

User's(Instruction)Manual

Model : Fingerprint attendance & absence
Reader(CDR-0191)

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1.Overview

- This system is B-Type attendance & absence system for smart card.
Avoiding attendance & absence modification coming from misuse of RF Card of Attendance & Absence Reader, this system uses both card input method and "Card + Fingerprint" input method for user authentication.
- Cooperate by using operating program for attendance & absence management
- About B-Type Fingerprint attendance & absence Reader, it is operated as attendance & absence Reader when connected with operating system by using LAN and operated as B-Type Fingerprint Reader for Smart Card only when connected with SBMS
- B-Type Fingerprint attendance & absence Reader can use either double authentication method which stores fingerprint into smart card or smart card only method.

2.Structure

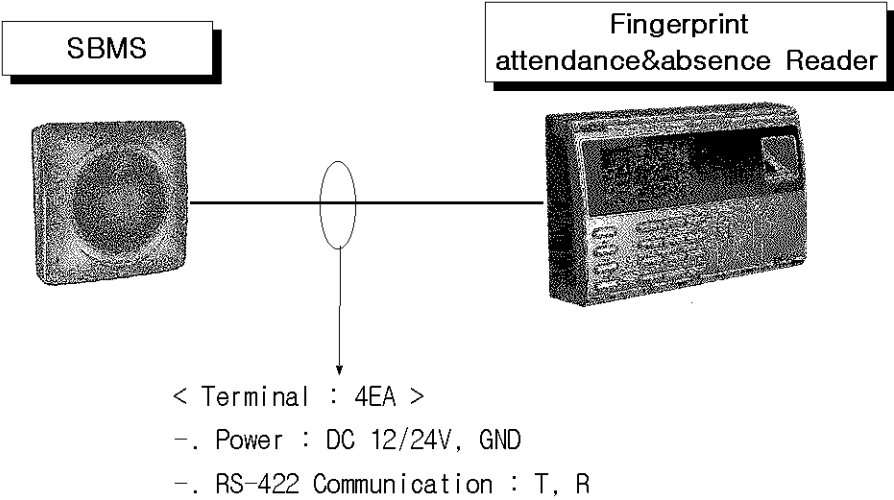
2.1 Machine Structure

This machine's structure is as follows.

