



The specifications contained in this manual are subject to change without notice

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Star FGR006
iPASS IP-FGR006
IDTECK FGR006SR

Fingerprint Identification
Proximity Reader



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1. Important Safety Instructions

The description below is to keep user's safety and prevent any property damage. Please fully read these instructions and use the product properly.



Danger: This symbol indicates that incorrect handling of the product may result in serious injury or death.



Warning: This symbol indicates that incorrect handling of the product may result in injury or property damage.



Cautions about power

- Only use the standard voltage (DC +12V / 350mA).
- If the product emits smoke or smells, stop using the product. Unplug the product from DC power source and contact nearest service center.



Cautions about installation

- Do not install the product in a place subject to humidity, dust (metallic dust) or splashing water (raindrops).
- Do not install the product in a place that is too hot, too cold, or too humid.
- Do not install the product with tools such as driver in hand when power is being supplied.



Cautions about usage

- Do not drop liquid onto the product such as water and give the product a severe shock.
- Do not place magnetic objects near the product.
- Do not replace the wiring cables installed by experts.
- Do not use the product under direct sunlight or in a heat-producing place such as a place near heating apparatuses.
- If you want to relocate the installed product, turn power off and then move and reinstall it.
- Do not use flammable sprays or objects near the product.
- Do not let anyone but the manager touch the product except using it for normal purpose.
- If liquid has been spilled on the product, unplug it first.



Cautions about cleaning

- Do not clean the product with water. Clean gently with dry cloth or towel.
- Do not use chemicals such as benzene, thinner or acetone for cleaning.

2. General

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.

3. Features

- 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, iFDC, iEDC, 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.

LED Indicator / Beeper		3 LED Indicators (Red and Green) / Piezo Buzzer
Operating Temperature	Fingerprint Module	-20° to +60°C (-4° to +140°F)
	RF Reader	-35° to +65°C (-31° to +149°F)
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 128mm x 52mm (2.6" x 5.1" x 2.0")
Certification		FCC, CE, KC, RoHS

*** 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.

4. Specification

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
External Reader Port	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 Output))

5. Identifying Supplied Parts

Please unpack and check the contents of the box.



FGR006
(1ea)



User Manual
(1ea)



Master Card
(1ea)



3.0*30 Screw
(2ea)



3.5*12 Screw
(2ea)



6.0*30 Anchor Bolt
(2ea)



RS232C Stereo Jack
(Optional)

6. Product Overview

6.1. Functions

■ 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.

■ 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 registered one's fingerprint, RF Only mode is applied automatically.

■ 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.

■ 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

■ OK 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.

■ 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.

* 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)

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	ERROR Signal
RF Card Only	Card ID	ERROR Signal	Card ID, ERROR Signal

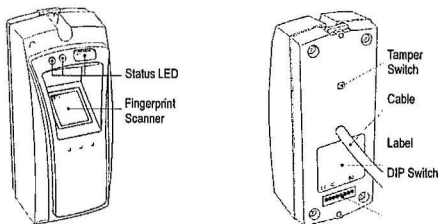
*Please refer to p.24 for output mode.

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.

6.2. Product Explanation

6.2.1. Panel Description



6.2.2. 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.

7. Installation Tips & Check Points

7.1. Recommended Cable Type and Permissible Length of Cable

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

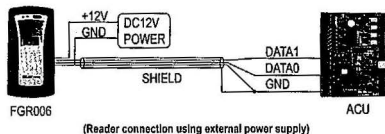
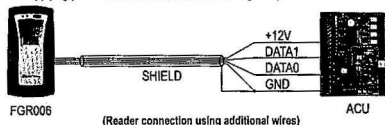
7.2. Reader Connection

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 input 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.

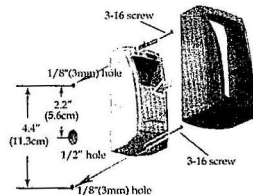
- Use separate power for the reader; In case of using external power for the reader and not supplying power from the ACU, there is no voltage drop.



8. Installation of the Product

8.1. Mullion and Wall Mount

1. Drill two Ø1/8"(3mm) holes, 4.4"(113mm) apart vertically and drill one Ø1/2" 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.



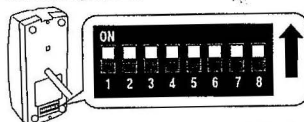
8.2. System Initialization

You can initialize the FGR006/IP-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.

- 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.

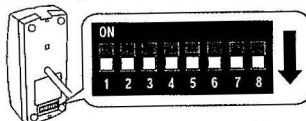


(Figure: the position of DIP Switch and its magnified figure)

- 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.



