iPASS IPK101

ASK[EM] Format
Proximity Reader

IDTECK

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1. <u>Important Safety Instructions</u>

When using your PIN & Proximity Card Reader, basic safety precautions should always be followed to reduce the risk of fire, electrical shock, and injury to persons. In addition, the following should also be followed:

1. Read and understand all instructions.

2. Follow all warnings and instructions marked on the product.

3. **Do not** use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning. If necessary, use mild soap.

4. **Do not** use this product near water, such as bath-tub, wash bowl, kitchen sink, laundry tub, in a wet basement, or swimming pool.

5. This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supplied to your installation site, consult your dealer or local power company.

6. **Never** push objects of any kind into this product or through the cabinet slots as they may touch voltage points or short out parts that could result in fire or electric shock. Never spill liquid of any kind on the product.

7. To reduce the risk of electric shock, do not disassemble this product by yourself, but take it to qualified service 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.
    If the product exhibits a distinct change in performance.

2. <u>General</u>

The **iPASS IPK101** is an elegant looking and built in an attractive 4" read range proximity reader with KEYPAD. The **iPASS IPK101** has back lighting on the KEYPAD that ensure you successful operation even the night operating. The **iPASS IPK101** allows you to access door with proximity card and personal PIN numbers. Three LEDs of green, yellow and red, inside Piezo buzzer sound will

guarantee you accurate and reliable system operations.

3. Features

- -125KHz Proximity / PIN Reader
- - ASK[EM] Format
- - Read Range: Up to 4" (10cm)
- - User Format available
- - Output Format:
    - » Card: 26bit Wiegand (default) / RS232 and ABA Track II (optional)
    - » Keypad: 26bit Wiegand, 4 / 8bit Burst for PIN Output Format Selectable
- - 12-Key Numeric Keypad with Back Lighting
- - External LED Control / External Buzzer Control
- - Tamper Switch
- - Wall Mount (US, EU, Asian Gang Box Size)
- - Reverse Polarity Protection
- - Options: 3ea of External LED Control
          Supervisory Signal
- - Compatible Controller: iCON100, iTDC, Third Party Controller,
                  ASK[EM] Format Standalone Controller

4. Identifying Supplied Parts

Please unpack and check the contents of the box.

| **IPK101** | **Wall Mount** | **O-ring** | **User's Manual** |
| (1ea) | (1ea) | (5ea) | (1copy) |

| **3.5*40 Screw** | **3.5*12 Screw** | **Anchor Bolt** |

(4ea)   (4ea)   (4ea)

5. Specifications

| Model	IPK101
Read Range	IPK50: Up to 2 inch (5cm) IPC80 / IPC170: Up to 4 inch (10cm)
Reading Time (Card)	30ms
Power / Current	DC12V / Max.150mA
Input Port	1ea of External LED Control, 1ea of External Buzzer Control
Output Format	26bit Wiegand and RS232 (default) / ABA Track II and 8bit Burst for PIN or 3x4 Matrix
Keypad	12 Key Numeric Keypad with Back Lighting
LED Indicator	3 Array LED Indicators (Red, Green and Yellow)
Beeper	Piezo Buzzer
Operating Temperature	-35° to +65°C (-31°F to +149°F)
Operating Humidity	10% to 90% relative humidity non-condensing
Color	Dark Pearl Gray
Material	Polycarbonate
Dimension (W x H x T)	87mm x 100mm x 31mm (3.4" x 3.94" x 1.22")
Weight	190g (0.42lbs)
Certification	FCC, CE, MIC

6. Installation

6-1. Drill two 6-32 or M3 screw holes 3.3"(8.38cm) apart in vertical and one 1/2" hole at the center of these two holes.
(If you have installed electric gang box then skip this step.)

6-2. Using two 6-32 or M3 screws, install wall mount to the wall.

