User's Manual

IDTECK SR10

13.56MHz Contactless Smart Card Reader

IDTECK
SR10
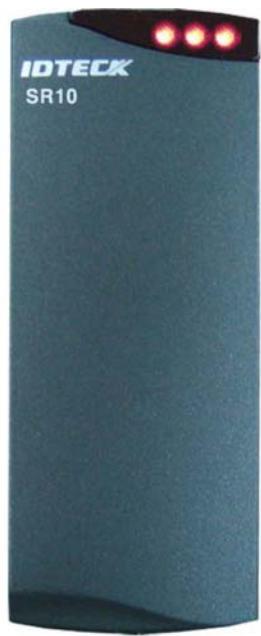
Table of Contents

1. Important Safety Instructions

When using the **13.56MHz [MIFARE] Contactless 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:

Fully read and understand all instructions and follow them completely.
Follow all warnings and instructions marked on the product.
Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning. If necessary, use mild soap.
Do not use this product near water.
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.
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.
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.
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 **IDTECK SR10 Smart Card Reader** can be compatible with **Philips Mifare™ Card**. The unit provides integrated operation of reader and is designed by which can install easily to door frame or wall. The **IDTECK SR10** is elegant looking and built in an attractive 10cm (4") read range smart card reader. It reads sector numbers from **Philips Mifare™ compatible cards** and transmits the data to the control panel in various output formats. Three LED indicators (red and green) and inside Piezo buzzer sound will guarantee you an accurate and reliable system operations.

3. Features

- 13.56MHz [MIFARE] Contactless smart Card Reader / Writer
-ISO 14443 type A compatible
-Sector Number Read only
-Read Range: Up to 3 inch (6cm)
.- 26bit Wiegand   Output Format
.- 3 Array LED Indicators (Red and Green) and Beeper

.-External LED Control
.-External Buzzer Control

- Easy to install on Mullion Mounting suitable
-Solid Epoxy Potted
.- Waterproof / IP65 / IP66
.- Warranty: Life Time

-Reverse Polarity Protection
-Compatible Software: Smart Card Read / Write Software
- Compatible Controller: iCON100SR, iTDC-SR, Third Party Controller

4. Identifying Supplied Parts

Please unpack and check the contents of the box:

5. Specification

Model	SR10
Reading Time (Card)	30ms
Power / Current	DC12V / Max.80mA
Input Port	2ea (External LED Control, External Buzzer Control)
Output Format	26bit Wiegand
LED Indicator / Beeper	3 Array LED Indicators (Red, Green) / Piezo

|	Buzzer
Operating Temperature	-35° to +65℃ (-31° to +149℉)
Operating Humidity	10% to 90% relative humidity non-condensing
Color / Material	Dark Peal Gray / Polycarbonate
Dimension (W x H x T)	47mm X 115mm X 22 mm (1.8'' X 4.5'' X 0.88'')
Weight	150g (0.33lbs)
Index of Protection	IP65 / IP66
Certification	FCC, CE, MIC

