

***Star* FGR006**
***iPASS* IP-FGR006**
***IDTECK* FGR006SR**

**Fingerprint Identification
Proximity Reader**



※ FGR006 QUICK INSTALLATION GUIDE

1. WHAT'S INCLUDED

Please unpack and check the contents of the box. If any of these parts are missing, please contact a nearby distributor or IDTECK.



FGR006
(1ea)



User Manual
(1ea)



Master Card
(1ea)



RS232C Stereo Jack
(Optional)



3.0*30 Screw
(2ea)



3.0*12 Screw
(2ea)

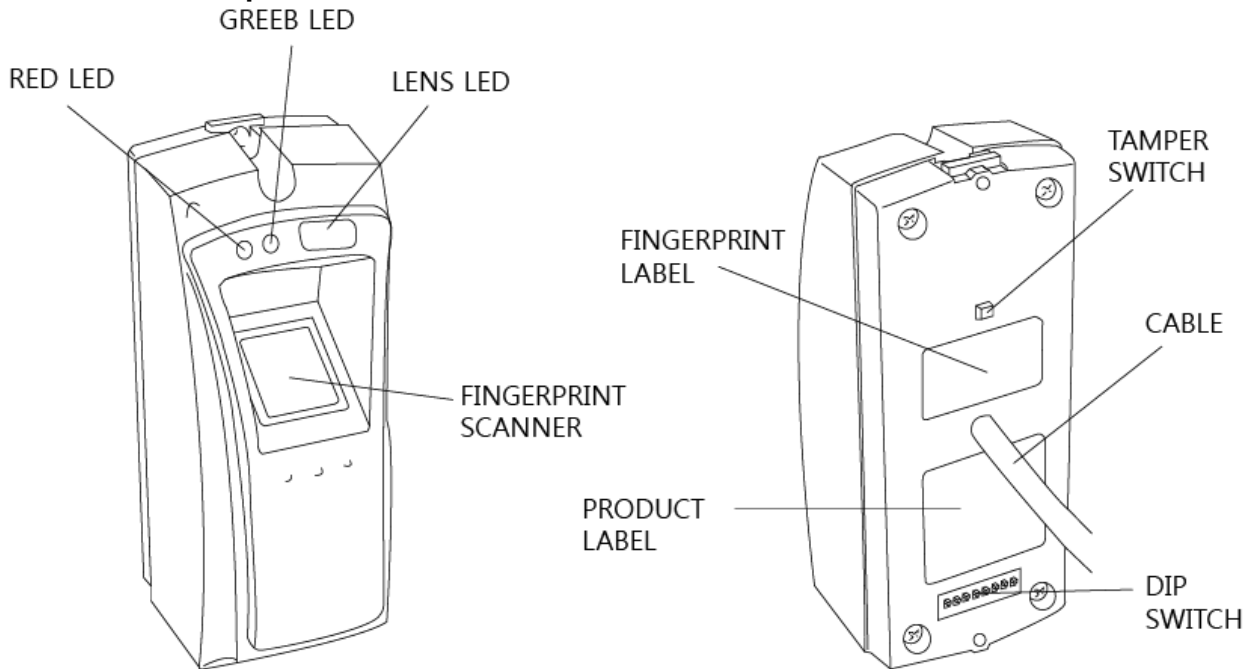


6.0*30 Anchor Bolt
(2ea)

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2. PARTS CODE AND DESCRIPTION

2.1. Panel Description



2.2. Connection and Color Code Table

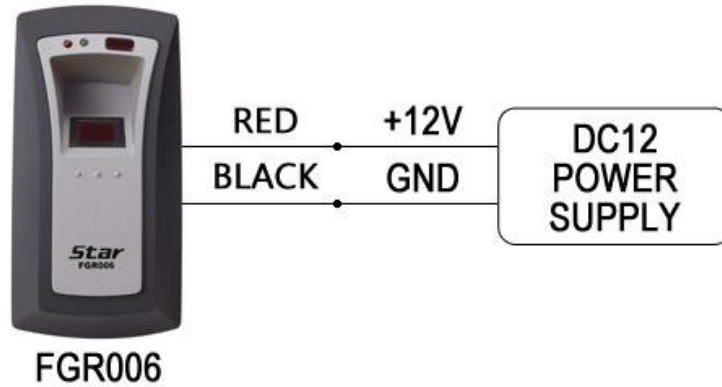
Signal	Color
Main Power (+12V)	Red
Power Ground (GND)	Black
Wiegand Data 0 Out / ABA Track II Data Out	Green
Wiegand Data 1 Out / ABA Track II Clock Out	White
Error Signal Out / ABA Track II CP Out	Orange
OK Signal Out	Orange with Black stripe
Tamper Switch Out	Purple
Wiegand Data 0 In	Pink
Wiegand Data 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.