6-3. Insert 5 O-rings to the wall mount as indicated, then route the cable of the main unit through the center hole and push the main unit to wall mount to lock the main unit and make sure that the main unit is locked with wall mount.
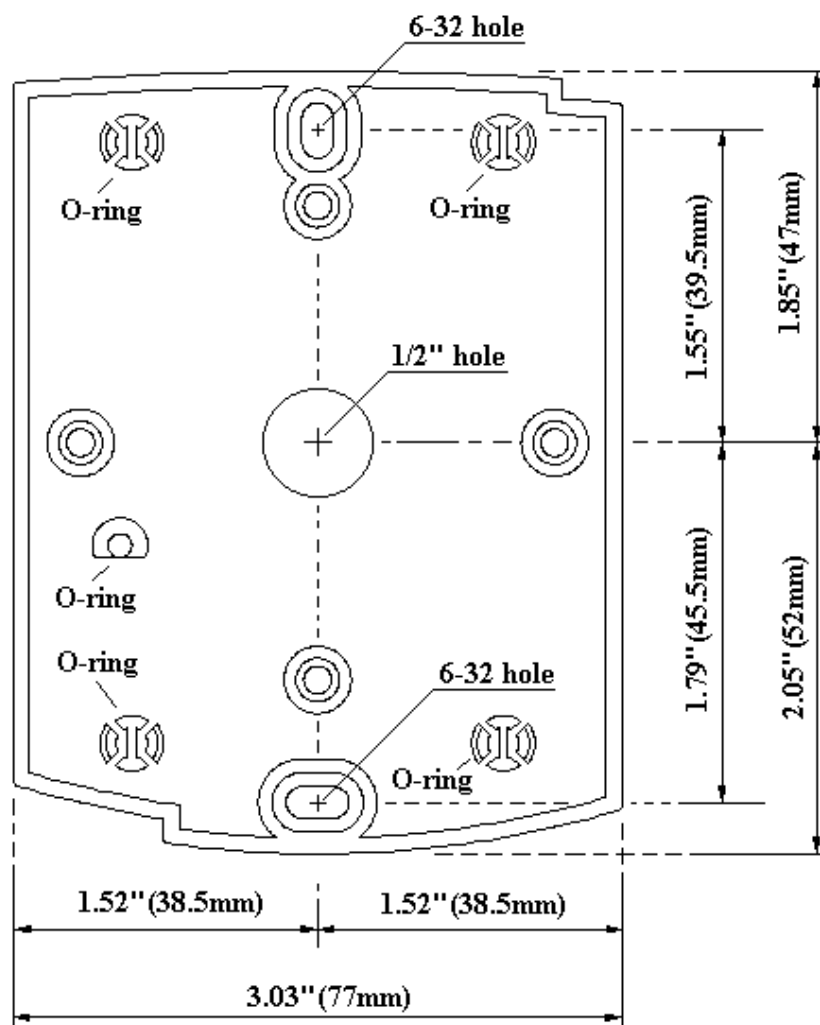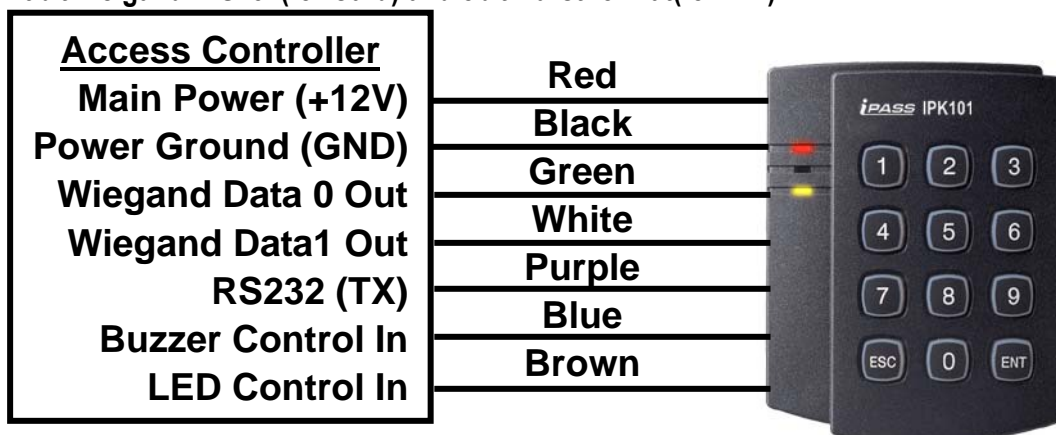
7. Wire Color Table of the Reader

