

SR2-X

Proximity, Wiegand & Mifare Card Reader with Remote Control



User Manual

INTRODUCTION

The SR2-X is a compact, weather resistant multi-function card reader that can be used as a standalone programmable access control card reader as well as a Wiegand output card reader providing proximity entry for up to 1000 users, (987 common users, 2 panic users, 10 visitor users & 1 x Authorized user) PIN access is also possible via the remote control unit for the Administrator and all user data can be transferred from one unit to another within 3 minutes (Maximum connection is 9 units)

It reads both EM 125KHz & Mifare Classic 13.56MHz card or key fob. It uses Atmel micro controller to ensure maximum performance in any environment, and the low-power circuit makes its service life prolonged

The SR2-X's unique feature is simple in design, easy to operate/program, and high reliability

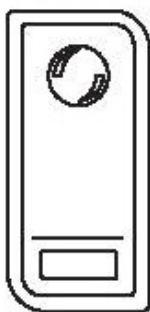
Features

- Weather resistant to IP66
- Reads 125KHz EM & 13.56MHz Mifare card or key fob
- One programmable relay operation
- Pulse mode, Latch mode relay operation
- Remote infrared programmer
- Master Add/Delete card
- 1000 users (987 common users, 2 panic users, 10 visitor users & 1 x Authorized user)
- User data can be transferred from one unit to another
- Wiegand 26-44 bit input & output
- Card block enrolment
- Tri-colour LED status display
- Built in light dependent resistor (LDR) for anti tamper
- Buzzer for audible or silent mode
- Low temperature resistance (-40°C)

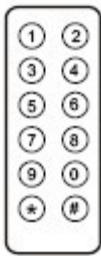
Specifications:

User Capacity Card/key fob	1000 EM card and Mifare card
Operating Voltage Idle Current	12-18V DC <35mA
Proximity Card Reader Radio Technology Read Range	EM & Mifare 125KHz & 13.56MHz Proximity Card 2-6cm
Wiring Connections	Relay Output, Exit Button
Relay Adjustable Relay Output Time Lock Output Load	One (NO, NC, Common) 1-99 Seconds (5 seconds default) 2 Amp Maximum
Environment Operating Temperature Operating Humidity	Meets IP66 -40°C - 60°C 20%RH-98%RH
Physical Colour Dimensions Unit Weight Shipping Weight	ABS Shell Black H:102 W:48 D:20mm 150g 250g

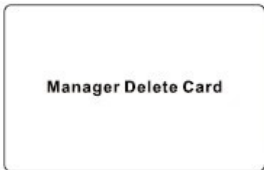
Package Contents



SR2-X Card Reader



Infrared Remote Control



Master Add/Delete card & 10 x EM-RFID user cards or key fobs



Diode IN4004 (For relay circuit protection)