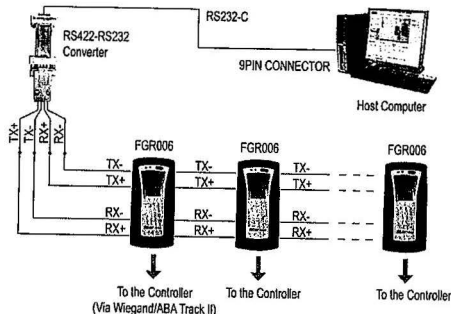
(Figure: the position of DIP Switch and its magnified figure)



Caution

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.

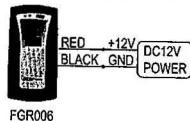
8.3. FGR006 Network Configuration



8.4. Wiring

8.4.1. Power Connections

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



(Figure: Power Connection)



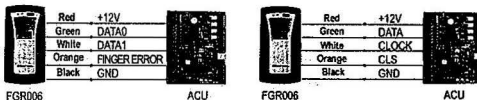
Caution

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

8.4.2. 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.

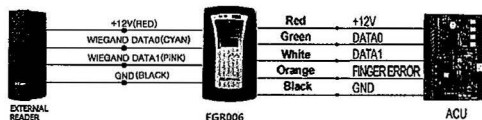
8.4.3. Output Connections



(Figure: Wiegand Output)

(Figure: ABA Track II Output)

8.4.4. External Reader Connection



(Figure: External Reader Connection)

9. Communication

9.1. 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.

- 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)

▪ 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 (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)



Caution

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.

9.2. RS232C Communication Connection

For RS232C 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).

9.3. 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.

9.4. RS422 Communication Connection

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

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.

10. Operation

10.1. Master Card Registration Mode

10.1.1. 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.

10.1.2. 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.



Caution

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.

10.1.3. 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.

10.2. Registration Mode

10.2.1. 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)

10.2.2. User Card Registration.

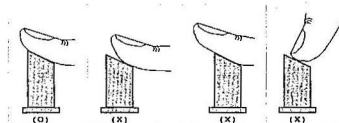
✓ RF + FINGER MODE:

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.

10.2.3. User Card Deletion

To delete registered user cards, follow the steps below;

- 1) Present to the FGR006 the Card you'd like to delete.
- 2) After the deletion is successfully completed, you'll hear 4 beeps. If the deletion is not successful, you'll hear 2 beeps.
- 3) If you'd like to delete more user cards, repeat the steps above.
- 4) To finish user deletion, present the Master Card to return to the Reader Mode.

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

10.3. Reader Mode

10.3.1. 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.

10.3.2. 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.

10.4. Identification Mode

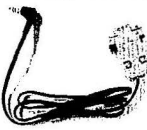
This feature is used in the Reader Mode. If the Identification Mode is applied, users can gain access by simply placing their fingerprint on the fingerprint scanner (without having to present the proximity card). The fingerprint scanner will be automatically activated when the user places the finger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

✓ **IDENTIFICATION MODE:**

- 1) Put your finger onto the fingerprint scanner.
- 2) Red light is automatically turned on from the fingerprint scanner. Keep the fingerprint still on the scanner 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 controller according to the set output mode.
- 4) If the fingerprint is not successfully authorized, the FGR006 will make 2 beeps and it will also generate a fingerprint error signal of low active pulse for 500ms if the output mode is set to 26/34Bit Wiegand.

10.5. External RS232C Stereo Jack (Option)

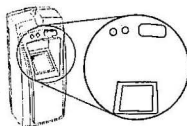
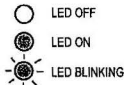
This below instructions can be followed to connect the FGR006 directly to the Host Computer.

	
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.

11. Operating Status of FGR006

Applicable to

FGR006: V 3.0.0 or above



11.1. 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.
	Initialization is proceeding.	If system initialization is performed, all registered users are deleted.
	Initialization Completion	System initialization is completed.