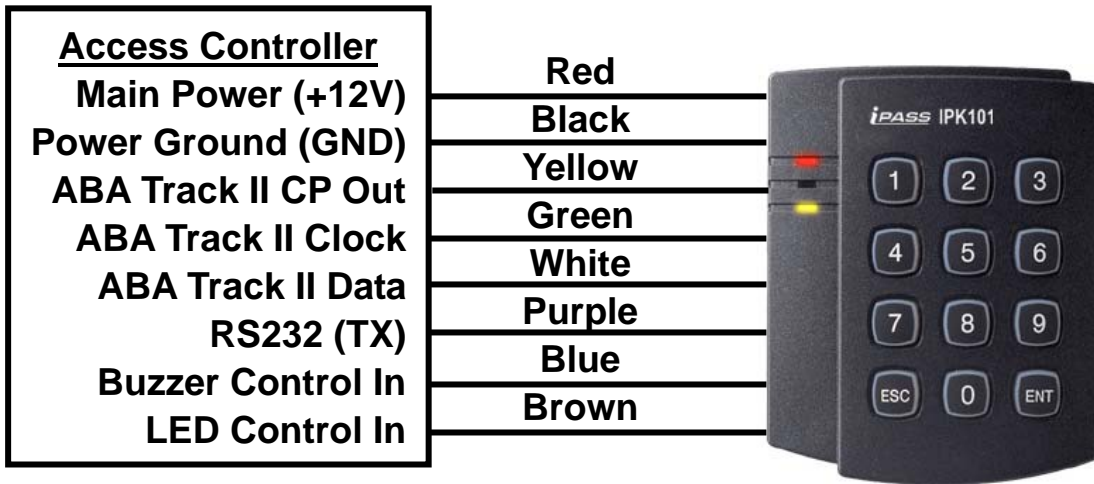| SIGNAL	COLOR
Main Power (+12V)	Red
Power Ground (GND)	Black
ABA Track II CP Out	Yellow
Wiegand Data 1 / ABA Track II Data Out	White
Wiegand Data 0 / ABA Track II Clock	Green
Buzzer Control In	Blue
LED Control In	Brown
RS232 (TX)	Purple
KEYPAD 3x4 Matrix(Column0)	White wire with blue band
KEYPAD 3x4 Matrix(Column1)	White wire with green band
KEYPAD 3x4 Matrix(Column2)	White wire with red band
KEYPAD 3x4 Matrix(Row0)	Cyan wire
KEYPAD 3x4 Matrix(Row1)	Pink wire
KEYPAD 3x4 Matrix(Row2)	Orange wire
KEYPAD 3x4 Matrix(Row3)	Gray wire
* Please cut out tail connector before installation.	

8. Wire Connection to Controller

8-1. 26bit Weigand+RS232(for Card) and 8bit Burst format(for PIN)

Access Controller	
Main Power (+12V)	**Red**
Power Ground (GND)	**Black**
Wiegand Data 0 Out	**Green**
Wiegand Data1 Out	**White**
RS232 (TX)	**Purple**
Buzzer Control In	**Blue**
LED Control In	**Brown**

.   The Reader transmits Card data to Wiegand Data0, Data1 and RS232 (TX) line.

. The Reader transmits PIN data to Wiegand Data0 and Data1 (8bit Burst format.)

8-2. ABA Track II+RS232 (for Card) and ABA Track II+RS232 (for PIN)

| Access Controller		
Main Power (+12V)	**Red**	
Power Ground (GND)	**Black**	
ABA Track II CP Out	**Yellow**	
ABA Track II Clock	**Green**	
ABA Track II Data	**White**	
RS232 (TX)	**Purple**	
Buzzer Control In	**Blue**	
LED Control In	**Brown**	

.   The Reader transmits Card and PIN data to Card present, Clock, DATA and RS232 (TX) line.

NOTE : You have to enter at least 1 numeric number(max. 8 numbers) followed by "ENT" key.