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5. CONNECTION

5.1. Power Connections

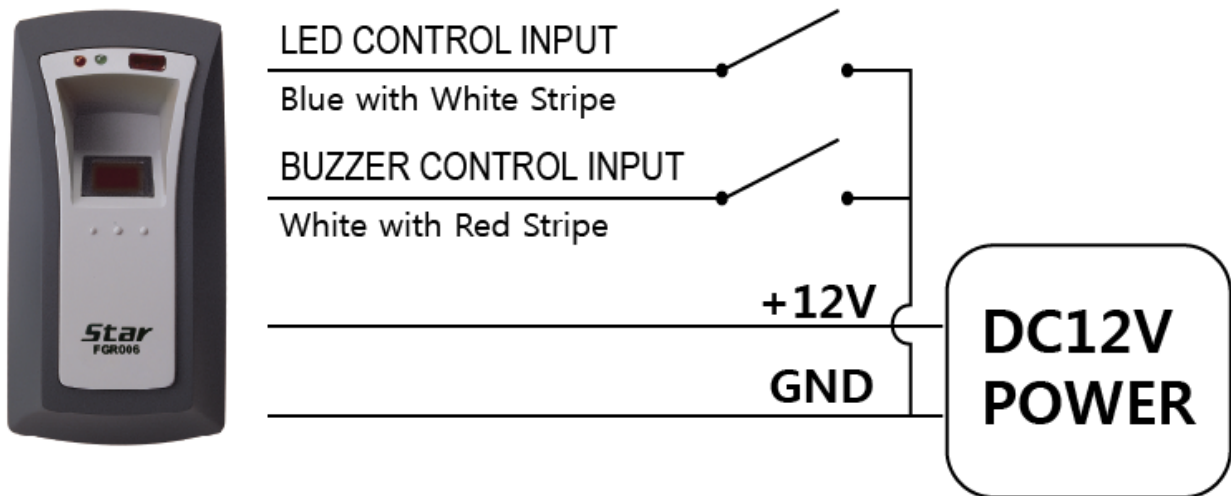


(Figure: Power Connection)

 **Caution**

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

5.2. Input Connections



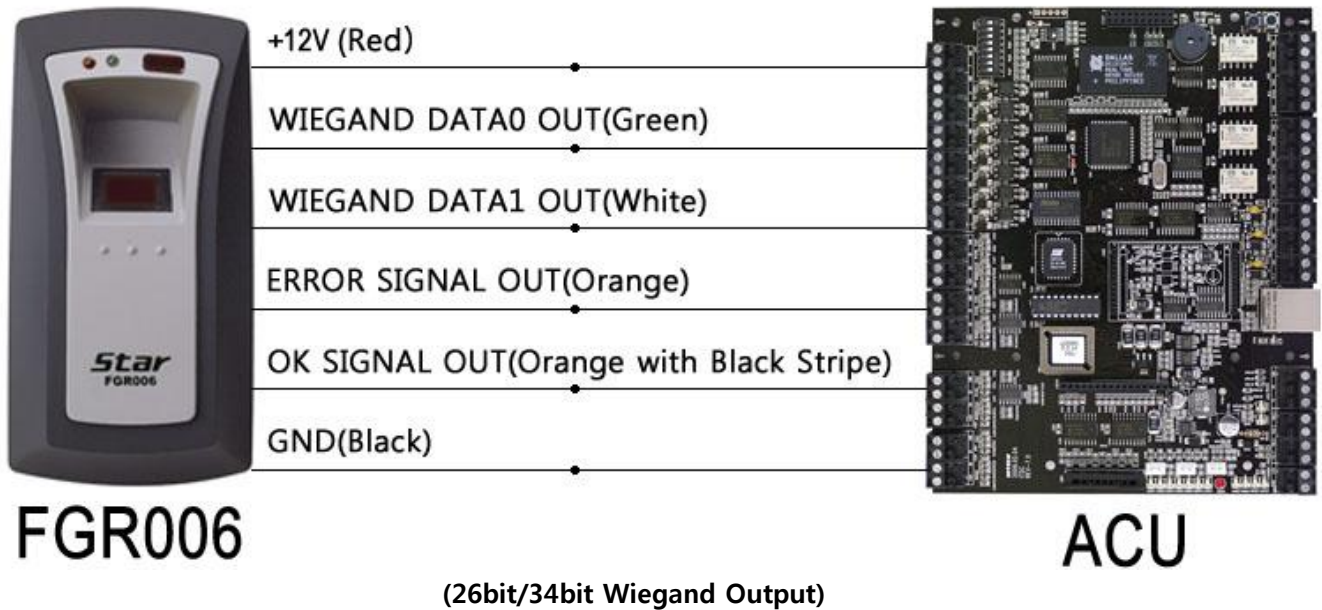
(Figure: Input Connection)