6. Installation

  6-1. Mullion/Wall Mount: Drill two 6-32 or M3 screws 3.3" (8.38cm) apart in
      vertical and drill one 1/2" hole for the reader cable 1.7" (4.31cm) apart
      from the top hole. (Skip this step, if you have installed an electric gang
      box.)
  6-2. Put reader cable into the center hole and install the reader module by
  using two 6-32 or M3 screws. 6-3. Put bezel into the reader module, then push
  bezel until you hear the locking sound.
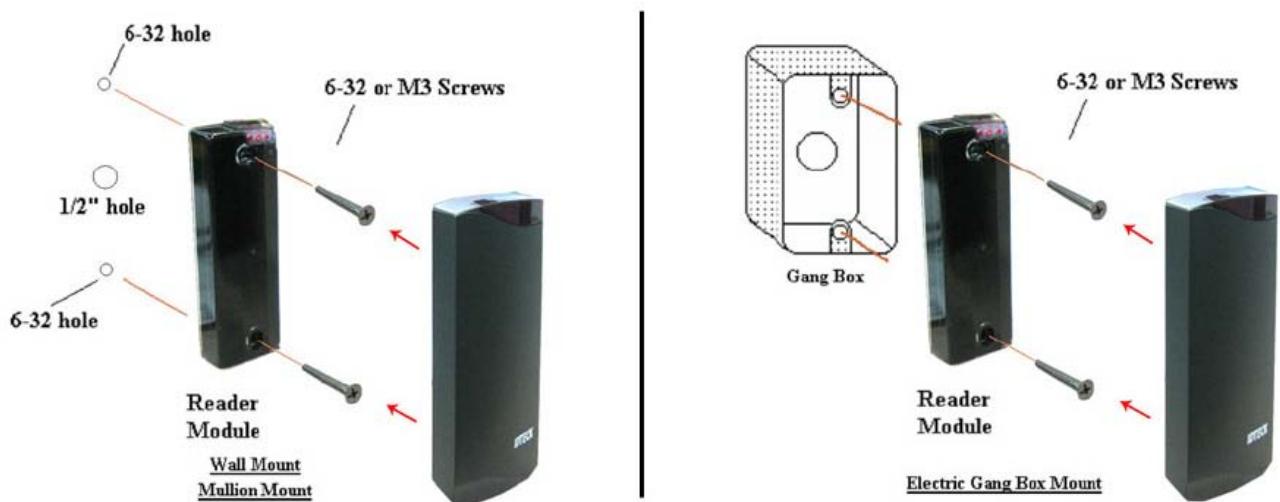
  6-4. Installation consideration
    6-4-1. Installation of SR10 on metal Read range will be reduced if located on
        metal surfaces or in the vicinity of metal objects. The amount of
        reduction will be a factor of the amount of metal and the distance the
        Reader is from the metal. Metal near the Reader absorbs energy from
        the Reader excite field and affects the signal being received from the
        card by re-directing excite field transmissions into the receiver circuitry.
        Moving the Reader away from the metal objects reduces energy loss.
        Try to limit the amount of metallic materials installed near the SR10.
        Use a plastic electrical box if possible. When installing the Reader on
        metal door frame, add Isolation Spacers between the Reader and metal
        door frame. If you do so, read range reduction can be improved. The
        typical read distance specification (2-4 inches at 12VDC) refers to

operation without metal in the vicinity of the Reader. The read distance will be reduced if metal is installed nearby. The SR10RW generate a magnetic field on all sides of the Reader. Any metal that conducts electricity, especially metal that contains iron, steel or copper will interfere with the field and reduce the effective spacer between the Reader and the metal object.

Metal Frame

Spacer
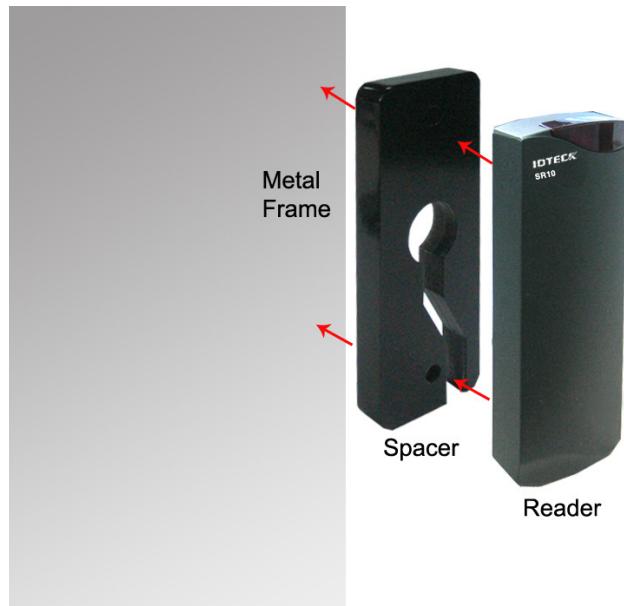
Reader

① Installation of two readers side by side and back to back Read range is not affected if the side by side distance between two readers is equal to or greater than eight inches (20cm). If the distance between the two readers is less than eight inches (20cm), field interference between the two readers may result in a double-badge read.