9. Operation

9-1. Connector Layout

OOOOOOO CN1   IPK101

JP3 OO
JP2 OO

JP1 OO

CN2   CN3
OOOOOOOOO   OOOOO
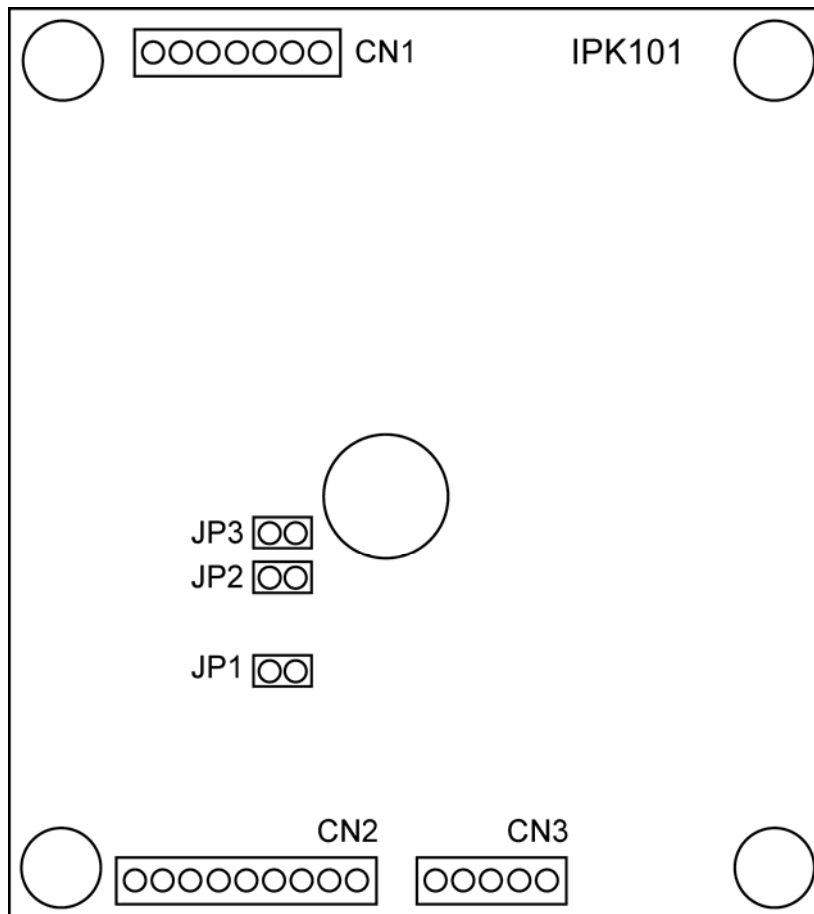
9-2. Output Mode Setting

Table 1. Jumpers Setting

JP1	JP2	Card Output format	Keypad Output format
close	**close**	**26bit Wiegand + RS232**	**8bit Burst (or 3x4 Matrix)**
close	open	26bit Wiegand + RS232	26bit Wiegand + RS232(or 3x4 Matrix)
open	close	ABA Track II + RS232	8bit Burst (or 3x4 Matrix)
open	open	ABA Track II + RS23	ABA Track II + RS232 (or 3x4 Matrix)

Note: The default settings for JP1 and JP2 jumpers are "close"(short circuit).
JP3 is reserved for future use and currently not used.

9-3. Operation

1. Once the power is applied, you should hear 3 times of initial beep sounds and red And yellow LEDs on indicating that the reader is in standby mode after a successful initialization and diagnostics.

2. Present proximity card to the reader until you hear the beeping sound and the green LED on. The reader will send the RF card data to the controller then the yellow LED on again for the next reading.

3. Enter the Keypad until you hear the beeping sound. The reader will send the Key data to the controller.

4. LED Control:
   To change the LED colors, you may connect the LED Control Input (brown wire) to ground and the green LED will turn on indicating that the reader is in standby mode. Present proximity card and the LED will change color to yellow then green again for the next reading.

5. Beeper Control:
   In normal operation, the reader generates one beep when it reads a proximity card, However additional beeps can be generated to improve indication for access status(granted or denied) by forcing the Beeper Control Input, blue wire to system ground level. The beeper will remain on as long as the blue wire is connected to system ground.
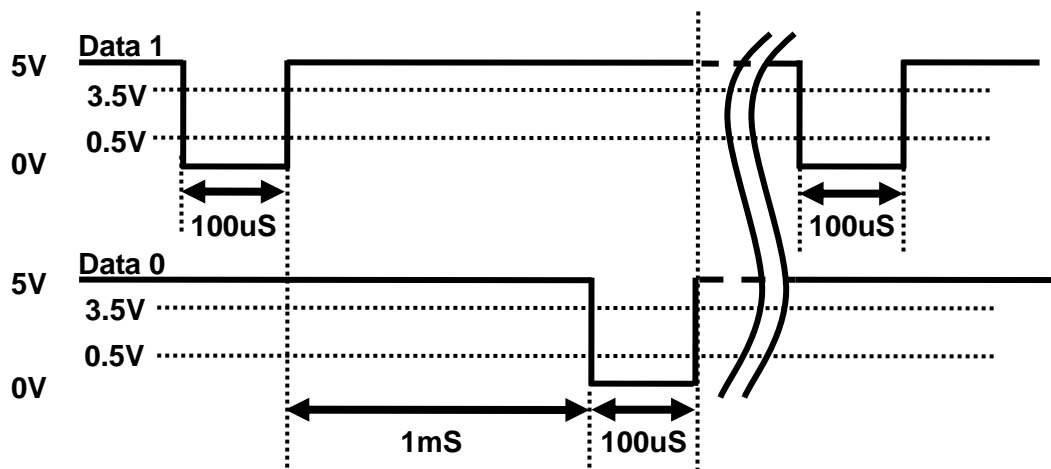
10. Output Format