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5.3. Output Connection

▪Connection for 26Bit/34Bit Wiegand output

- Connect +12V (Red) of FGR006 to +12V of a Reader port of ACU.
- Connect +GND (Black) of FGR006 to GND of a Reader port of ACU.
- Connect WIEGAND DATA0 OUT (Green) of FGR006 to D0 of a Reader port of ACU.
- Connect WIEGAND DATA1 OUT (White) of FGR006 to D1 of a Reader port of ACU.
- Connect OK SIGNAL OUT (Orange with Black Stripe) of FGR006 to an Input port of ACU.
- Connect ERROR SIGNAL OUT (Orange) of FGR006 to an Input port of ACU.



5.4. External Reader Connection

- Connect +12V of an external reader to +12V (Red) of a FGR006.
- Connect GND of an external reader to GND (Black) of a FGR006.
- Connect WIEGAND DATA0 OUT of an external reader to WIEGAND DATA0 IN (Pink) of a FGR006.
- Connect WIEGAND DATA1 OUT of an external reader to WIEGAND DATA1 IN (Cyan) of a FGR006.
- Connect FGR006 and ACU for WIEGAND output.



6. Communication

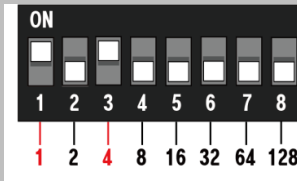
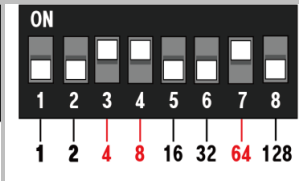
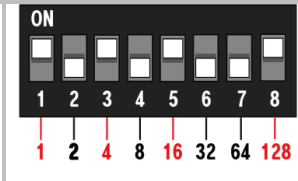
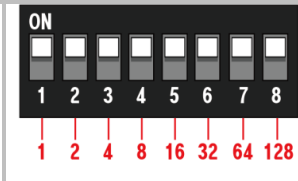
6.1. Board ID Setting for RS485 / RS422 Communication

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.

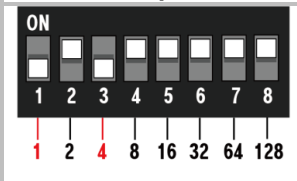
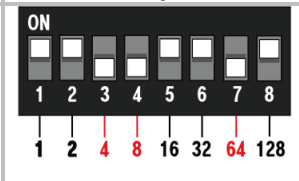
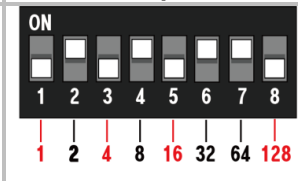
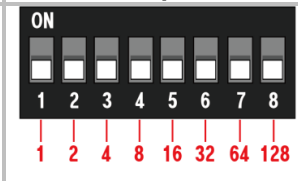
- For 8.0.0 and higher version of FGR006 / 8.1.0 and higher version of IP-FGR006 / 4.0.0 and higher version of FGR006SR

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
			
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.