> **Note** Two readers can simultaneously read the same badge or tag if the distance between the two readers is less than 8 inches (20cm), side by side.

When installing two readers back-to-back on a wall that will separate the two readers by eight inches (20cm) or less, a metal plate (for example: Reader isolation plate, metal wall) must be placed between the readers. To obtain the maximum read range, mount each proximity reader onto one or more Isolation Spacers.

> **Note** Two readers can simultaneously read the same badge or tag if the distance between the two readers is less than 8 inches (20cm), back-to-back.

BACK TO BACK
INSTALLATION

SIDE BY SIDE
INSTALLATION
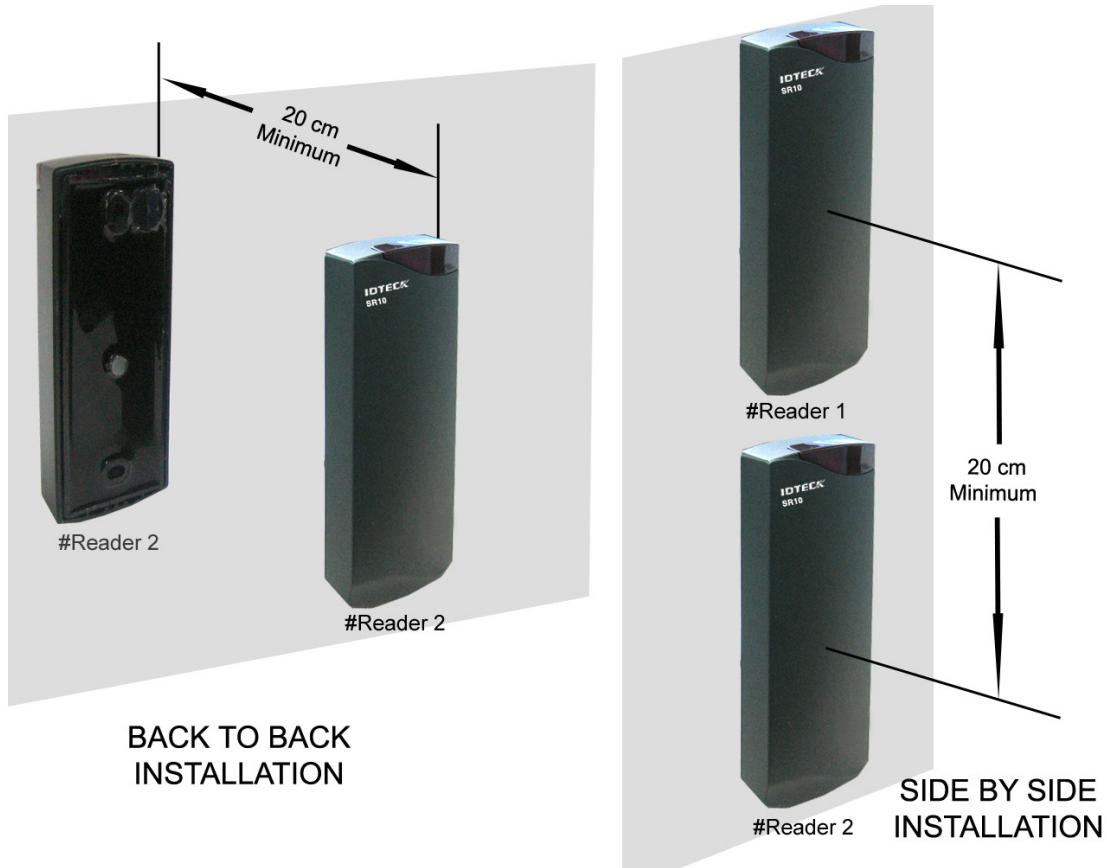
7. Wire Color Table

8. Output Format

SIGNAL	COLOR
Main Power (+12V)	Red
Power Ground (GND)	Black
Wiegand Data 0 Out	Green
Wiegand Data 1 Out	White
Buzzer Control In	Blue
LED Control In	Yellow
* Please cut out tail connector before installation.	