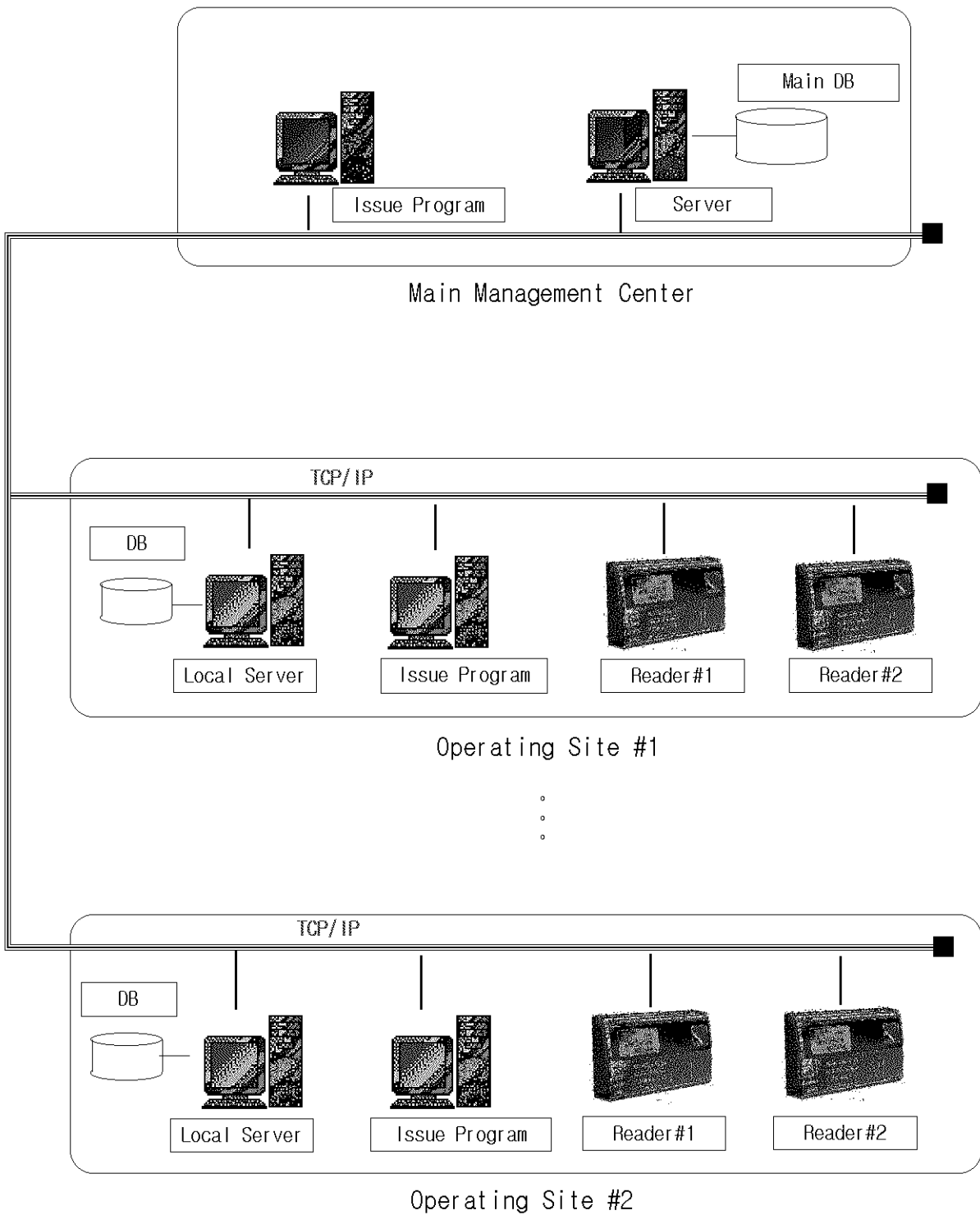
NO.	Name	Quantity	Remark
1	CDR-0191	1EA	Main Body
2	2 Type of body connect screw	Each 2EA	Connect a body with wall
3	LAN CABLE ASS'Y	1EA	LAN cable for server connect
4	Power CABLE ASS'Y	2EA	SBMS and Power cable ※ 1 of about 2 is connected with body when delivered.
5	Exit and Electric Magnetic Lock CABLE ASS'Y	1EA	Exit button and Electric Magnetic Lock connect cable
6	User Manual	1EA	Machine user manual
7	Summary Manual	1EA	Machine setup and operating summary manual
8	Wrapping Box	1EA	Wrapping 1,2,3,4,5

