

IDTECK SR10S

**13.56MHz [MIFARE]
Contactless IDTECK Credential Smart Card Reader**



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1. Important Safety Instructions

When using the **13.56MHz [MIFARE] Contactless IDTECK Credential Smart 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. **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 or 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:
 - When the power supply cord or plug is damaged or frayed.
 - If liquid has been spilled on the product.
 - 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. Product Overview

The **IDTECK SR10S** is a device which can read **Philips Mifare** cards (ISC80S). The **IDTECK SR10S** is designed to be easily installed to the doorframe or wall and has a read range of 10 cm.

The **IDTECK SR10S** can read not only the serial number of the card but the data stored in the memory area as well, if operation settings are performed using the **PRG2000S**. The **IDTECK SR10S** supports communication with the **PRG2000S**, PC and other access controllers via RS232C. The **IDTECK SR10S** has three 2-color LEDs (red and green) and a buzzer which notify users of its operating status.

3. Features

- SMART [MIFARE®] Reader with Maximum Read Range of 10 cm
- Reads IDs encoded by PRG2000S
- 34bit Wiegand & RS232 Output (Default)
 - Various Wiegand & ABA Track II Settings Available on Purchase of PRG2000S
- RS232 Serial Communication Support
- LED and Buzzer Control
- 3ea of Two-color LED Indicators (Red and Green) and 1 Buzzer
- Easily Installed on Doorframe or Wall
- Operates at Supply Voltages from DC10V to DC15V
- Solid Epoxy Potted(SR10SE)
- Waterproof / IP65 / IP66(SR10SE)
- Warranty : Lifetime(SR10SE)

4. Package Contents

Please, unpack the package and check its contents. If any of the following items is missing, contact a nearby distributor.



Reader Module
(1ea)



SR10S Bezel
(1ea)



User's Manual
(1 copy)



Screws
(2ea)

5. Specifications

CPU	8bit Microprocessor
Frequency	13.56MHz
Read Range	ISC80S : Up to 4 inch(10cm)
Reading Time (Card)	Less than 1s
Power / Current	DC 12V, Max. 100mA
Input Port	2ea(External LED Control, External Buzzer Control)
Output Format	34 bit Wiegand & RS232 (Default) With PRG2000S, various Wiegand & ABA Track II Output Programmable
LED Indicator	3 Array LED Indicator (Red and Green)
Beeper	Piezo Beeper
Keypad	N /A
Operating Temperature	-35℃ to +65℃ (-31°F to 149°F)
Operation Humidity	10 to 90% RH relative humidity non-condensing
Color	Dark Peal Gray
Material	Polycarbonate
Dimension (W x H x T)	1.8" x 4.5" x 0.88" (47mm x 115mm x 22mm)
Weight	150g (0.33lbs)
Index of Protection	IP65, IP66(SR10SE)
Certification	FCC, CE, KCC(MIC)

6. Installation

6-1. Drilling Screw Holes

Drill two 6-32 or M3 screw holes at 3.3" (8.38cm) intervals vertically.

Then, drill one 1/2" hole between previously drilled two holes. (Look at the figure: Installation Layout.)

6-2. Fixing the Reader Module

Put the reader cable into the center hole and fix the reader module using two 6-32 or M3 screws.

6-3. Putting the Cover

Put the cover on the device and push it until it clicks into place.

