Star RFL200C
iPASS IP-RFL200C

Proximity Access Controller

Star

IDTECK

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1. Important Safety Instructions

When using **Proximity Access Controller**, basic safety precautions should always be followed to reduce the risk of fire, electrical shock, and injury to persons. In addition, the following safety guides should also be followed:

1. **Fully** read and understand all instructions and follow them completely.
2. **Follow** all warnings and instructions marked on the product.
3. **Do not** use liquid or aerosol cleaners. Use a damp cloth for cleaning. If necessary, use mild soap.
4. **Do not** use this product near water.
5. **Only** operate this product using the type of power source indicated. If you are not sure of the type of power supplied to your installation site, consult your dealer of local power company.
6. **Never** insert objects of any kind into the product or through the cabinet slots as they may touch voltage points and/or short circuit parts possibly resulting in fire or electric shock.
   Never spill liquid of any kind on the product.
7. **Never** disassemble this product by yourself; take the unit to a qualified service center whenever service or repair is required. Opening or removing the covers may expose you to dangerous voltages or other risks. Also, incorrect reassembly can cause electric shock when the unit is subsequently used.
8. **Unplug** this product from the Direct Current (DC) power source and refer to qualified service personnel under these conditions:
   a. When the power supply cord or plug is damaged or frayed.
   b. If liquid has been spilled on the product.
   c. If the product does not operate normally after following the operating instructions in this manual.
      Adjust only those controls that are covered by the operating instructions in this manual. Improper adjustment of other controls that are not covered by this manual may damage the unit and will often require extensive work by a qualified technician to restore normal operation.
   d. If the product exhibits a distinct change in performance.

2. General

The **Star RFL200C / iPASS IP-RFL200C** are an elegant looking and an attractive 4" read range proximity reader built-in **Proximity Single Door Access Controller** which can be mounted to metal door frame (mullion) or to any flat wall surface. The **Star RFL200C / iPASS IP-RFL200C** is epoxy potted that ensure you a successful operation even in harsh environments.
Two-color LED of green and red, inside Piezo buzzer sound will guarantee you an accurate and reliable Door Access Operations.

3. Features

- 125KHz Standalone Proximity Access Controller
- iPASS IP-RFL200C: ASK[EM] Format
  Star RFL200C: PSK Modulation
- 512 Users
- Network Communication via RS485 (Max.255ch)
                         TCP/IP (External LAN Converter required, optional)
                         Wireless (e.g. Bluetooth module required, optional)
- 512 Users / 256 Event Buffers
- Direct Control of Door Lock
- Power Fail Safe or Power Fail Secure Locks Selectable
- Solid Epoxy Potted
- Waterproof
- Warranty: Life Time
- Compatible Software: STAR RFL200C

4. Identifying Supplied Parts

Please unpack and check the contents of the box.

Reader Module	RFL200C / IP-RFL200C Bezel	User's Manual
(1ea)	(1ea)	(1copy)

3.5*40 Screw	3.5*25 Screw	Anchor Bolt
(2ea)	(2ea)	(2ea)

5. Specification

| Model		RFL200C	IP-RFL200C
CPU		Dual 8bit Microprocessor	
Memory	Program Memory	64KByte Flash ROM	
	Data Memory	4KByte EEPROM	
User		512 Users	
Event Buffer		256 Event Buffers	
Read Range	Passive Type	IDK50 / IMC125: Up to 2 inch (5cm) IDC80 / IDC170: Up to 4 inch (10cm)	IPK50: Up to 2 inch (5cm) IPC80 / IPC170: Up to 4 inch (10cm)
	Active Type	IDA150 / IDA200 Compatible	N/A
Reading Time (Card)		30ms	
Door Open Time		1~99sec.(Selectable)	
Power / Current		DC 12V / Max.150mA	
Communication		RS485 (Max.255ch)	
Input Port		3ea (Exit Button, Door Sensor, Aux#1)	
Output Port		2ea (TR Output / open collector output) Rating Max 300mA Alarm Output, 1A Lock Output	
LED Indicator / Beeper		9 Array LED Indicators (Red and Green) / Piezo Buzzer	
Operating Temperature	Controller	-35° to +60°C (-31° to +140°F)	
	RF Reader	-35° to +65°C (-31° to +149°F)	
Operating Humidity		10% to 90% relative humidity non-condensing	
Color		Dark Pearl Gray	
Material		Polycarbonate	
Dimension (W x H x T)		45mm x 124m x 19.64mm (1.8″ x 4.9″ x 0.8″)	
Weight		80g (0.18 lbs)	
Warranty		Life Time	
Certification		FCC, CE, MIC	