2.2 System Structure

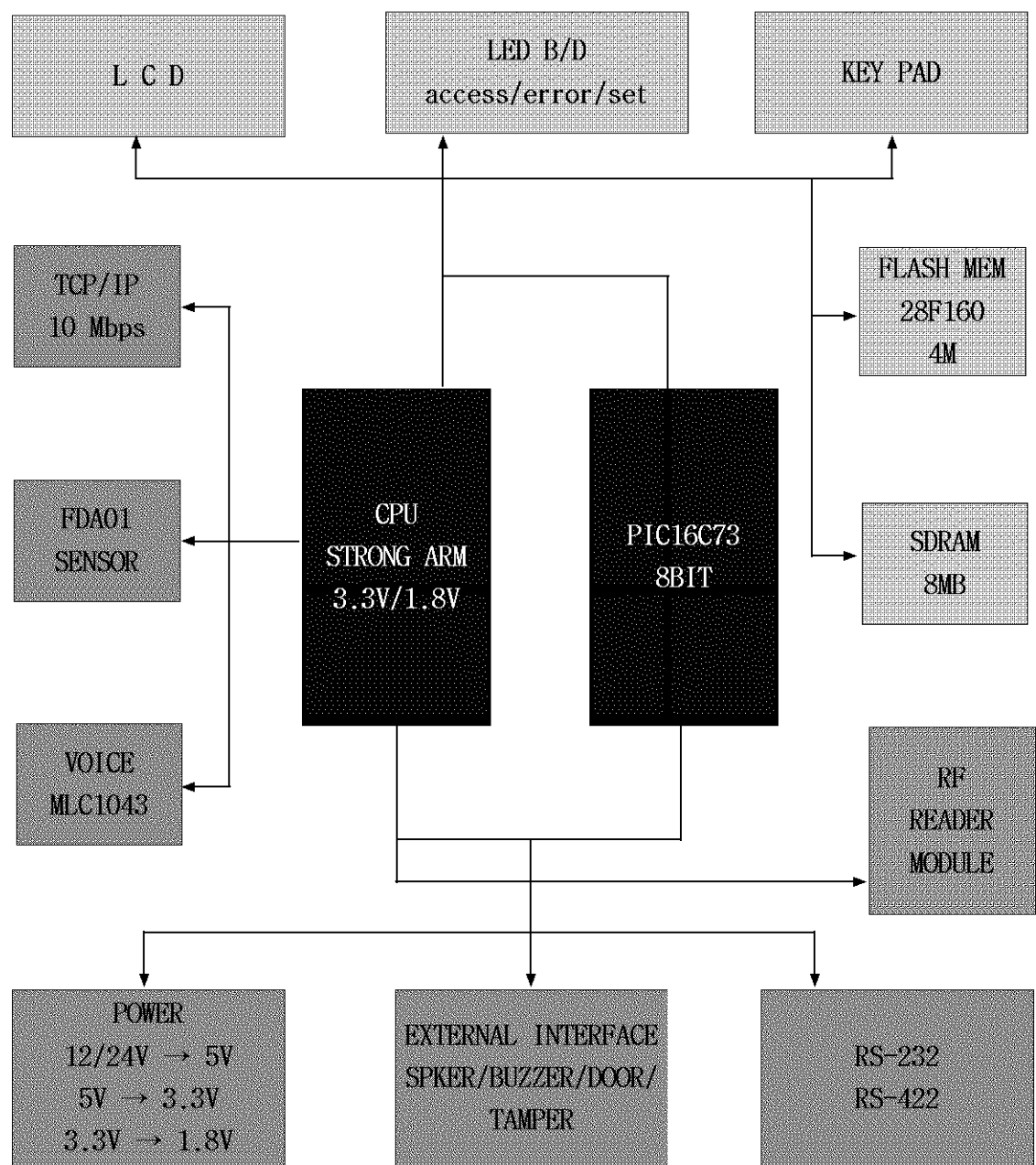
- Connect B-Type Fingerprint attendance & absence Reader with SBMS.
(Using RS-422 Communication)
: Local/Lock/Shutter controller and 4 line is connected.