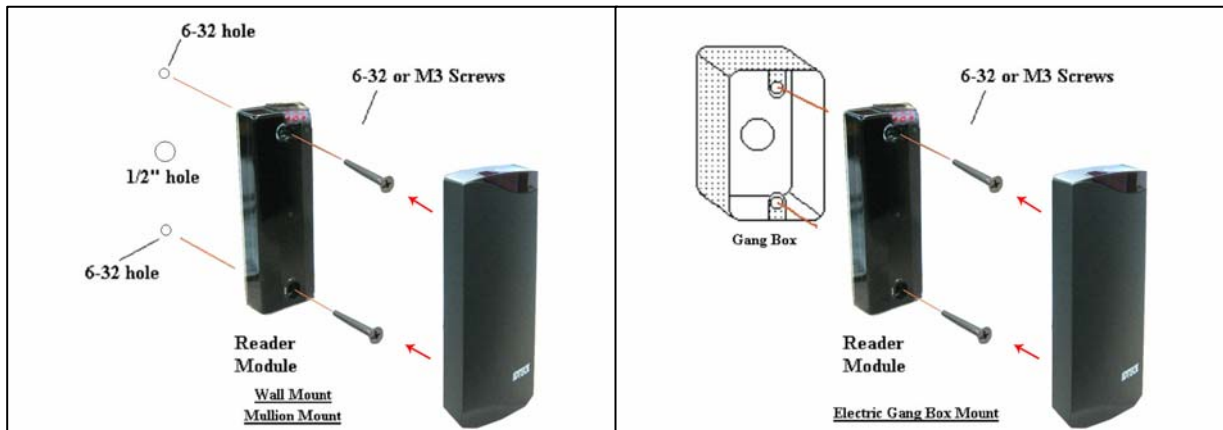


Figure: Installation Layout

6-4. Cautions during Installation

1. Installing Reader on Metal

The read range may get reduced if the reader is installed on a metallic surface. To avoid this read range reduction, install a Spacer between the metallic surface and the reader, as shown below.

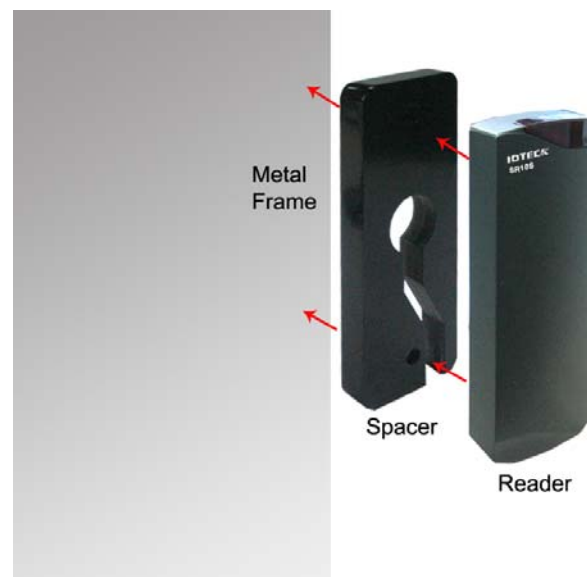


Figure: Spacer Installation

2. Installing More than 2 Readers Back-to-back or Side-by-side

The read range can get reduced if more than 2 readers are installed side-by-side or back-to-back. Also, when a card is presented to one of the closely-installed readers, the wrong reader may recognize it, too. To avoid this type of error, the distance between two readers must be at least greater than 20 cm.