8-1. 34/26bit Wiegand Output Format

1.   **1. Data format**
2.   **2. Timing diagram**

26bit Wiegand output format		34bit Wiegand output format	
Bit 1	Even parity of bit 2 ~ bit 13	Bit 1	Even parity of bit 2 ~ bit 17
Bit 2～9	Facility code (000 ~ 255)	Bit 2～25	4byte ID number (0000000001 ~ 4,294,967,295)
Bit 10～25 • ID number (00000 ~ 65,535) ID number (00000 ~ 65,535)			
Bit 26	Odd parity of bit 14 ~ bit 25	Bit 34	Odd parity of bit 18 ~ bit 33

Space (=0)

+15V

0 1 0 0 0 0 0 1 0

+3V

0V

-3V

Indeterminate
Region

Mark (=1)

-15V

Start Bit

8 Data Bits

2 Stop Bits

Data packet corresponding to ASCII character 'A'
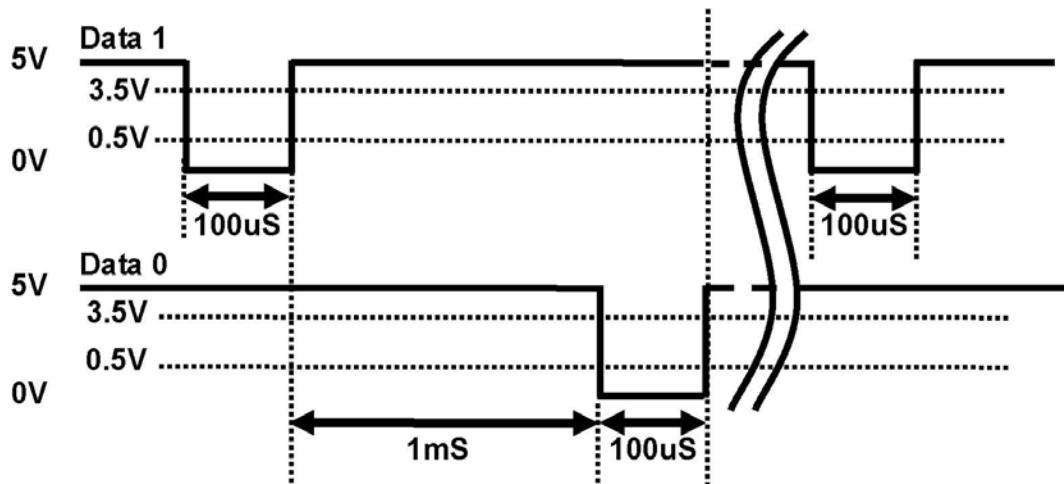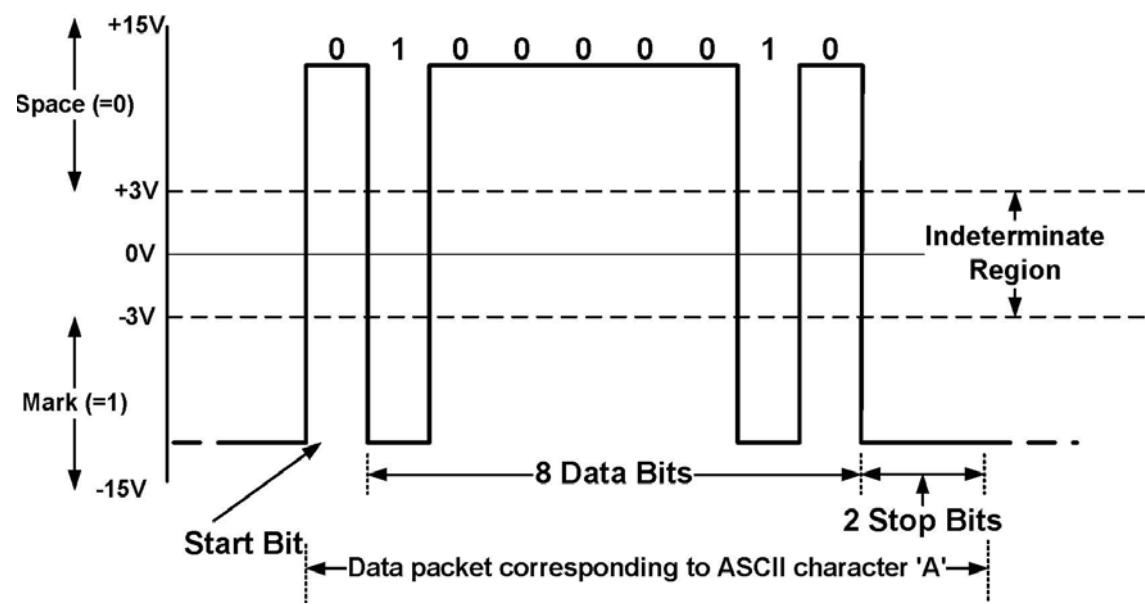
9. Wire Connection to Access Controller