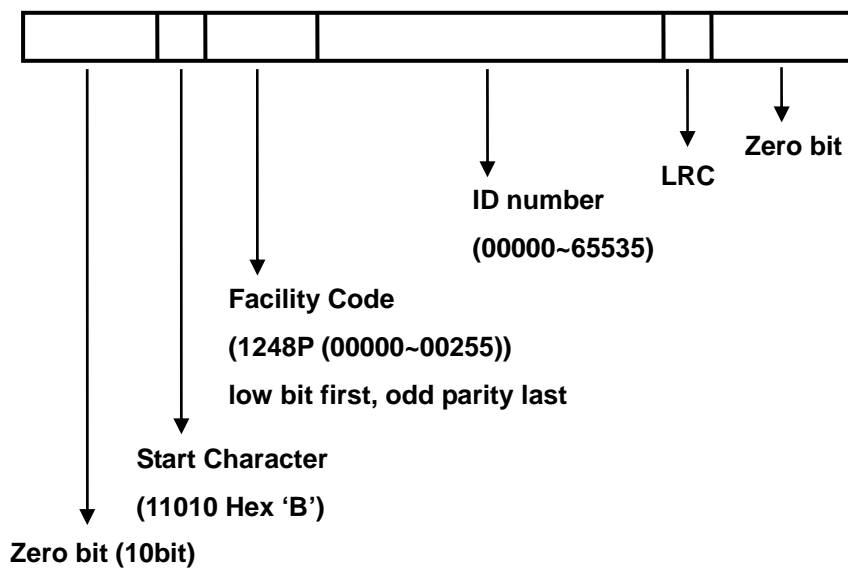### 10-1. 26bit Wiegand output format

1. Data format

Bit 1   : Even parity of bit 2 ~ bit 13

Bit 2～9   : Facility code (000 ~ 255)

Bit 10～25   : ID number (00000 ~ 65,535)

