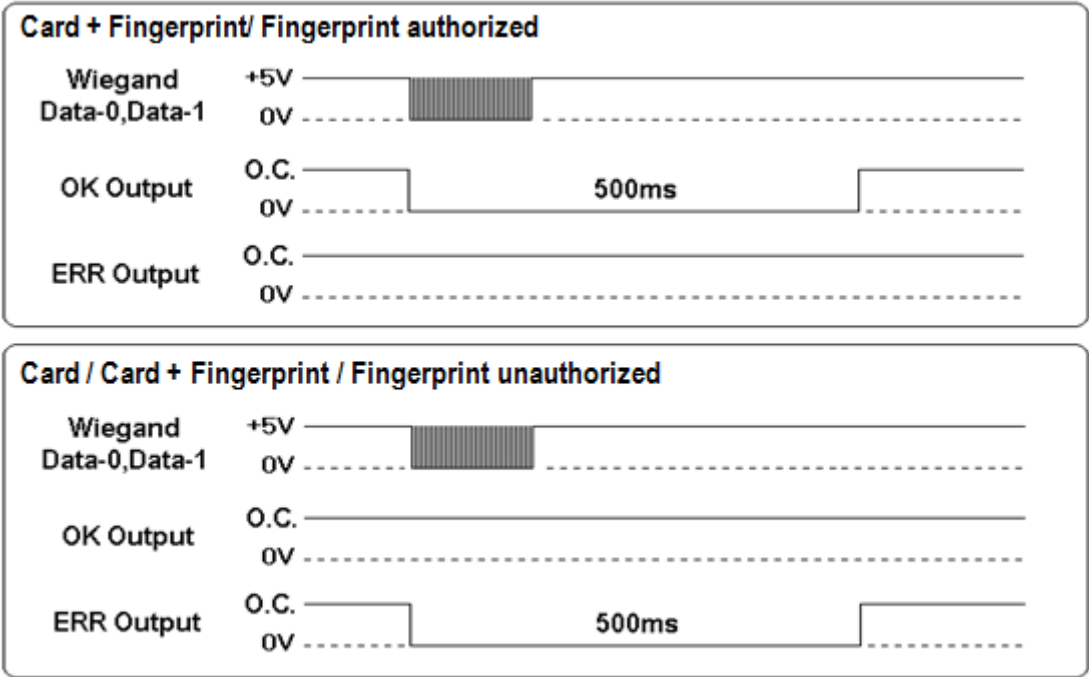
E = Even Parity of Bit_1 ~ Bit_13
 f = Facility Code, 8bits, 000 ~ 255 decimal
 n = ID Number, 16bits, 00001 ~ 65535 decimal
 O = Odd Parity of Bit_14 ~ Bit_26

Output Timing



Figure: 26bit Wiegand Output Format

4 Extension Output Mode (Selectable using the software)



(Figure: Extended Output Mode Timing)

Before requesting RMA, please check the cases below if your problem is one of them.

1. 1 IDs have been transmitted from software to the device, but I cannot access.
2. 2 The device does not go to setting mode after reading MASTER ID.
3. 3 The device dose not communicate with PC.
4. 4 I want to access with card only, without fingerprint.
5. 5 Errors keep occuring when registering a fingerprint.
6. 6 I want to access with fingerprint only, without card.
7. 7 A fingerprint is not recognized.
8. 8 I want to register 2 fingerprints for 1 ID.

1 IDs have been transmitted from software to the device, but I cannot access.

1.1 Please check if IDs have been transmitted to controller, too.

If IDs have been transmitted to the device only and have not been transmitted to controller, no access is granted.

1. Check if IDs have been registered to a controller or not.
2. If IDs have not been registered to the controller, transmit IDs to the controller again.



If the problem persists, please contact service center.

2 The device does not go to setting mode after reading MASTER ID.

2.1 MASTER ID may have changed.

1. Change MASTER ID using software.
2. If you cannot change it using software, see
3. **[Installation of the product] > [System Initialization]** of the manual and initialize the device.
 - I. The first card the device reads after the initialization becomes a master card.
See **[Operation] > [MASTER CARD registration mode]** for more information.



If the problem persists, please contact service center.

3 The device does not communicate with PC.

3.1 Please check wiring.

See **[Communication]** of the manual and check if the wiring is good.

In the case of RS232 communication

See **[Communication] > [RS232 Communication Port Connection]** of the manual and check if the wiring is good.