Access Controller	
Main Power (+12V)	Red
Power Ground (GND)	Black
	Orange
Wiegand Data 0 Out	Green
Wiegand Data 1 Out	White
Buzzer Control In	Blue
LED Control In	Yellow
	Gray
	Purple
Not Connect	Brown

10. Operation

10-1. Apply power and you can see the 3-Array red LED is on, indicating the reader is on 'Standby '.

10-2. Present a proximity card to the reader until you hear a beep sound and the LED changes the color to green simultaneously and the reader sends the RF card data to the controller. Then the LED changes the color to red again for next reading. All 3 LEDs are off when you have access to card and then are on orderly from left.

10-3. LED Control: To be off the LEDs, you may connect the LED Control Input (Yellow wire) to the power ground. Then the green LED is on. Present a proximity card. The LED changes the color to red simultaneously, then to green again for next reading. All 3 LEDs are off when you have access to card and then are on orderly from left.

10-4. Buzzer Control: When the reader reads a proximity card, only one beep sound generates in normal operating mode but you can generate more beep sounds to distinguish whether the access is granted or denied. To generate more beeps, you may control the Beeper Control Input (Blue wire) to the power ground, then you can turn the beeper on while you hold the Beeper Control Input to the power ground.

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 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.

12. Warranty and Service

The following warranty and service information applies only to the United States of America and Republic of Korea. For the information in other countries, please contact your local distributor. To obtain in or out of warranty service, please prepay shipment and return the unit to the service facility listed below.

Headquarters: IDTECK Co., Ltd.
5F Ace Techno Tower B/D,
684-1 Deungchon-Dong, Gangseo-Gu,
SEOUL, KOREA 157-030
Tel: +82-2-2659-0055
Fax: +82-2-2659-0086
E-mail: webmaster@idteck.com
Website: www.idteck.com

U.S Branch: RF Logics Inc.370 Amapola Ave, #106
Torrance, CA 90501
Tel: 310-782-8383
Fax: 310-782-8298
E-mail: rflogics@rflogics.com
Website: www.rflogics.com

Hong Kong Branch: IDTECK Hong Kong
12/F, B2B Centre, No.36 Connaught Road West, Hong Kong
Tel: 852-2581-9580
Fax: 852-2234-5150
E-mail: alchu@qala.com.hk
Website: www.ristarhk.com

Please use the original container, or pack the unit(s) in a sturdy carton with sufficient packing to prevent damage, include the following information:
1. 1. A proof-of-purchase indicating model number and date of purchase.
2. 2. Bill-to address.
3. 3. Ship-to address.
4. 4. Number and description of units shipped.
5. 5. Name and telephone number of person to contact.
6. 6. Reason for return and description of the problem.

NOTE: Damage occurring during shipment is deemed the responsibility of the carrier, and claims should be made directly to the carrier.

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

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