6. Installation

6-1. Drill one 0.5″(12.7mm) hole at the central of the RFL200C / IP-RFL200C on mullion or wall mount. Route the cable of reader module through the central hole.
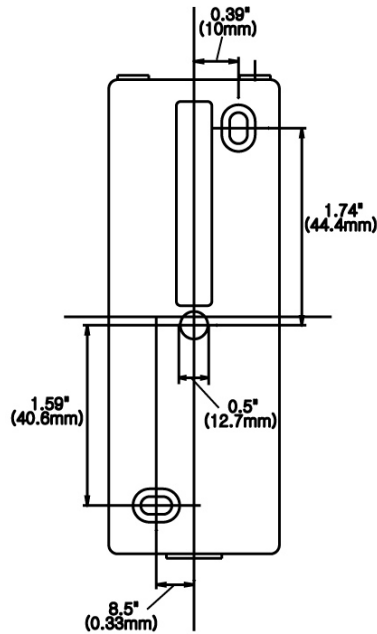
6-2. Drill one 0.39"(10mm) in right horizontal and 1.74"(44.4mm) in upper vertical through the central hole. And drill the other 0.33"(8.5mm) in left horizontal and 1.59″(40.6mm) in under vertical through the central hole.

6-3. Push reader module on mullion or wall mount then install the main unit using two 6-32 or M3 screws.
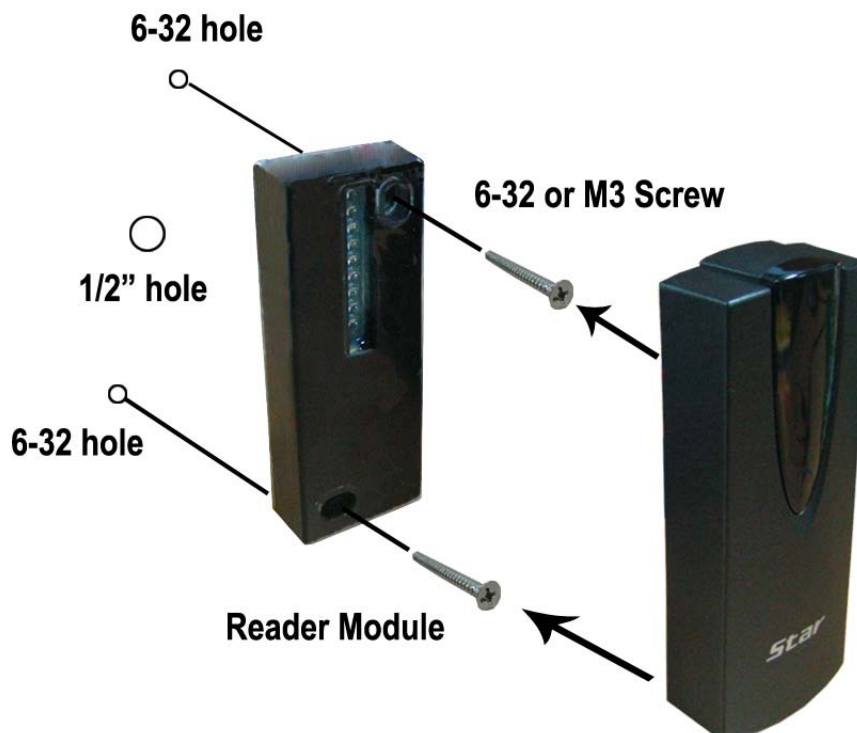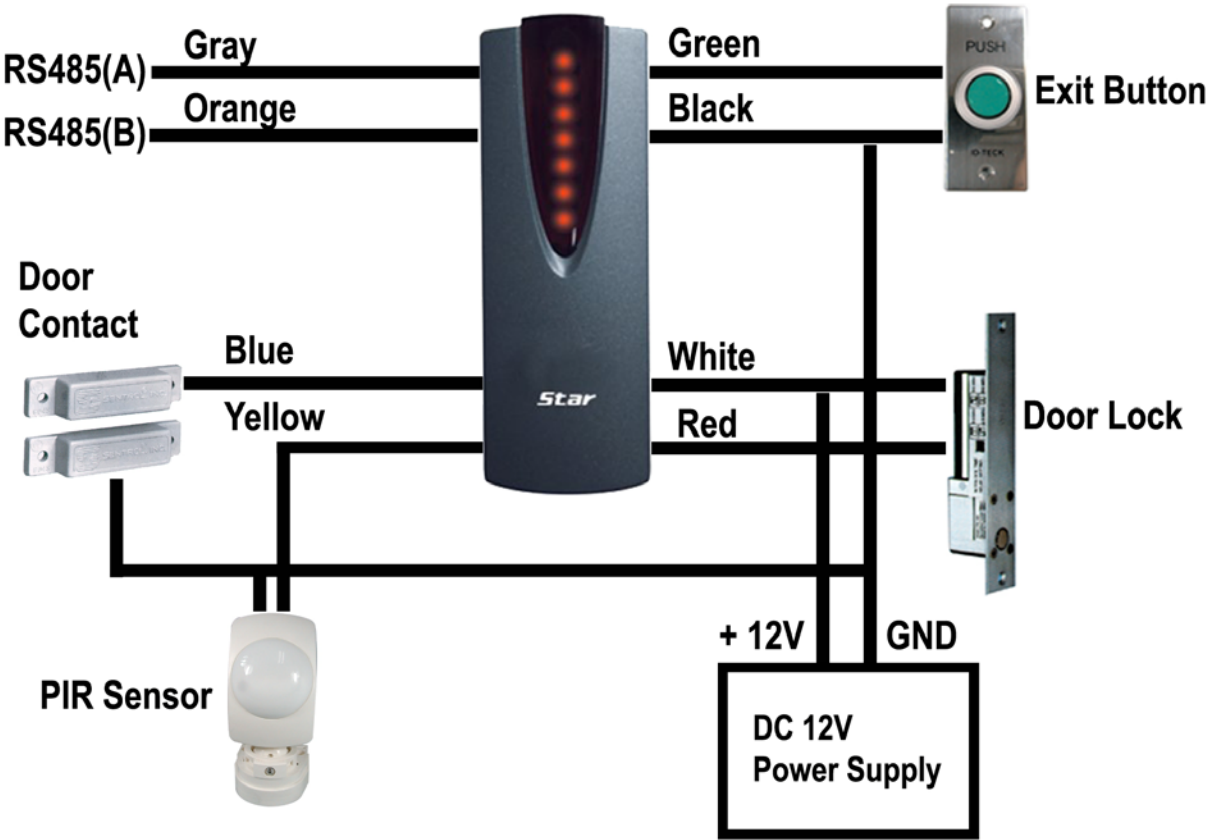
7. Color Coded & Wiring Table

SIGNAL	COLOR
Main Power (+12V)	Red
Power Ground (GND)	Black
Aux In 1	Yellow
Door Contact In	Blue
Exit Button In	Green
Alarm Out	Purple
Door Lock Out	White
RS485 (A)	Gray
RS485 (B)	Orange
Not Connect	Brown
* Please cut out tail connector before installation.	

8. Wire Connection to Controller

8-1. Connecting a power supply

- Connect +12V of power supply to Red wire.
- Connect GND of power supply to Black wire.

8-2. Connecting a door lock

- Connect (+) wire of door lock to +12V wire of power supply.
- Connect (-) wire of door lock to white wire of reader module.

8-3. Connecting an exit button

- Connect Green wire of exit button input to one wire between wires of exit button.
- Connect GND wire of power supply to the other wire.

8-4. Connecting a door sensor

- Connect COM terminal of door sensor to Blue wire of door sensor input.
- Connect NO terminal of door sensor to GND of power supply.