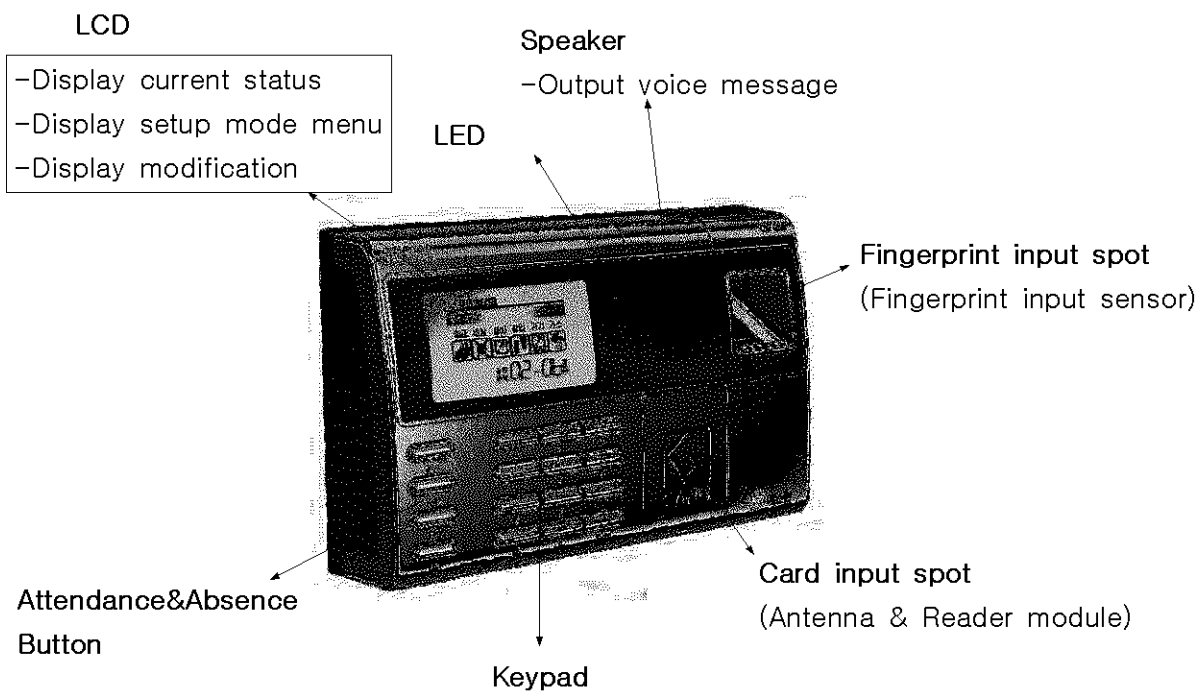
- . Connect B-Type Fingerprint attendance & absence Reader with Operating system
(Using LAN)



2.3 Machine Block Diagram



2.4 Machine Outline Diagram



-.Keypad(16 Key) & Button

- ① "Attendance", "Leave", "Airing", "Return" Input key
- ② '0' ~ '9' : Number input key
- ③ Enter, Esc : Setup mode & Modification Input/Cancel

-.LED

- ① Access : Blink when a normal card input
- ② Abnormal
 - Unable card input
 - Storing capacity limit approach
 - On & Blink when storing capacity shortage
 - Communication cable sever and communication trouble
 - On when a cover open
- ③ Set : On when crime prevention function work (SBMS Connection)

3.Specification

3.1 Outline Structure

3.1.1 Form

Indoor use

3.1.2 Outline & Inside deployment

Refer Outline & Inside deployment diagram

3.1.3 Size

170 x 115 x 48 (mm) [Width x Height x Depth]

3.1.4 Weight

About 445 g

3.2 Electrical Specification

3.2.1 Power

- (1) Voltage : DC 12 V(DC 9.6V~13.4V) / DC 24 V(DC 18.6V~28.8V)
- (2) Current : Normal 510mA / Card reading 610mA (12V supply)
Normal 270mA / Card reading 350mA (24V supply)

3.2.2 Communication Specification

- (1) SBMS Connection
 - . RS-422
- (2) Operating System Connection
 - . TCP/IP (Using RJ-45)

- * Option when Operating System Connect
 - . Electric Magnetic Lock control Relay output Control Port
 - . EXIT Signal input Control Port