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6.2. RS232 Communication Connection

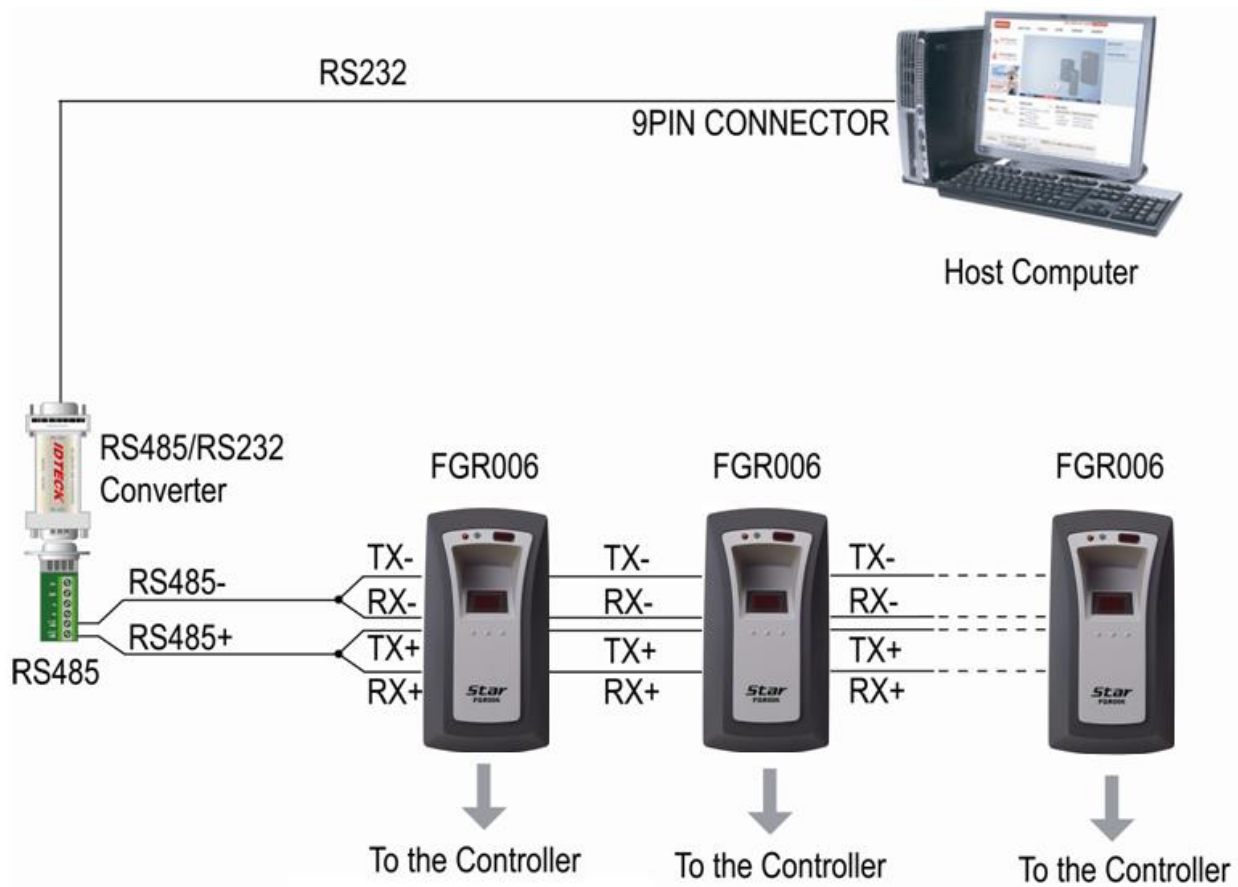
For RS232 communication, you should use an external RS232C stereo jack.

- 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 \(OPTION\)](#) of the main manual of FGR006.

6.3. RS485 Communication Connection

You need RS485/RS232 *Converter to connect FGR006 to HOST PC using RS485 communication.