8-5. Connecting a door lock type

- In a power fail safe, connect GND wire of power supply to Yellow wire of door lock type input.
- In a power fail secure, put a floating state on Yellow wire of door lock type input.

8-6. RS485 Communication port connection

The INC300 for RS485/RS232 converter is required to connect a product to the PC.
- Connect gray wire for RS485(A) to 485(+) terminal of converter.
- Connect orange wire for RS485(B) to 485(-) terminal of converter.
- Plug 9-pin connector of converter into COM Port of the PC.
- Install the application software and then run.

COM Port of the PC

Orange wire
Gray wire

485 (-) 485 (+)

RS232/RS485 Converter (ATC)   **RFL200C / IP-RFL200C**
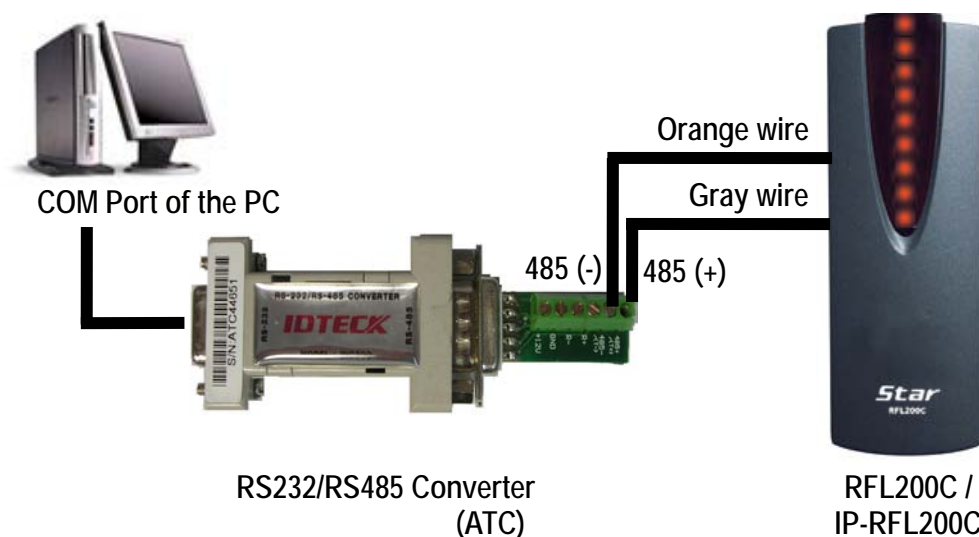
485 Converter	RFL200C / IP-RFL200C
485(-)	Orange wire
485(+)	Gray wire

