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R510 Series NFC Reader
Installation Manual

1.1 R510 Series NFC Reader Overview

The R510 Series NFC Readers are a new generation NFC reader. The R510 Series NFC reader can read a wide range of contactless smart card covering single size UID card to double size UID card. Card ID data can be output via RS485, wiegand. Three models are available to cater for various modes of security and operation needs.

Model	Keypad	RGB LED	Speaker
R512	n/a	yes	yes
R512k	yes	yes	yes

Table 1 Model Components

1.2 Reader Wiring and Color Code

Table 2 show Cable color of the reader and it function description

Terminal Point Label	Description	Cable Color
Dev+	RS485+	Blue
Dev-	RS485-	Grey
+V	+12VDC	Red
GND	DC Ground	Black
D0	Wiegand Data 0	White
D1	Wiegand Data 1	Green
ERL	Red LED	Brown
OKL	Green LED	Orange
BUZ	Buzzer	Yellow

Table 2 Wiring and Cable Color code

1.3 Installation and Mounting Instruction

Identify the reader mounting location. The reader may install onto any surface, including metal.

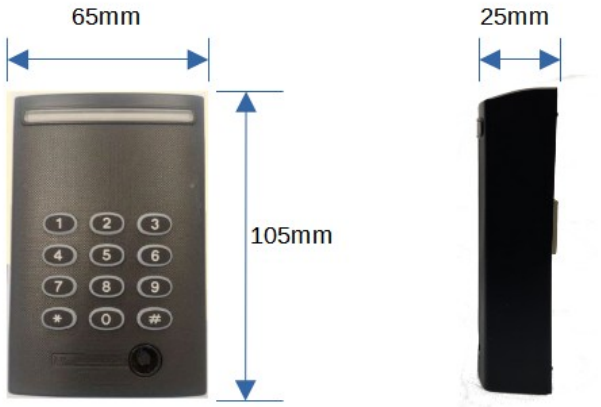
Remove the snap on cover and use the reader as a template, draw the mounting hole position onto the mounting surface. Drill 2 appropriate holes to install the reader.

Drill a 25mm hole for the cable.

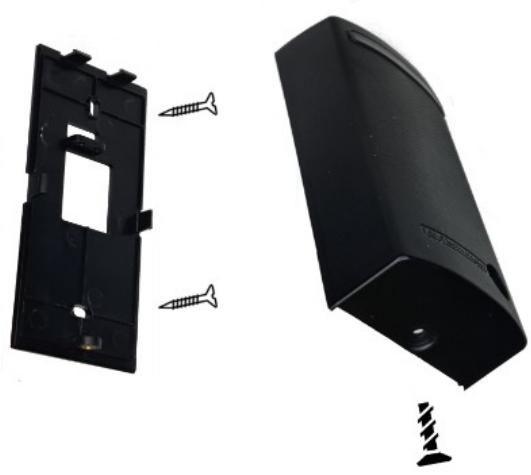
Connect the external (site) cable to the terminal block on the reader according to the wiring code below. Double-check the wiring connection.

Replace the snap on cover and tighten it with the screw provided.

Switch on the power to test the reader and observe.