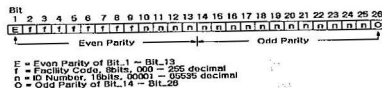
11.2. Beeper Sound Status

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

12. Output Format

12.1. 26bit Wiegand Output Format

26bit Wiegand Output Format



Output Timing

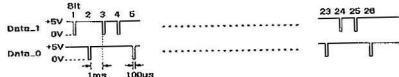
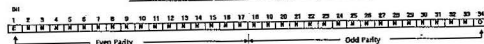


Figure: 26bit Wiegand Output Format

12.2. 34bit Wiegand Output Format

34bit Wiegand Output Format



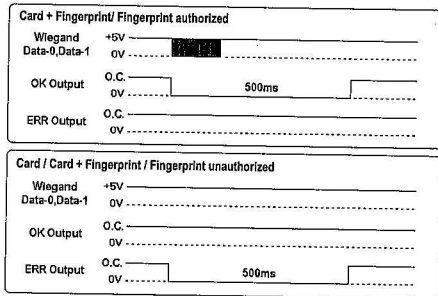
E = Even Parity of Bit.1 ~ Bit.17
N = ID Number, 32bit
O = Odd Parity of Bit.18 ~ Bit.34

Output Timing



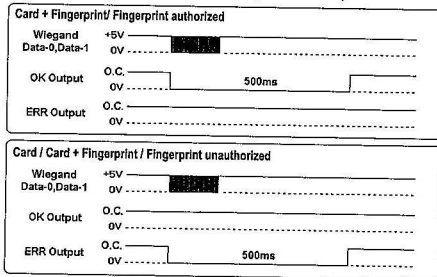
Figure: 34bit Wiegand Output Format

12.3. Normal Output Mode (Default)



(Figure: Normal Output Mode Timing)

12.4. Extension Output Mode (Selectable using the software)



(Figure: Extended Output Mode Timing)

13. FCC Registration Information

■ FCC REQUIREMENTS PART 15

Caution: Any changes or modifications in construction of this device, which are not expressly approved by the manufacturer 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 interference, 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.

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 radio or television off and on, the user is encouraged to try to correct interference by one or more of the following measures.

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.

14. Warranty Policy and Limitation of Liability

IDTECK warrants this product against defects in material and workmanship for the period specified below from the date of purchase under normal customer use. This Warranty doesn't apply: 1) to any product which has been dismantled without authorization of IDTECK or/and has a damaged or detached QC label on its back side; 2) to any losses, defects, or damages caused by improper testing, operation, installation, maintenance, modification, alteration, or adjustment; 3) to any product with a damaged or faded serial number on it; or 4) to any losses, defects, or damages caused by lightning or other electrical discharge, natural disaster, misuse, accident or neglect.

This Limited Warranty is in lieu of all other warranties, obligations, or liabilities on the part of IDTECK, and IDTECK DISCLAIMS ANY AND ALL WARRANTY, WHETHER EXPRESS OR IMPLIED, OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. IDTECK does not, and cannot, know who is present, what property is located, where this product will be used; it would be extremely difficult to determine the actual damages that may result from a failure of the product to perform as anticipated; and the low price of this product is based upon the nature of the product provided and the limited liability that IDTECK assumes. IDTECK IS NOT RESPONSIBLE FOR ANY PERSONAL INJURY, PROPERTY DAMAGE OR LOSS, DIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES, OR OTHER LOSS, AND IDTECK'S MAXIMUM LIABILITY SHALL NOT IN ANY CASE EXCEED THE PURCHASE PRICE OF THE PRODUCT.

To obtain repair or replacement under the terms of this warranty, visit IDTECK's Website (<http://www.idteck.com>) and place an online RMA request. After an RMA code is issued, return the product along with the authorization RMA code.

>> Warranty Period

	Product Category	Warranty Period
1	RF CARDS (ACTIVE TYPE)	1 year
2	FINGERPRINT MODULE / SENSOR	
3	ACCESSORIES	
4	CONTROL PANELS	2 years
5	STANDALONE CONTROLLERS	
6	FINGERPRINT READERS	
7	RF READERS (NON-MOLDDMG PRODUCT)	
8	RF READERS (MOLDDMG PRODUCT)	Lifetime
9	RF CARDS (PASSIVE TYPE)	

*FGR006, IP-FGR006, FGR006SR is FINGERPRINT READERS.

15. How to Make RMA Request (After Sales Service)

To make the RMA request, the product must be initially registered on IDTECK webpage. After registering the product, send it to IDTECK RMA Center.

Please follow the instructions below:

1. Please register the RMA request via IDTECK webpage.
: www.idteck.com → "Support & Download" → "Online RMA" → "RMA REQUEST"
(Please refer to the IDTECK webpage for more details.)
2. RMA Code will be issued after the RMA Center reviews the RMA request form.
3. Enclose the product along with the RMA Code and send it to IDTECK RMA Center.
(Product without RMA Code is not accepted.)

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

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Website: www.idteck.com
E-Training Center: <http://www.idtecktraining.com>