9. Network connection to the access controller

You can install up to 255 Units of RFL200C / IP-RFL200C.as in the below figure.
- Max. 255 units (Board ID : 1~255) can be installed in a loop.
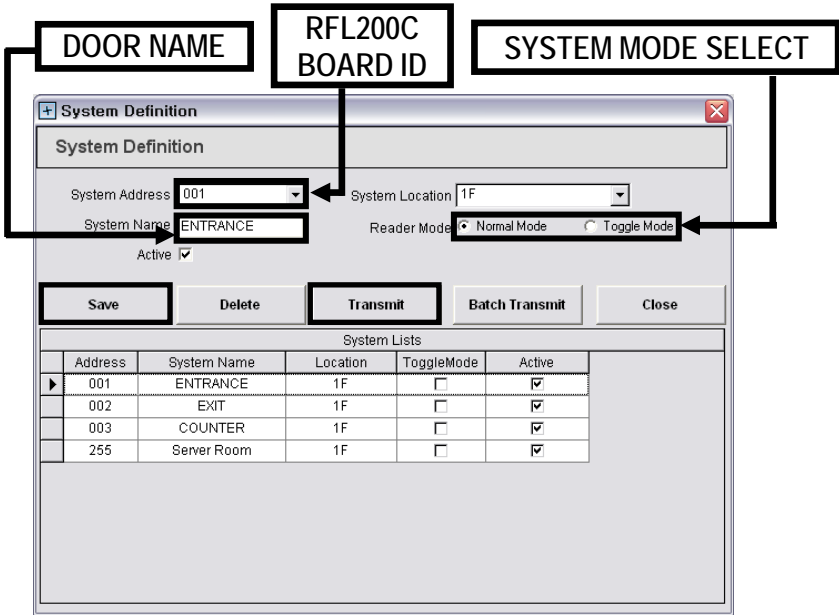- Able to connect directly via RS485 or RS232 converter.
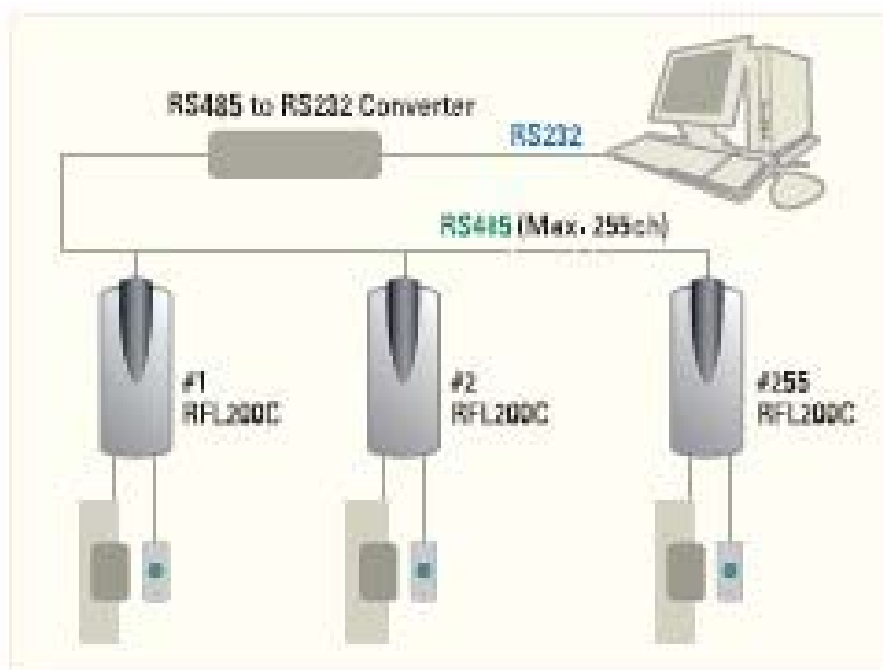
10. Set up Hardware

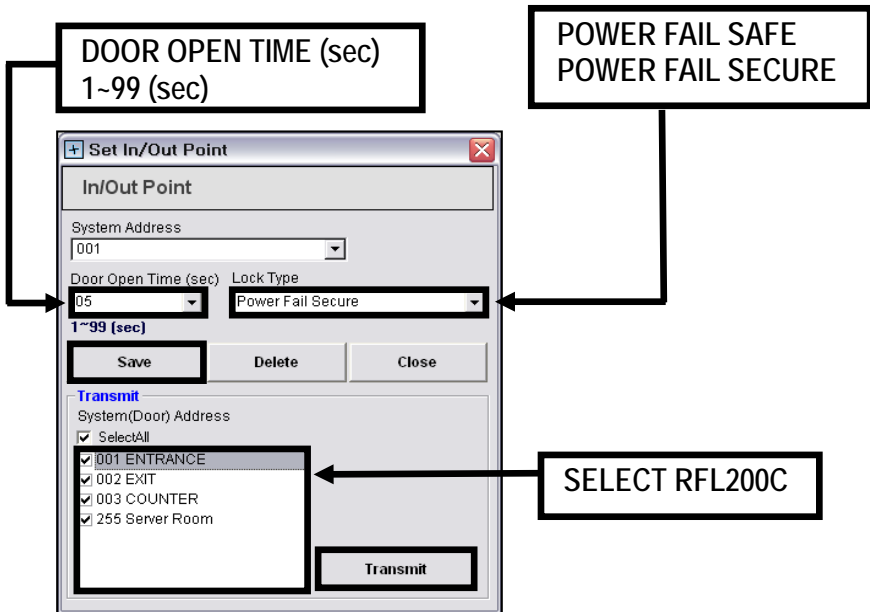All parameters of Star RFL200C / iPASS IP-RFL200C are set by the application software.