Figure: Minimum Length When Installing More than 2 Readers

7. Wire Colors

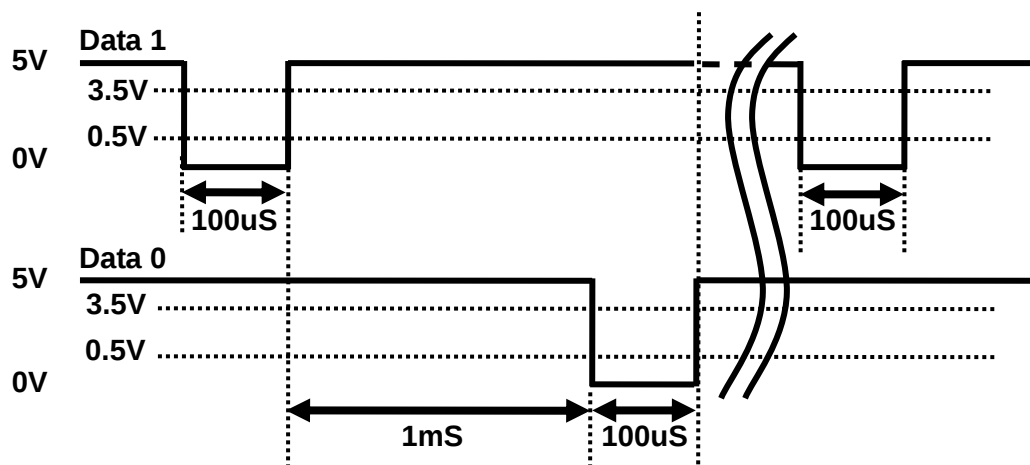
Signal	Color
Main Power (+12V)	Red
Power Ground (GND)	Black
ABA Track II CP Out	Orange
Wiegand Data 0 Out / ABA Track II Data Out	Green
Wiegand Data 1 Out / ABA Track II Clock Out	White
Buzzer Control In	Blue
LED Control In	Yellow
N / A	Gray
RS232 (TX)	Purple
RS232 (RX)	Brown
N / A	Cyan
N / A	Pink
* Please cut out the tail connector before installation	

8. Output Format

8-1 Wiegand Data format (34-bit)

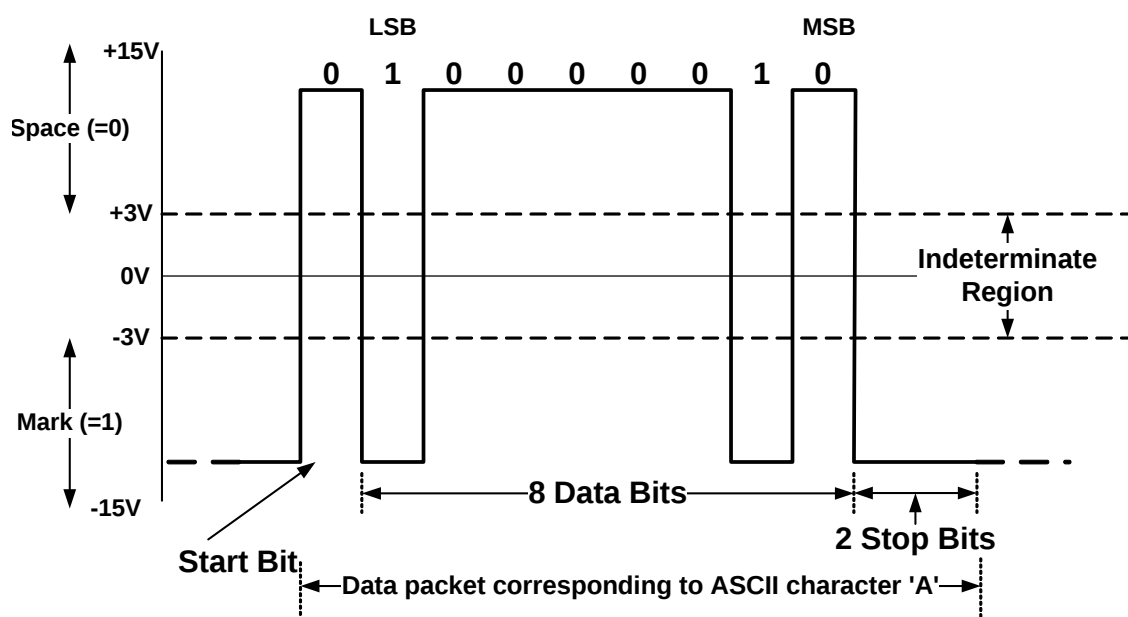
Bit 1:	Even parity from Bit 2 to Bit 17
Bit 2 to Bit 33:	4-byte ID number
Bit 34:	Odd parity from Bit 18 to Bit 33