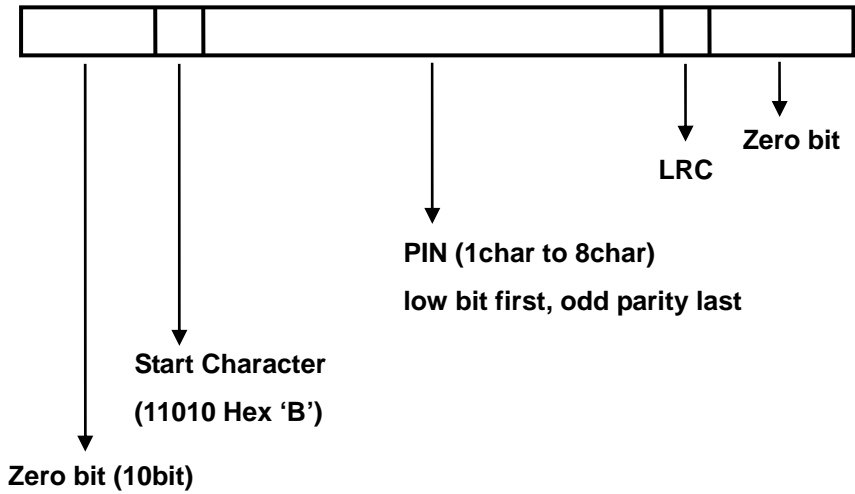Bit 26   : Odd parity of bit 14 ~ bit 25

2. Timing diagram
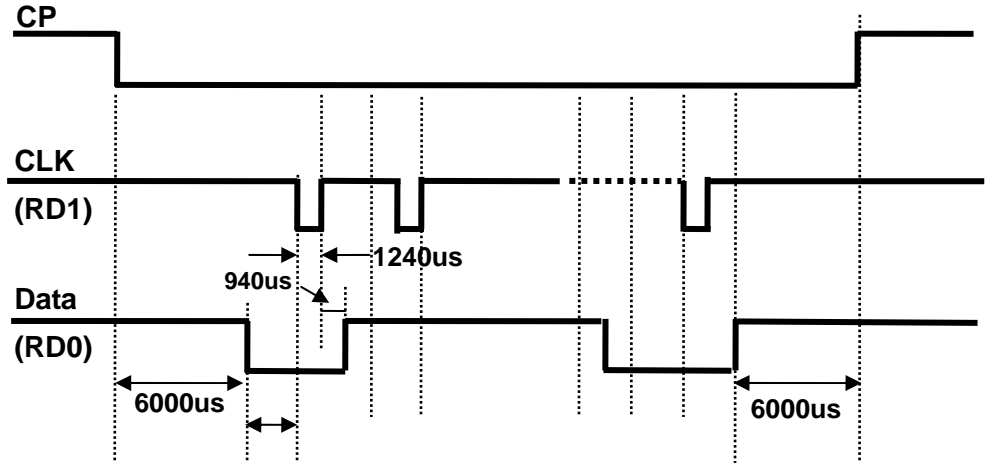

10-2. ABA Track II Magstripe output format

1. Data format (for Card numbers)

LRC

Zero bit

ID number

(00000~65535)

Facility Code

(1248P (00000~00255))

low bit first, odd parity last

Start Character

(11010 Hex 'B')

Zero bit (10bit)

2. Data format (for PIN)

Zero bit (10bit)

Start Character
(11010 Hex 'B')

PIN (1char to 8char)
low bit first, odd parity last

LRC

Zero bit

3. Timing diagram

CP

CLK
(RD1)

940us

1240us

Data
(RD0)

6000us

6000us

10-3. 8bit Burst output format (for PIN)

1. Data format

8bit Burst output format

Keypads	Binary	Hexa	Keypads	Binary	Hexa
0	11110000	F0	6	10010110	96
1	11100001	E1	7	10000111	87
2	11010010	D2	8	01111000	78
3	11000011	C3	9	01101001	69
4	10110100	B4	ESC	01011010	5A
5	10100101	A5	ENT	01001011	4B