Self Tapping Screws: 3*25mm



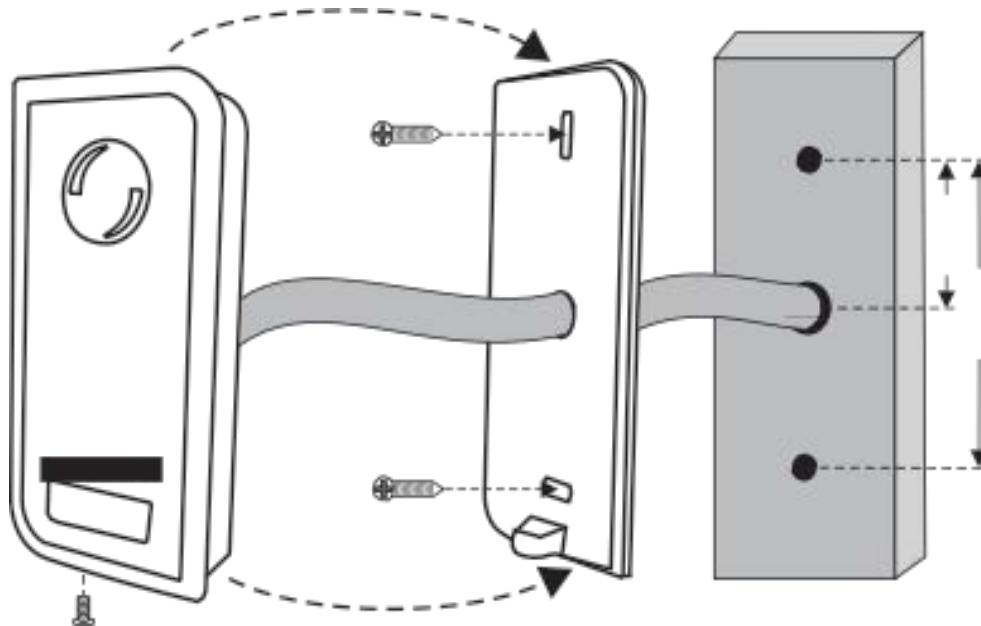
Wall Anchors



Screw Driver

INSTALLATION

- Remove the back cover from the unit
- Drill 2 holes (A,C) on the wall for the screws and one hole for the cable
- Knock the supplied rubber bungs to the screw holes (A,C)
- Fix the back cover firmly on the wall with 4 flat head screws
- Thread the cable through the cable hole(B)
- Attach the unit to the back cover

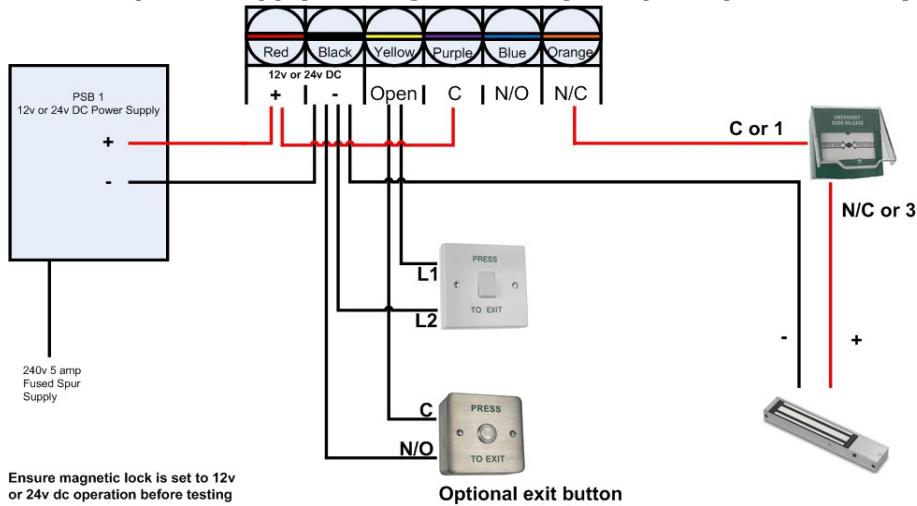


Wiring cable

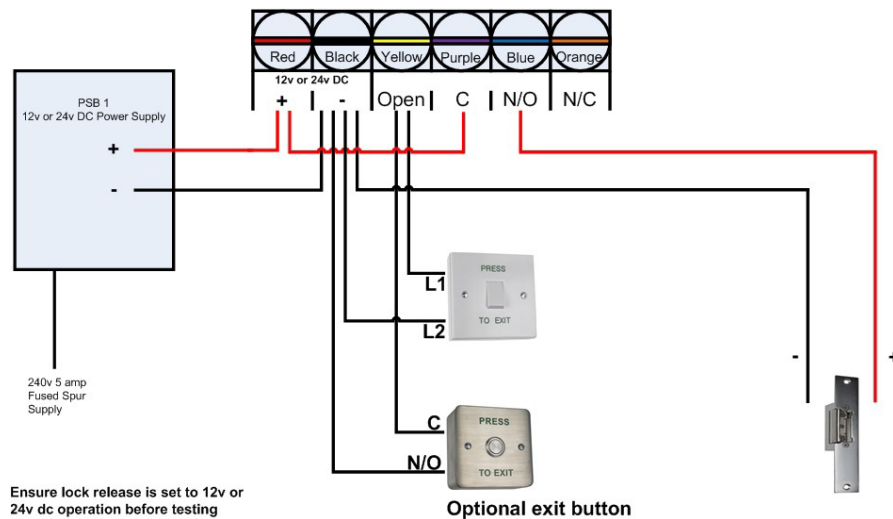
Wire Insulation Colour	Function	Notes
Red	Power	12-18 Volts DC Power input
Black	GND	Ground
Blue	NO	Normally open relay output
Purple	COM	Common connection for relay output
Orange	NC	Normally closed relay output
Yellow	OPEN	Request to exit input (REX)
Green	Data 0	Wiegand output Data 0
White	Data 1	Wiegand output Data 1
Grey	Alarm output	Negative output for alarm
Brown	Contact input	Door/gate input (Normally closed)