10-1 Set up "System Address" and "Normal" or "Toggle Mode".
　① Choose "System Name" and "System Address" on drop down list.
　② Click "Normal Mode" or "Toggle Mode".
　③ Click "Save" and then "Transmit" button if finishing to step①~②.

| DOOR NAME | RFL200C BOARD ID | SYSTEM MODE SELECT |

System Definition

System Address 001　　System Location 1F
System Name ENTRANCE　　Reader Mode ⦿ Normal Mode ○ Toggle Mode
Active ☑

| Save | Delete | Transmit | Batch Transmit | Close |

System Lists

Address	System Name	Location	ToggleMode	Active
001	ENTRANCE	1F	☐	☑
002	EXIT	1F	☐	☑
003	COUNTER	1F	☐	☑
255	Server Room	1F	☐	☑

10-2 Set "In / Out Point"

　① Choose "Door Open Time (sec)" of 1 to 99sec.

　② Choose "Lock Type" one whether Power Fail Safe or Power Fail Secure.

　③ If clicking "Save" button, one door among "System (Door) Address" is checked.

　④ Click "Transmit" button.

| DOOR OPEN TIME (sec) 1~99 (sec) | POWER FAIL SAFE POWER FAIL SECURE |

Set In/Out Point

In/Out Point

System Address
001

Door Open Time (sec)　Lock Type
05　　Power Fail Secure
1~99 (sec)

| Save | Delete | Close |

Transmit
System(Door) Address
☑ SelectAll
☑ 001 ENTRANCE
☑ 002 EXIT
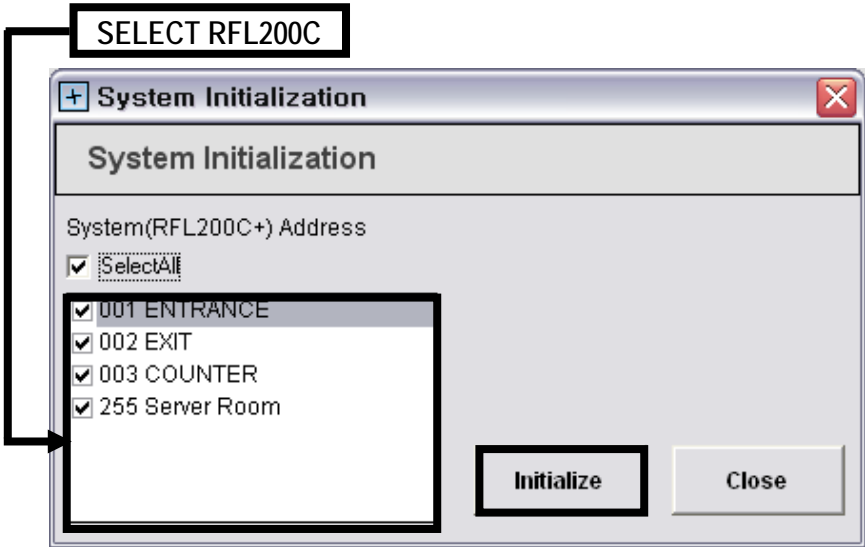☑ 003 COUNTER
☑ 255 Server Room

SELECT RFL200C

Transmit

10-3 Card Holder Registration or Deletion

- Card Holder Registration or Deletion is performed by the application software.

① Choose "INPUT CARD DATA" and "EMPLOYEE INFORMATION".