3.3 Machine Specification Overview

List	Standard	Remark
Machine Form	LAN Attendance&Absence Reader & Crime Prevention Access Terminal	Fingerprint data storing & Electric Magnetic Lock direct control
System Structure	<u>SBMS</u> + Fingerprint Attendance&Absence Reader	RS-422 Communication
	<u>Attendance&Absence Operating System</u> + Fingerprint Attendance&Absence Reader + Auxiliary Power + Electric Magnetic Lock	TCP/IP communication between Attendance&Absence System
Authentication Method	RF Card	Register up to 1000 Person – Self DB
	RF Card + Fingerprint (1:1 Matching)	
	User ID(Residence Number) + Fingerprint (1:1 Matching)	Unlimited register – TCP/IP
	RF Card + Password	
Power	TCP/IP Connection : DC 12 V	TCP/IP Connection – Use Auxiliary power (POW 0060)
	SBMS Connection : DC 24 V	
Fingerprint Sensor Type	Optical	NITGen Company Product
Processor	32 bits RISC Processor	Intel SA-1110
I/O	-. Electric Magnetic Lock direct control -. RS-422, RJ-45 Communication Provide -. LCD/LED & Keypad input/output -. Guide Voice & Beep output -. EXIT Button input	

3.4 Display Specification

3.4.1 LED Display Specification

No	Name	Color	Quant.	Location	Detail	Display Condition	
1	Access	Green	1EA	Outside (up)	Authenticati on Display	ON	User Authentication Success
						OFF	Off Power
2	Abnormal	Red	1EA	Inside (down)	Communicat ion & TAMPER abnormal Display	ON	Abnormal
						OFF	Normal
3	Set	Yello w	1EA	Outside (down)	Set/Cancell/ Patrol mode Display	ON	Set
						BLINK	Patrol
						OFF	Cancel
4	Communica toin(DATA)	Yello w	1EA	Inside	LAN Communicat ion Status Display	BLINK	Data send/receive
						OFF	Not Data send/receive
5	Communica toin(LINK)	Yello w	1EA	Inside	LAN LINK Status Display	ON	LAN Connect
						OFF	Not LAN Connect
6	RS-422 Send	Green	1EA	Inside	RS-422 Communicat ion Status Display	ON	RS-422 Send
						OFF	Not RS-422 Connect
7	RS-422 Receive	Red	1EA	Inside	RS-422 Communicat ion Status Display	ON	RS-422 Receive
						OFF	Not RS-422 Connect

※ Details are as follows

LED \ List	Power Confirmation	Initialization	Sense wire snap
Access	OFF after 1 Blink	OFF after 1 Blink	—
Abnormal	OFF after 1 Blink	OFF after 1 Blink	ON after 30 sec. when wire snap
Set	OFF after 1 Blink	OFF after 1 Blink	—

3.4.2 Keypad & Button Specification

- Keypad : 16Key (0~9, Ent, Esc, Attendance, Leave, Airing, Return)
Use when register modification and ID input
- Ent Button
 - Setup input : Use when setup data input
 - Set : Set/Cancel when SBMS use
- Esc Button
 - Back Space Function : Back Space(Clear)Button Function when keypad input
 - Previous menu Function : Move to previous menu when Esc button pushed
 - Home menu Function : Pushing for 2 sec., move to Home menu
 - Initialize Reader : Pushing for 3 sec. when a cover is open, initialize reader

3.4.3 LCD Display Specification

- Attendance&Absence classify(Attendance, Absence, Airing, Return)
word output
- Timer, Date, Time, Animation, Message output
- Card reading Normal/Abnormal Display

※ Refer 5.3 Main Menu Structure & Modification Manual
for LCD Display Specification Detail

3.4.4 Beep Specification
: Modification Classify for Beep

No	Type	Sound	Modification
1	Beep	"beep"	Button modification or Operation confrim
2	Beep Error	"bee, beep"	Error display
3	Beep OK	"be~r~r~ep"	Normal card reading success confrim
4	Beep OK	"be~r~ep🎵"	Verification phase success when register modification & crime prevention setup request

- ※ Details are as follows
- ① A cover open - "bee, beep"
 - ② Card reading (card input only) - 1 short "beep"
 - ③ Fingerprint authentication success - "be~r~r~ep"

– RF Only, RF + Fingerprint voice message.