Connection Diagram Examples

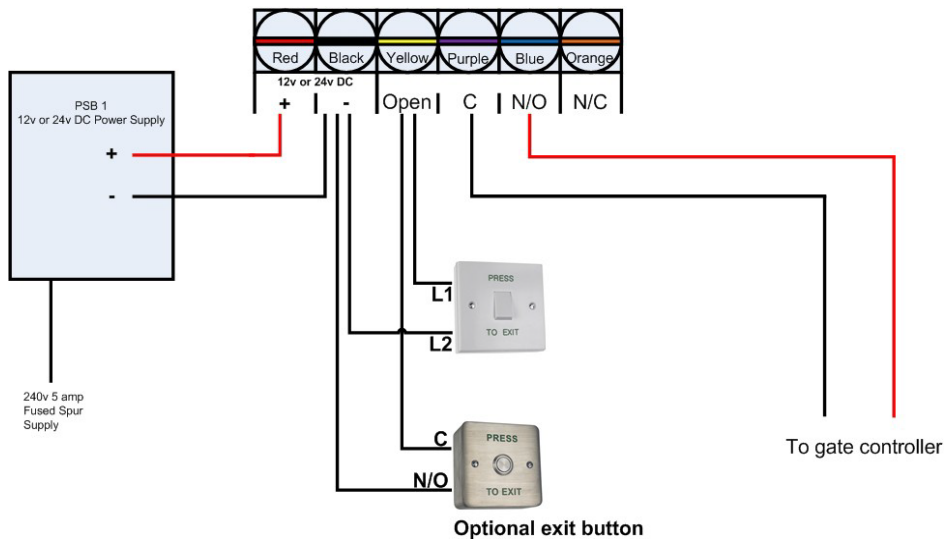
Common power supply for magnetic lock (Fail open – power to lock)



Common power supply for lock release (Fail secure – power to unlock)



Common power supply for auto gate controller (using Normally Open contact)



PROGRAMMING

Programming will vary depending on your access configuration. Please follow the instructions according to your access configuration

General Programming Information – Two ways

- **1) Remote Control:** Please use the Infrared Remote Control to program the Reader. The infrared receiver head is near the LED, so when you program the reader, please direct the Remote Control to the LED (**Factory default code: *123456#**)
- **User ID number:** Assign a User ID to the access card/key fob in order to easily delete it via the remote control in the event it becomes lost
The common user ID number can be any number from 0-986. **IMPORTANT:** User ID's do not have to be preceded with any leading zeros, Recording of User ID's is crucial. Modifications to the user requires the User ID to be available

2) Master Add/Delete Card to add or delete any:

- **Proximity Card:** 125KHz industry standard EM-RFID or 13.56MHz Mifare proximity card or key fob

Sound and Light indications

Operation Status	Led Colour	Buzzer
Stand by	Red light bright	-
Enter into programming mode	Red light shines	One bleep
In the programming mode	Orange light bright	One bleep
Operation error	-	Three bleeps
Exit from the programming mode	Red light bright	One bleep
Open lock	Green light bright	One bleep
Alarm **	Red light Shines quickly	Continual bleeps

**** Please see Reset Procedure for ALARM (Page 12)**

Easy way

Add cards/key fobs by using the Master Add/Delete Card

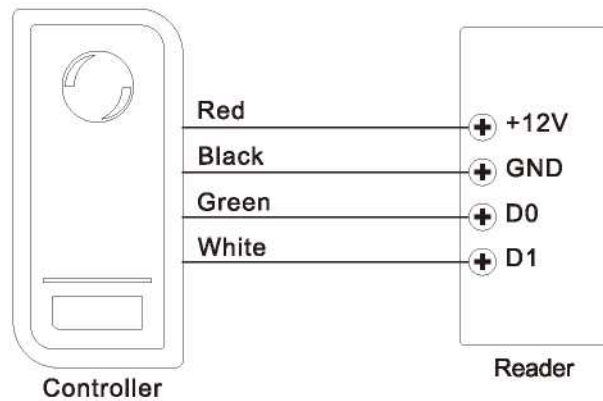
Programming Step	Action
1. Present the Master Add/Delete Card once	Present the user card/key fob to be added Re-present the Master Add/Delete Card to confirm