② Click "Save" and then "Transmit" button.
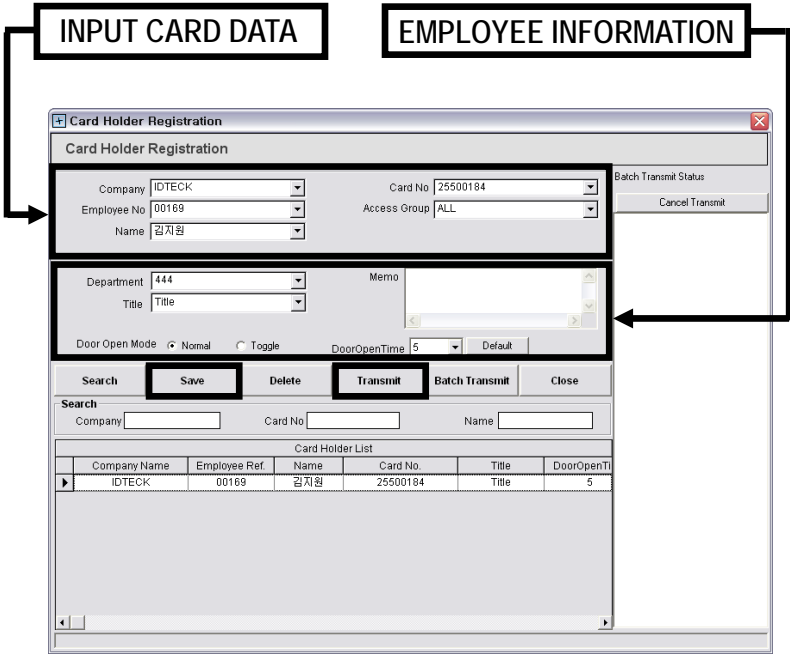
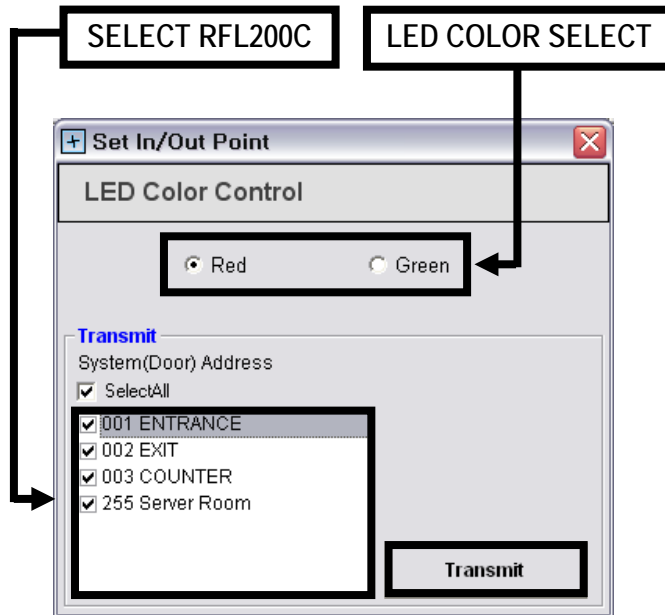
10-4 System Initialization

StarRFL200C / iPASS IP-RFL200C is initialized by the software.

10-5 LED Color Control

The Star RFL200C / iPASS IP-RFL200C can change its LED color to red or green
by the application software.

SELECT RFL200C | LED COLOR SELECT

Set In/Out Point

LED Color Control

⊙ Red ○ Green

Transmit
System(Door) Address
☑ SelectAll
☑ 001 ENTRANCE
☑ 002 EXIT
☑ 003 COUNTER
☑ 255 Server Room

Transmit

※ See "STAR RFL200C" software manual to set up hardware.

11. Operation

11-1. When the RFL200C / IP-RFL200C is powered on,

① All LEDs are lit red or green, then they flash on and off twice and then turn off.

② Then, red LEDs are lit sequentially from bottom to top.

③ The RFL200C / IP-RFL200C beeps once.

11-2. When a registered tag is read on the RFL200C / IP-RFL200C or the exit button is pressed,

① All LEDs switch from red to green, then they turn off sequentially from top to bottom. After all LEDs are off, they turn on red again.

② The door opens for a predefined length of time and the first two LEDS from the top turn red, indicating the open status of the door.

③ The RFL200C / IP-RFL200C beeps once.

11-3. When an unregistered tag is read on the RFL200C / IP-RFL200C,

① All LEDs are lit red, then they flash on and off twice and stay on.

② The RFL200C / IP-RFL200C beeps twice.

11-4. When a tag is read on the RFL200C / IP-RFL200C while the door is open.

① The first two LEDs from the top still stay lit green, indicating the open status of the door. The rest of the LEDs indicate the authentication status (access granted or denied).