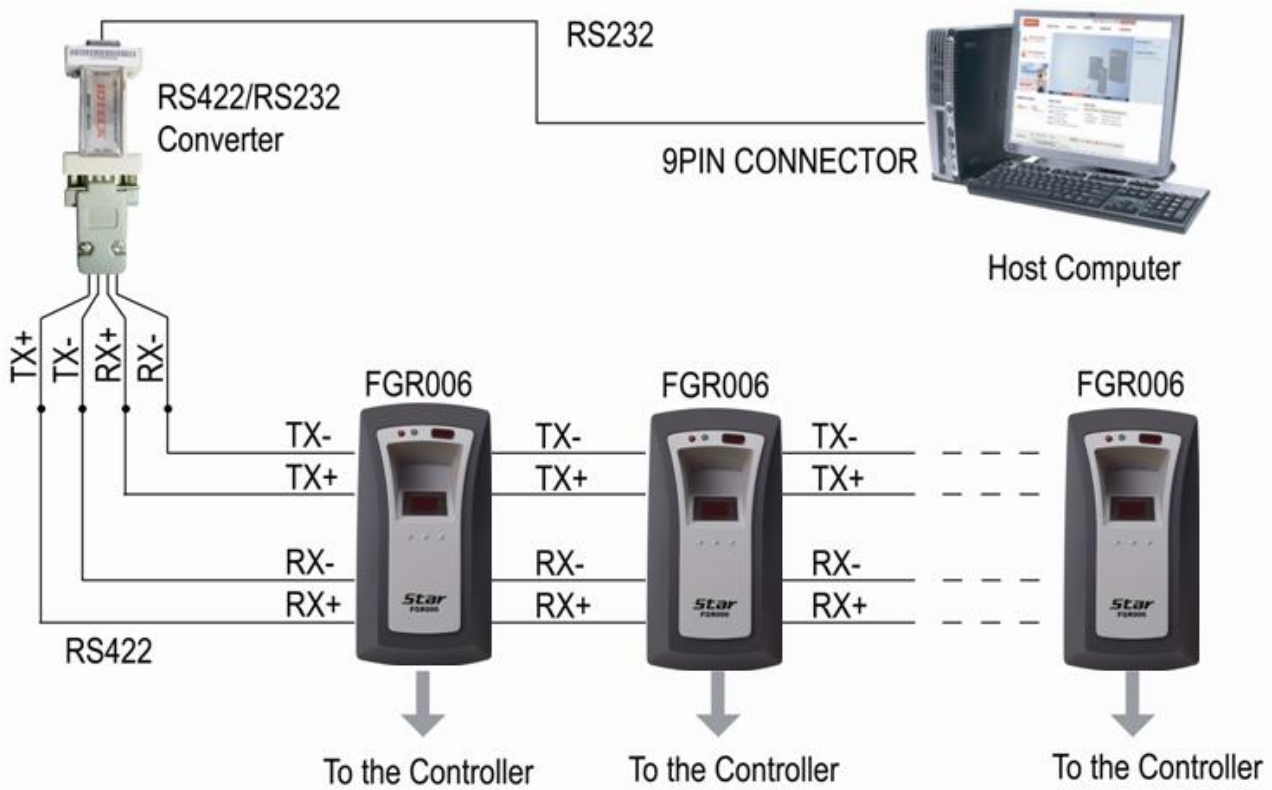


*We recommend you to use INC300 converter.

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6.4. RS422 Communication Connection

You need RS485/RS232 *Converter to connect FGR006 to HOST PC using RS422 communication.