Delete cards by using the Master Add/Delete Card

Programming Step	Action
1. Present the Master Add/Delete Card twice	Present the user card/key fob to be deleted Present the Master Add/Delete Card to confirm

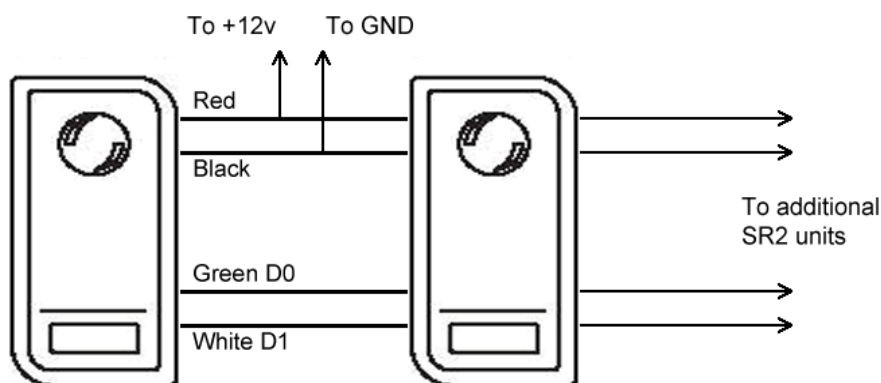
Connection to a 3rd party Wiegand controller or our PC access control system AC8001/2

Set Operation Mode – Stand-alone or Wiegand (Default is stand-alone)



Programming Step	Remote Control Operation
1. Enter Program Mode	* (Master Code) #
2. Stand-alone Operation	77 # is factory default for stand-alone
3. Wiegand Reader Operation	78 #
4. Exit Program Mode	*

User data transfer connection (1 x power supply and 9 x SR2-X units)



Set User Data Transfer

Programming Step	Remote Control Operation
1. Enter Program Mode	* (Master Code) #
2. Set Transfer Data on the first SR2-X For all 1000 users, this will take 3 minutes	98 # Within 3 minutes the green LED will shine, after 1 x bleep the LED will turn red to confirm data transfer
3. Exit Program Mode	*

Enter and Exit Program Mode Via the Remote Control

Programming Step	Remote Control Operation
1. Enter Program Mode	* (Master Code) # Factory default is 123456
2. Exit Program Mode	*

Set New Master Code Via the Remote Control

Programming Step	Remote Control Operation
1. Enter Program Mode	* (Master Code) #
2. Enter New Master Code	0 (New Master Code) # (Repeat new Master Code) # Must be a 6 digit number
3. Exit Program Mode	*

Add User Cards Via the Remote Control

Programming Step	Remote Control Operation
1. Enter Program Mode	* (Master Code) #
2. Add Card: Using Auto ID number (Allows the SR2-X to assign Card to next available User ID number) OR 3. Add Card: Select Specific ID number (Allows manager to define a specific User ID to associate the card to) OR 4. Add Card: by Card Number OR 5. Add Card: Block Enrolment (Allows the master card to add up to 986 cards in a single step – this takes 2-3 minutes)	1 (Present Card) # Repeat Step 2 for additional user cards 1 (User ID) # (Present Card) # The user ID is any number from 0-986 1 (Input the 8/10 digit Card number) # 1 (User ID) # (Card Quantity) # (The first card number) # Card or fob number MUST be consecutive
6. Exit Program Mode	*

Add User PIN Code via the Remote Control

Programming Step	Remote Control Operation
1. Enter Program Mode	* (Master Code) #
2. Add PIN: Via remote controller OR 3. Add PIN to define a specific User ID number	1 (Enter PIN number, 4-6 digits) # 1 (User ID) # (Enter PIN number, 4-6 digits) # The user ID is any number from 0-986
4. Exit Program Mode	*

Add Authorized User Via the Remote Control

Adding an Authorized User PIN code or user card will block all other users from access. Re-enter or present the Authorized PIN code or card will re-allow user access. The USER ID number must be 987 for this function to operate