No	Contents		Remark
	RF Card	RF Card + Fingerprint	
1	1	1	Set
2	2	2	Cancel
3	3	3	Abnormal
4	4	15	IC Chip abnormal and Check Digit Error
5	5	5	Card operation when set
6	6	14	Unregistered card or access denied door try
7	7	15	
8	8	–	Try to change set/cancel mode by using access only card.
9	9	15	Lost card
10	10	15	Trace number access try.
11	11	11	Patrol card handling(Set→Patrol)
12		12	Try to authenticate fingerprint
13		13	Fingerprint authentication fail/Operation error

3.4.5 Guide voice specification

No	Contents	Remark
1	Guard is set.	Set
2	Hello? Guard is canceled	Cancel
3	Beep!Beep!Beep! Guard can not be set. Enter the room, check abnormalities and handle the machine again.	Abnormal
4	Card abnormalities are found.	IC Card Chip error & Check Digit Error
5	Guarding status. First, cancel the guard.	Card operation when Set
6	Your card is not permitted.	Unregistered card or access denied door try
7	The term of card validity has expired	
8	Your card is access only.	Try to change set/cancel mode by using access only card.
9	Your card is not a valid card.	Lost card
10	Card number is under control. Ask to the manager.	Trace number access try.
11	For check, access denied.	Patrol card handling(Set →Patrol)
12	Input fingerprint.	Try to authenticate fingerprint
13	Handle again please.	Fingerprint authentication fail/Operation error
14	Access denied.	
15	Ask to the manager.	Common voice

3.6 Fingerprint Sensor Module Specification

List	Feature	Remark
Module Model	OPP01M	
Fingerprint Sensor Type	Optical(CMOS Image Sensor)	
Fingerprint Senser Area	12.9 X 15.2 (mm)	
Module Size	21(W) x 32(L) x 62(H) (mm)	
Fingerprint Authentication Time	Less than 1 sec. (From getting fingerprint image to authentication complete. This does not include the communication delay time caused by connecting upper machine.)	For registered user less than 20 when 1:N connection.
Resolution	505 ± 10 (dpi)	
Data Size	400 bytes	
FRR	0.1 %	Fingerprint recognize algorithm simulation result
FAR	0.002 %	
Module Weight	28g	
Working Temperature	0 ~ 40℃	
Light Source	LED (red)	
Max. User	Maximum 1000 person	When using 1:1 matching
Power	DC 5V ± 5% , 75mA	
Current	110mA	45mA when standby
ESD	15kV	
Image Capture Speed	Max. 30 frame/sec, average 10 frame/sec	
Sensor Life Span	40,000 Hr	

3.5 B-Type RF Card Reader Module Specification

3.5.1 Electrical Specification

- Power : This module is supplied Analog(12V) power , Digital(5V) power separately.

No.	Type	Input Voltage	Current
1	Analog	9.6 ~ 14.4V	- Normal : 90mA - Reading : 200mA
2	Digital	4.8 ~ 5.2V	- 100mA

3.5.2 Reading Distance & Time

- Minimum reading distance : 25mm.
- No Dead Zone (less than 5mm permitted).
- Reading Time : 200ms.
- The same card data is not re-transmitted in 2500ms.
- Reading card data is transmitted immediately.

3.5.3 Function

- (1) CARD DATA Transmission
Read the data in card, and transmit in 50ms.
- (2) Reset Function
Force reset available by using reset(number 5) terminal.(Active Low)
- (3) Test Function
Request-B transmit only when power on, and if CRC normal when data receive, off the LED1, LED2 for 100ms.
- (4) LED Display Function
 - LED1, LED2 ON when Power(VCC) ON
 - CRC normal when card data receive, off the LED1, LED2 for 100ms.
- (5) CARD authentication KEY value update function
Key of Reader update by receiving card authentication key from upper machine. Card authentication key is temporary key, and encrypted by SEED, so store Reader by decrypting temporary key using SEED.