2. Timing diagram
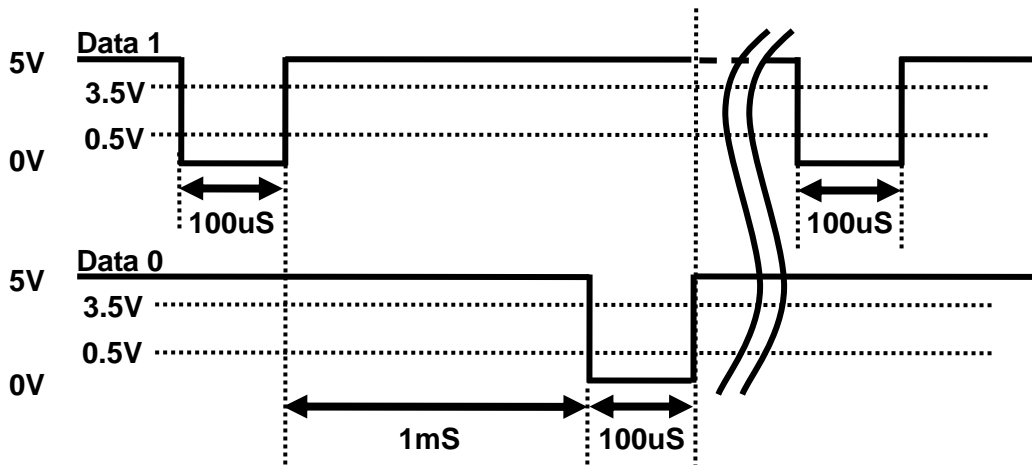
10-4. RS232 output format

1. Data format (Baud rate: 9600bps)
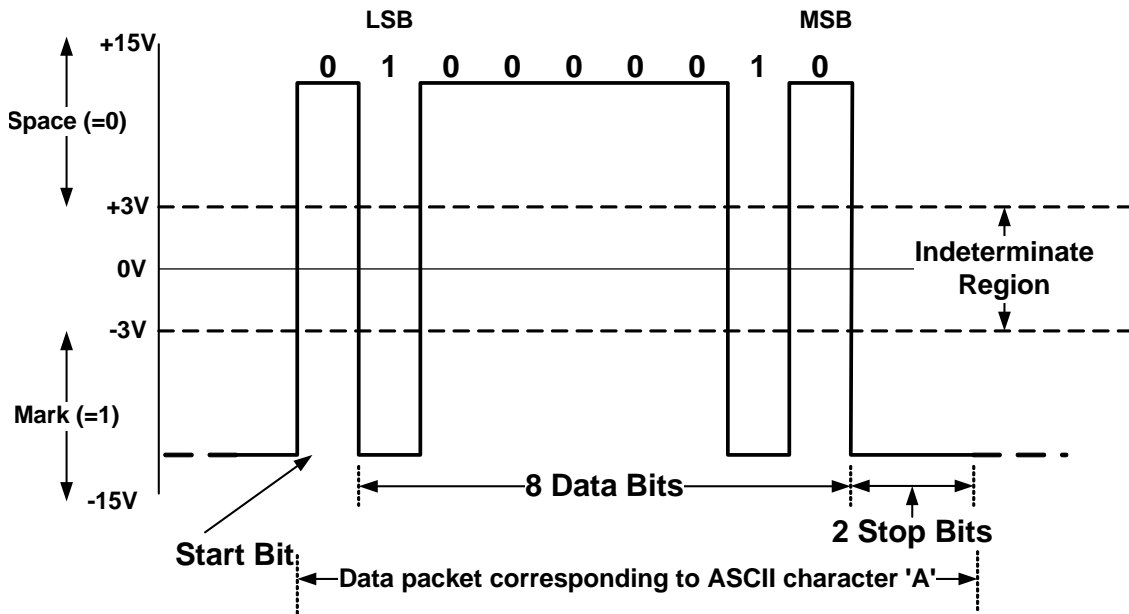
2. Data structure

START(0X02H)	DATA (8 Char)	END (0x03H)	LRC	(CARD output)

START(0X02H)	DATA (1~8 Char)	END (0x03H)	LRC	(Keypad output)

10-5. Matrix (3x4) format

    1. Data format

		Column0	Column1	Column2
		↓	↓	↓
Row0	→	1	2	3
Row1	→	4	5	6
Row2	→	7	8	9
Row3	→	ESC	0	ENT

11. FCC Registration Information

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 B 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.

12. 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 CARD (Active type)	1 year
2	RF READER / FINGERPRINT READER	3 years
3	STANDALONE CONTROLLER	
4	CONTROL PANEL	
5	FINGERPRINT CONTROLLER	
6	MOLDED RF READER (RF10, RF20, RF30, RF TINY, IP10, IP20, IP30, SR10E, SR10UE, SR10SE, SR10RWE, SR10BE)	Lifetime
7	RF CARD (Passive type) (IDC80, IDC170, IDK50, IMC125, LXK50, IPC80, IPC170, IPK50, ISC80, ISC80S, ISK50, IMC135, IHC80, IP100, IP200)	

RMA REQUEST FORM

IDTECK accepts only on-line RMA requests on our Website (www.idteck.com). Please provide us with basic information in the below form so that we can understand your problems better. Send us back this form with your products after an RMA code is issued on our Website. This form is not compulsory.

Authorization RMA Code :	
1. Company Name	
2. Model Name	
3. Serial No.	
4. Original Invoice No.	
5. Distributor	
6. Purchasing Date	
7. RMA Request Date	

Please check your problems.

□ Card Reading	□ Power	□ Keypad
□ Communication	□ Relay	□ LCD
□ LED & Buzzer	□ Registration	
□ Others :		

IDTECK RMA Center >>

3F, 10/10-1/10-2, Dodang-Dong, Weonmi-Gu, Bucheon-Si, Gyeonggi-Do 157-030, Korea

Telephone: 82.2.2659.0055 (HQ) / 82.32.671.5642 (RMA Center)

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Website: www.idteck.com

e-Training Center: www.idtecktraining.com

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

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