1. Enter Program Mode	* (Master Code) #
2. Add PIN: Via remote controller OR 3. Add Card	1 (Enter User ID 987) # (Enter PIN number, 4-6 digits) # 1 (Enter User ID 987) # (Present Card) #
4. Exit Program Mode	*

Add Visitor Users via the Remote Control

Up to 10 Visitor Users can be added and allowed no more than ten times of usage until they are automatically invalid. The USER ID numbers must be 990-999 for this function to operate

Programming Step	Remote Control Operation
1. Enter Program Mode	* (Master Code) #
2. Add PIN OR 3. Add Card	1 (User ID) # (0-9) # (Enter PIN number, 4-6 digits) # 1 (User ID) # (0-9) # (Present Card) # The user ID numbers must be from 990-999 (0-9) Means the number of usage times – 0=10 times
4. Exit Program Mode	*

Delete User Cards or PIN code Via the Remote Control

Programming Step	Remote Control Operation
1. Enter Program Mode	* (Master Code) #
2. Delete Card/PIN: By read card OR 3. Delete Card: By User ID number OR 4. Delete Card: By Card Number OR 5. Delete all users	2 (Present Card/Or enter Pin code) # Repeat step 2 for additional user cards before pressing the # 2 (Enter user ID number) # The user ID is any number from 0-986 2 (Input the 8/10 digits Card number) # 2 (Master Code) #
6. Exit Program Mode	*

Set Relay Configuration Via the Remote Control

The relay configuration sets the behavior of the output relay on activation

Programming Step	Remote Control Operation
1. Enter Program Mode 2. Pulse Mode OR 3. Latch Mode	* (Master Code) # 3 (1-99) # The relay time is 1-99 seconds. (1=50ms) Default is 5 seconds 30 # Sets the relay to ON/OFF Latch mode
4. Exit Program Mode	*

Set Strike-out Alarm

The strike-out alarm will sound after 10 failed card attempts (Default setting is OFF). It can be set to deny access for 10 minutes after engaging or disengage only after entering a valid card/PIN or Master Code/Card

Programming Step	Remote Control Operation
1. Enter Program Mode	* (Master Code) #
2. Strike-Out OFF OR 3. Strike-Out ON OR 4. Strike-Out ON (Alarm) Set alarm time	60# (Factory default is OFF) 61# Access is denied for 10 minutes 62#, 5 (0-3) # (Factory default is 1 minute) Enter Master Code # or present the Master Card or enter valid user card/PIN to silence
5. Exit Program Mode	*

Set Audible and Visual Response Via the Remote Control

Programming Step	Remote Control Operation	
1. Enter Program Mode	* (Master Code) #	
2. Control tone sounds OR 3. Control LED's	OFF = 70 # OFF = 72 #	ON = 71 # ON = 73 # (Factory default is ON)
4. Exit Program Mode	*	

Reset Procedure

Reset Alarm:

The alarm will sound for 3 minutes. To reset, present a valid user card or enter *** (Master Code) #** via the remote control

Reset to Factory Default:

To reset to factory default, power off, press the Exit Button or short circuit the Black (GND) and Yellow (Open) wires, and then power on, there will be two bleeps, and the LED light will turn orange, keep this condition until you hear a long bleep after 10 seconds. The LED will turn red to confirm factory default is successful

Note: Reset to factory default, the user's card/key fob information is still retained

Reset to Factory Default to add a new Master Card:

To reset to factory default, power off, press the Exit Button, or short circuit the Black (GND) and Yellow (Open) wires, and then power on, there will be two bleeps, and the LED light will turn orange

Release the exit button or the Black (GND) and Yellow (Open) wires, then present any 125KHz EM or 13.56MHz card or key fob and the LED will turn red to confirm factory default is successful

Note: Reset to factory default, the user's card/key fob information is still retained

The SR2-X's alarm trigger is activated by an LDR (Light Dependent Resistor) which is located to the rear left side of the unit as illustrated below

The alarm function is designed as an 'Anti-Theft' facility which cannot be disabled but it can be stopped by presenting a valid card or key fob to the reader or entering the Master Code followed by the # sign via the remote

Alternatively, you can prevent the alarm from activating by covering the LDR with a non-light absorbent substance. Black paint or a small amount of 'Blu-Tack' will work perfectly fine



This is the LDR (Light Dependent Resistor). The LDR is the SR2's Alarm Trigger Sensor and activated by light