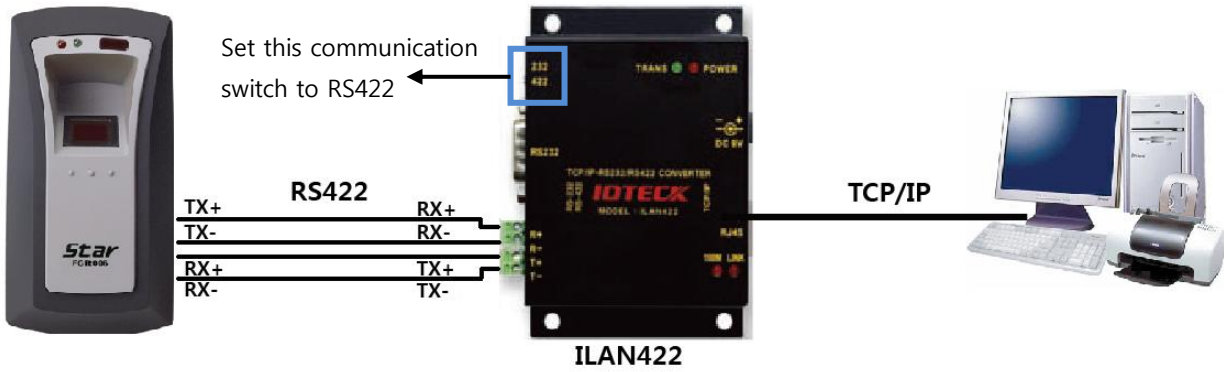


*We recommend you to use INC400 converter.

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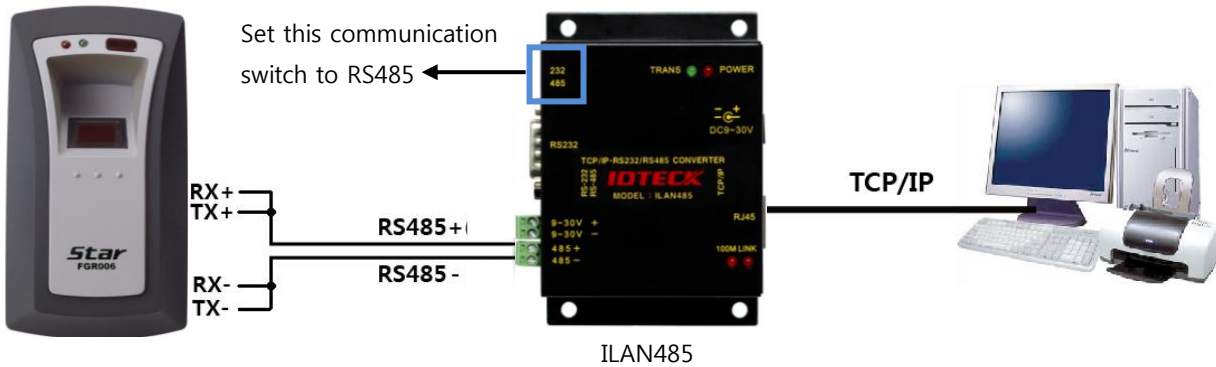
6.5. TCP/IP Communication Connection

- TCP/IP Communication Connection using RS422



(Figure: TCP/IP Communication Connection using RS422)

- TCP/IP Communication Connection using RS485



(Figure: TCP/IP Communication Connection using RS485)

7. Operation

7.1. Master Card Registration mode

- **7.1.1. Master Card Registration**

A 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 FGR006 User's Manual.

※ **NOTE:** Master Card does not use fingerprint data.

- **7.1.2. 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.

- **7.1.3. 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.

7.2. Registration mode

You can go into Registration mode by presenting a Master Card.

In the Registration mode, you can register new user cards or delete existing user cards.

- **7.2.1. User Card Registration.**

When registering a new card, you can select whether to register a fingerprint.

To register a new card, follow steps below.

- 1) In normal mode, present a Master card to go into Registration mode. In Registration mode, LENS LED blinks at an interval of 1 sec.
- 2) Present a card to register to the FGR006.

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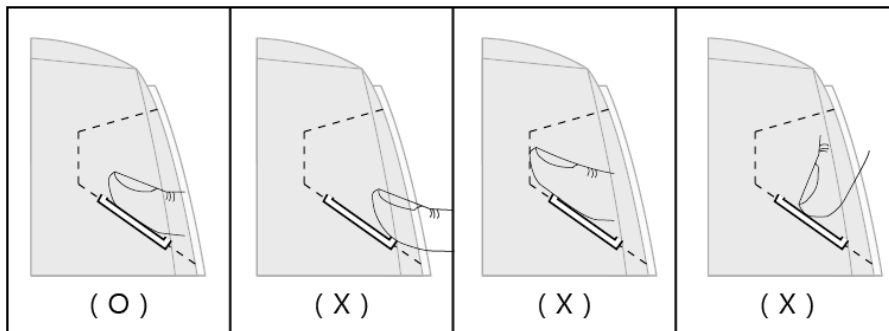
3) To register a fingerprint:

When the light is turned on from the fingerprint scanner, place the fingerprint on it. When the light is turned off, remove the fingerprint. When the 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')

Not to register a fingerprint:

When the light is turned on from the fingerprint scanner, do not wait until the light is turned off.