Timing diagram

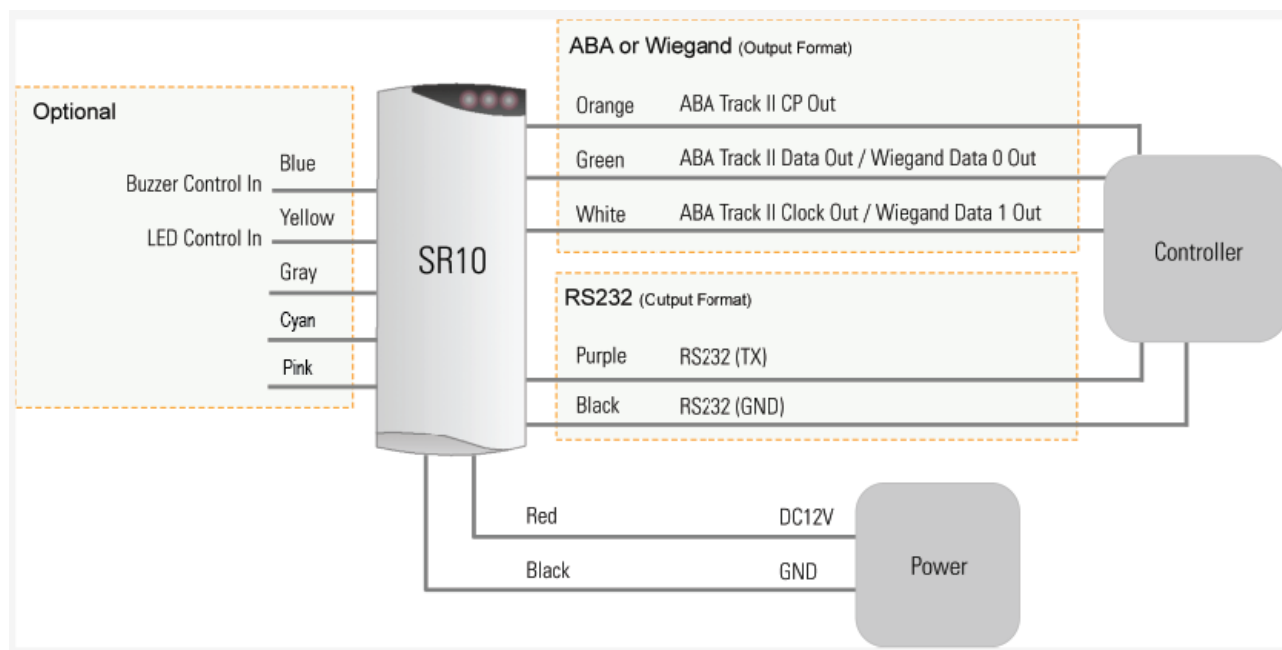


8-2. RS-232 Output Format

1. Data Format (Baud Rate : 9600bps)



9. Connection



10. Operations

10-1. When power is applied, the SR10S beeps and turns on the LEDs in the order of red > green > red > green. Then, the LEDs turn off for a while and turn on in red again, one by one, from left to right while the buzzer beeps.
(After power-on, the SR10S goes into the stand-by state and waits to read the serial number of a card presented to the unit.)

10-2. Bring a card closer to the unit until the buzzer beeps and the green LEDs turn on, one by one. After the card is recognized properly, the unit will send the card data to the controller and return to the stand-by state with red LEDs on.

- ✓ After a successful operation is completed, the buzzer beeps once and the red LEDs turn off and, then, the green LEDs turn on, one by one, from the left. After all of the 3 LEDs turn off, the LEDs turn red.
- ✓ If an operation isn't successfully completed (i.e. if an error occurs), the buzzer beeps twice and the red LEDs blink at once.
- ✓ If the PRG2000S does NOT operate as described above, refer to **11. Appendix**.

10-3. LED Control

You can control the LED of the device at your preference.