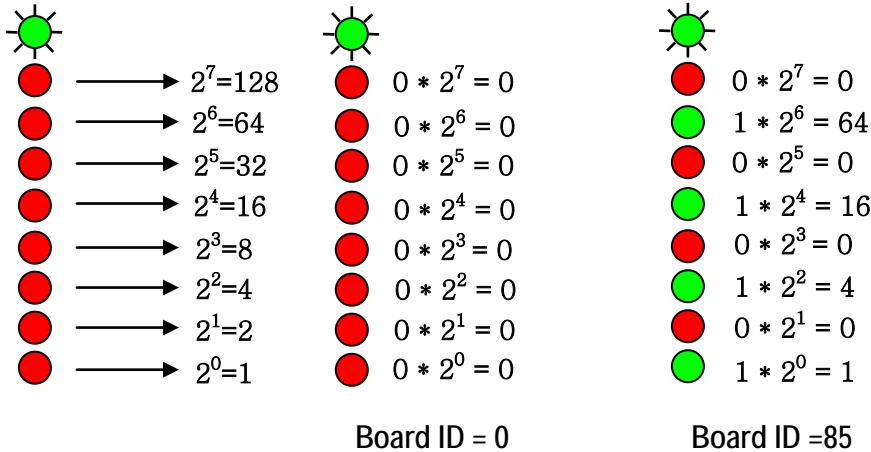11-5. When you need to know the Board ID (or Communication Address),

① Connect the purple and blue wires together while power is not supplied.

② Apply power and, the first LED flashes on and off either red or green, and the rest of the LEDs show the Board ID.

③ After checking the Board ID, power off the RFL200C / IP-RFL200C and return the purple and blue wires to their original positions.

④ Power on the RFL200C / IP-RFL200C again, and it will operate normally again.

 Example

Green / Red LED flashes

Green LED ON (1)

Red LED ON (0)

$2^7=128$	$0 * 2^7 = 0$	$0 * 2^7 = 0$
$2^6=64$	$0 * 2^6 = 0$	$1 * 2^6 = 64$
$2^5=32$	$0 * 2^5 = 0$	$0 * 2^5 = 0$
$2^4=16$	$0 * 2^4 = 0$	$1 * 2^4 = 16$
$2^3=8$	$0 * 2^3 = 0$	$0 * 2^3 = 0$
$2^2=4$	$0 * 2^2 = 0$	$1 * 2^2 = 4$
$2^1=2$	$0 * 2^1 = 0$	$0 * 2^1 = 0$
$2^0=1$	$0 * 2^0 = 0$	$1 * 2^0 = 1$

Board ID = 0   Board ID =85

11.6 To initialize the RFL200C / IP-RFL200C,

① Power off the RFL200C / IP-RFL200C, and connect the white, green and yellow wires together.

② Power on the RFL200C / IP-RFL200C, then all LEDs will flash on and off either red or green and turn off.

③ Then, green LEDs are lit sequentially from bottom to top. All LEDs turn green.

④ The RFL200C / IP-RFL200C beeps four times, indicating the completion of initialization.

⑤ After initialization is finished, return the white, green, and yellow wires to their original positions.

⑥ Power on the RFL200C / IP-RFL200C again, and it will operate normally again.

11.7 Besides the operations described above, users can register or delete cards using the STAR RFL200C software, as well. Using this software, you can also adjust or change "Normal Mode" / "Toggle Mode", "Door Open Time" and "LED Color Control".

※ Refer to the "STAR RFL200C" software manual for more information.

12. <u>FCC Registration Information</u>

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.
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.

13. Warranty Policy and Limitation of Liability

IDTECK warrants this product against defects in material and workmanship for the life of the product 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
	FINGERPRINT MODULE / SENSOR	
2	RF READERS (WITHOUT EPOXY POTTING)	2 years
3	STANDALONE CONTROLLERS	
4	CONTROL PANELS	
5	FINGERPRINT READERS	
6	RF READERS (WITH EPOXY POTTING)	Lifetime
7	RF CARDS (PASSIVE TYPE)	

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

To make the RMA request, the product must be initially registered on IDTECK webpage. Please attach the RMA request form on the product and 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. Fill out the A/S request form (included in the product package) and attach it to the product using the aluminum string.
4. Enclose the product along with the RAM 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 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.