In the case of RS485 communication

See [Communication] > [RS422 Communication Port Connection] of the manual and check if the wiring is good.

FGR006		RS422/232 converter
Yellow wire	RS422-Tx[-]	Rx-
Gray wire	RS422-Tx[+]	Rx+
Blue wire	RS422-Rx[-]	Tx-
Brown wire	RS422-Rx[+]	Tx+

3.2 Please check if the communication ID is good.

Check communication address setting of software and the device.

1. Check if communication ID set in the device is same with communication ID set in a software.
See [Communication] > [Board ID Setting for RS485 / RS422 Communication] and check a communication address set in the device.
2. When you use several devices together, communication addresses set in the devices should be different from each other.
3. Check if baud rate is same with baud rate set in a software.
* If you initialize the device, baud rate is set to **9,600 bps** which is the default.

3.3 Please check if the communication port setting is good.

Check if communication port set in software is same with communication port set in PC.



If the problem persists, please contact service center.

4 I want to access with card only, without fingerprint.

4.1 If you registered a fingerprint, newly registered the ID without fingerprint.

See [Operation] > [Registration mode] > [User card registration] of the manual and register an ID without fingerprint.



If the problem persists, please contact service center.

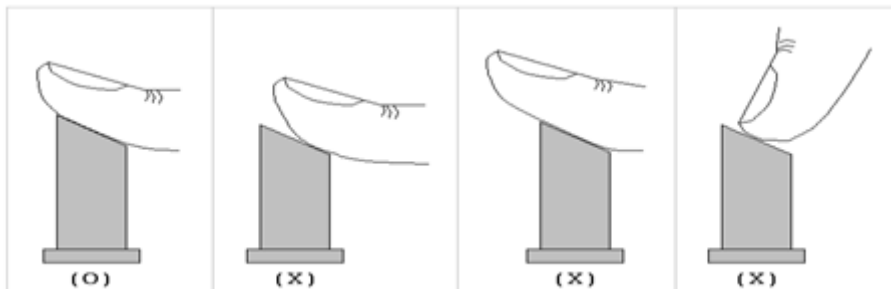
5 Errors keep occurring when registering a fingerprint.

5.1 Check if the status of the fingerprint is good.

If something had been attached to fingerprint or fingerprint had had a scar when you registered, fingerprint recognition may not work properly. Remove it.

5.2 Place your fingerprint on the right position of the fingerprint scanner.

If not, fingerprint recognition may not work properly



If the problem persists, please contact service center.

6 I want to access with fingerprint only, without card.

6.1 Please check if IDENTIFICATION mode is set to "USE".

Set IDENTIFICATION mode to "USE" from a software.



If the problem persists, please contact service center.

7 A fingerprint is not recognized.

7.1 Please check the status of the fingerprint.

- If something is attached to fingerprint, fingerprint recognition may not work properly.
→ Remove it.
- If a fingerprint has a scar, fingerprint recognition may not work properly.
→ Register other fingerprint without a scar.

7.2 If the status of the fingerprint is OK, register your fingerprint again.

If something had been attached to fingerprint or fingerprint had had a scar when you registered, fingerprint recognition may not work properly.



If the problem persists, please contact service center.

8 I want to register 2 fingerprints for 1 ID.

8.1 Please check if Dual Fingerprint Mode is set to "USE".

If you use Dual Fingerprint Mode, you can register 2 fingerprints for 1 ID just in case a finger print is injured.

Set DUAL FINGER MODE to "USE" and transmit it to the device.



If the problem persists, please contact service center.

FCC Requirements Part 15

***Caution:** Any changes or modifications in construction of this device which are not expressly approved by the responsible for compliance could void the user's authority to operate the equipment.*

***NOTE:** This device complies with **Part 15 of the FCC rules**.*

Operation is subject to the following two conditions:

1. This device may not cause harmful interface, and
2. This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a **Class A Digital Device**, pursuant to **Part 15 of the FCC rules**. These limits are designed to 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.

1. Reorient or relocate the receiving antenna.
2. Increase the separation between the equipment and receiver.
3. Connect the equipment into an outlet on another circuit.
4. Consult the dealer or an experienced radio/TV technician for help.

If you have any questions or problems regarding the RMA services, please contact us using the contact information below. Friendly representatives at IDTECK are always standing by to provide the best after sales services.

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The specifications contained in this manual are subject to change without notice at any time.