Connect the LED Control Input wire (Yellow wire) to the NO port of controller relay output, and GND

to the COM port. Set I/O of the controller; then you can change the color of the LED. While the LED control is working, the green LED stays on.

This function is used for changing the LED color representing standby from red to green and applied to make various modifications according to the different I/O setting of the controller.

For more information about the I/O setting of the controller, refer to the controller's user manual.

10-4. Buzzer Control

You can control the buzzer of the device at your preference.

Connect the Buzzer Control Input wire (Blue wire) to the NO port of controller relay output, and GND to the COM port. Set I/O of the controller; then you can generate beep sound. While the buzzer control is working, the product keeps sounding beep.

The controller can use the I/O setting to set the buzzer controller so that it sounds the additional beep for authorized/unauthorized access. For more information about the I/O setting of the controller, refer to the controller's user manual.

※ **Caution: If you keep generating beep sound, the reader can't read the card.**

10-5. Issuance Information Setting

In the initial state after power-on, the SR10S is set to read the serial number of a card that is presented to the unit. Refer to the PRG2000S manual or the PRG2000S Programmer manual to find out how to configure the SR10S to be able to cards issued using the PRG2000S.

11. Appendix

Troubleshooting

Cards won't be recognized.

CAUSE	Due to not using standard voltage (DC12V) or due to an incompatible card type.
SOLUTIONS	1. Confirm the standard voltage information in the User Manual or the Catalog. 2. Make sure that the card is a PHILIPS MIFARE card. >> You can't use an 125KHz type of card. But, 13.56MHz cards can be used if they are the ISO14443 B Type or ISO15693. (For information about the cards, contact the place where you purchased them.) 3. Make sure that the format of the card is compatible with that of the reader. >> There are two ways to use a reader; using a serial number (UID) and encoding data to certain sector and blocks. In the second case, make sure the card and the reader use the same format. (For information about the cards, contact the place where you purchased them.) 4. If the problem persists after you try the above solutions, contact a service center.

When power is applied, the buzzer beeps and the LEDs faintly illuminate.

CAUSE	Because the power adapter is not capable of meeting the current consumption level or because the power cable is so long that there is a voltage loss through that and the device doesn't get supplied with sufficient current.
SOLUTIONS	1. Make sure you're using a power adapter that supplies more current than the current consumption of the reader specified in the User Manual or the Catalogue. If multiple readers are connected to one adapter, multiply the current consumption by the number of the connected readers and see if the power adapter can meet the total current consumption level. If the power adapter proves to be inadequate, replace it. 2. Even if the power adapter is capable of putting out sufficient current, a long cable length or the wrong type of cable (cable for communication, UTP cable, etc.) can cause current losses. If that's the case, please replace or reinforce the cable. 3. If the problem still persists after you try the above solutions, contact a service center.

The Read Range changes every time a card is read

CAUSE	Because different cards manufactured by different manufacturers have different characteristics, even though they are of the same type.
SOLUTIONS	1. Because cards can have different characteristics as a result of the coil and the manufacturing process, make sure the cards being used are from the same manufacturer. (If assorted cards from different manufacturers are being used, it is natural for each of them to have different read ranges from one another.) 2. If the read range varies with cards manufactured by the same manufacturer, please contact a service center.

12. 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 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.

13. Warranty Policy and Limitation of Liability

IDTECK warrants this product against defects in material and workmanship for 2 years 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
	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 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 below. Friendly representatives at IDTECK are always standing by to provide the best after sales services.

IDTECK Headquarter

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E-mail: webmaster@idteck.com

Website: www.idteck.com

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

IDTECK Production Facility and RMA Center

3F, 10/10-1/10-2, Dodang-Dong,
Weonmi-Gu, Bucheon-Si, Gyeonggi-Do 420-130, Korea

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Fax: +82 2 2659 0086

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Website: www.idteck.com

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

MEMO



The specifications contained in this manual are subject to be changed without notice.

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