- 4) When the registration succeeded, FGR006 beeps 3 times. Otherwise, FGR006 beeps twice.
 - 5) To register more cards, repeat the steps from 2) – 4) above.
 - 6) To go back into Normal mode after registration, present a Master card to FGR006.
- ※ You can use application software to register users.



(Figure: Correct placement of fingerprint)

● 7.2.2. User Card Deletion

To delete registered user cards, follow the steps below;

- 1) In normal mode, present a Master card to go into Registration mode. In Registration mode, LENS LED blinks at an interval of 1 sec.
- 2) Present a card to delete to FGR006.
- 3) When the deletion succeeded FGR006 beeps 4 times. Otherwise, FGR006 beeps twice.
- 4) To register more cards, repeat the steps from 2) – 3) above.
- 5) To go back into Normal mode after deletion, present a Master card to FGR006.

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

7.3. Reader mode

● 7.3.1. 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. In case of 'Card + Fingerprint' or 'Fingerprint' authentication, FGR006 also transmits OK Signal.

- If a user fails to be authorized, the FGR006 transmits the error Signal to the controller. In case that 'Extention' mode is enabled, FGR006 also transmits card ID.

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-For more details about OK Signal and Error Signal, refer to [6.1. FGR006 Functions](#) of FGR006 User's Manual.

For information on the system indication in the Reader mode, refer to [11.Operating Status of the FGR006](#) of FGR006 User's Manual.

● 7.3.2. Authentication

✓ RF + FINGER MODE:

- 1) Present a registered card to the FGR006.
- 2) When FGR006 read the card and the light is turned on from the scanner, place a registered fingerprint on the scanner.
- 3) When the fingerprint is successfully authenticated, the green LED is turned on for 1 sec. and FGR006 beeps for 1 sec. And the FGR006 transmits the ID information and OK Signal to the controller.
- 4) If the authentication fails, LENS LED blinks twice, and FGR006 beeps twice shortly and transmits Error Signal. And. In case that you have enabled 'Extension mode', FGR006 also transmits user ID information.

✓ RF-ONLY MODE:

- 1) Present a registered card to the FGR006.
- 2) In RF-Only mode, you don't need to place your fingerprint on the fingerprint scanner.
- 3) When authentication succeeded, the green LED is turned on and FGR006 beeps for 1 sec. And FGR006 transmits the ID information to the controller.
- 4) When the card is not a registered card, LENS LED blinks twice, and FGR006 beeps twice shortly and transmits Error Signal. And. In case that you have enabled 'Extension mode', FGR006 also transmits user ID information.

7.4. Identification mode

You can use Identification mode in Reader mode. When Identification mode is enabled, 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.

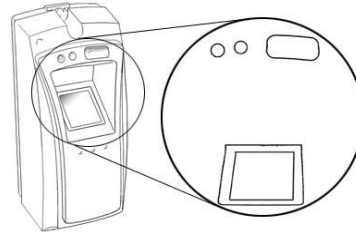
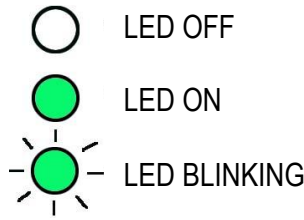
✓ IDENTIFICATION MODE:

- 1) Place your finger onto the fingerprint scanner.
- 2) Light is automatically turned on from the fingerprint scanner. Keep the fingerprint still on the scanner until the light is turned off.
- 3) When authentication succeeded, the green LED is turned on and FGR006 beeps for 1 second. FGR006 transmits user ID information and OK Signal.
- 4) When authentication fails, the FGR006 beeps twice and transmits Error Signal.

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8. Operating Status of FGR006

Applicable to
FGR006: V 3.0.0 or above



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

8.2. 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