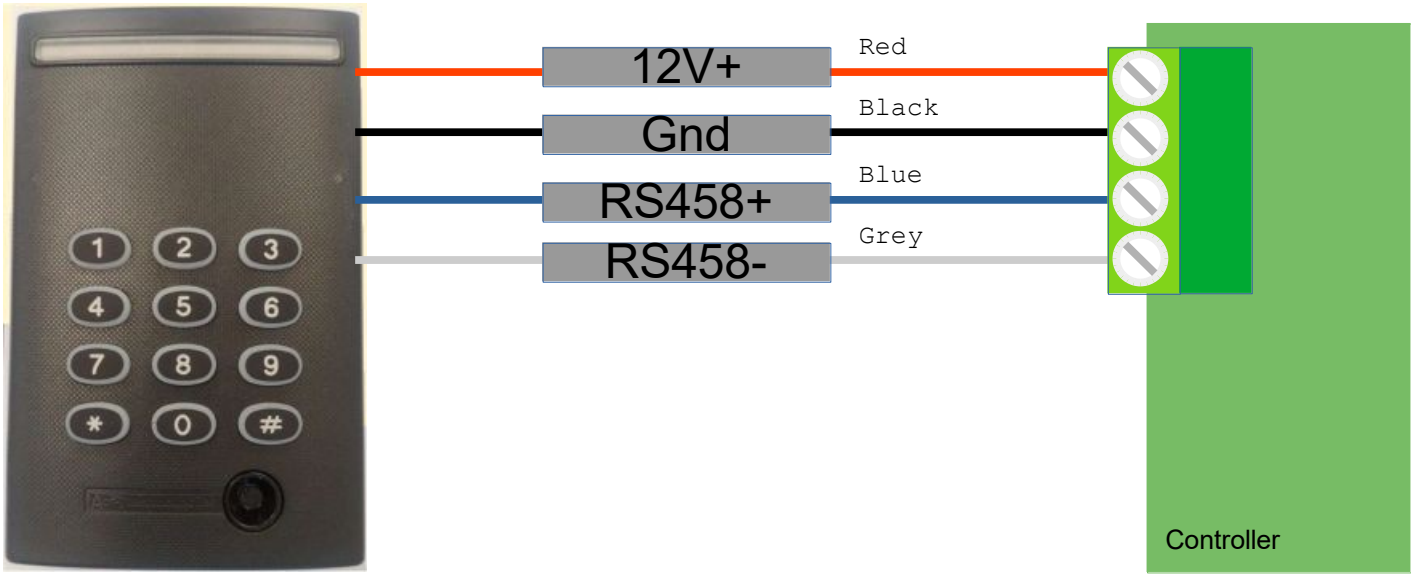


Physical Dimension

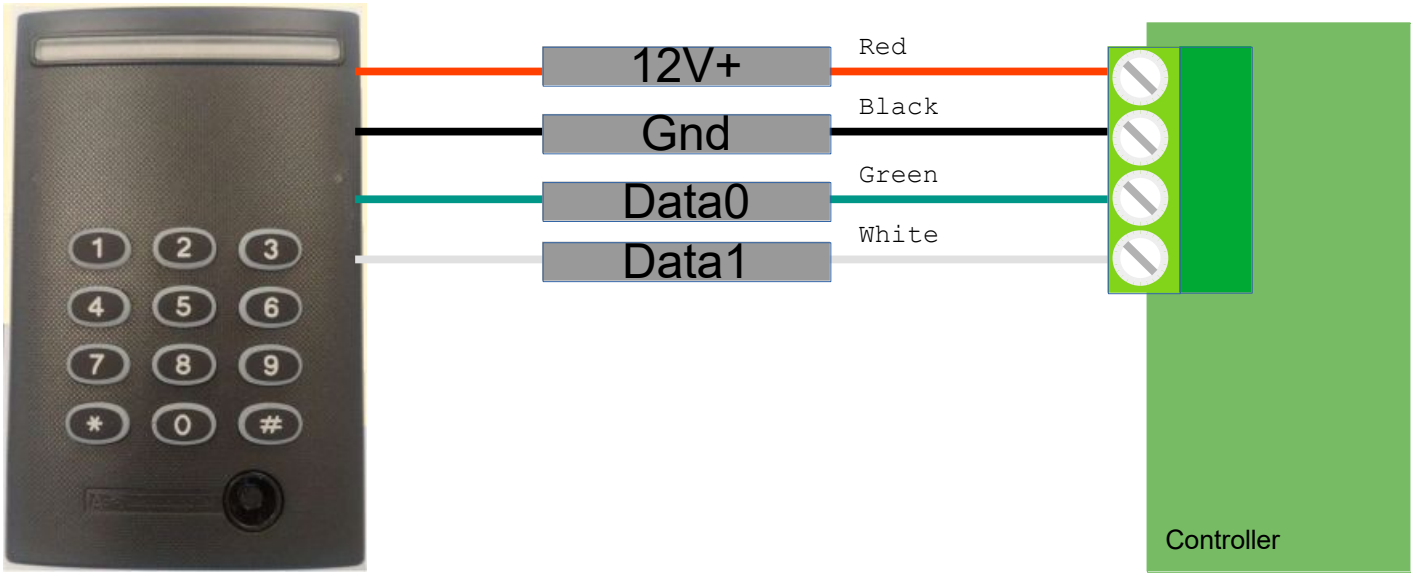


Mounting

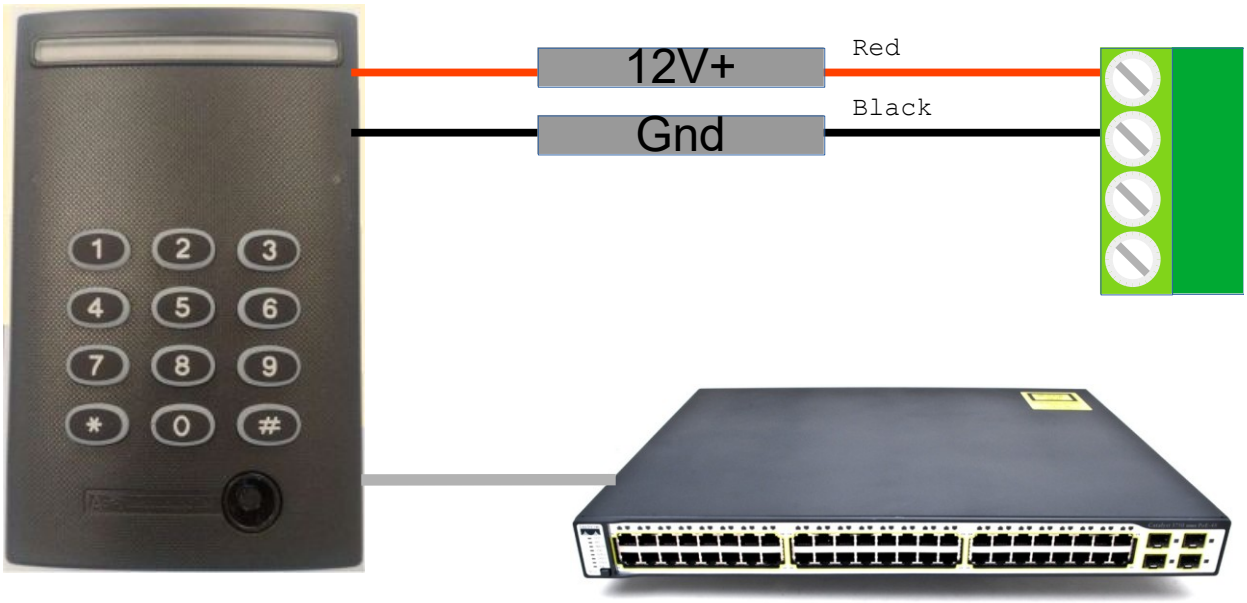
1.4 Reader Connectivity to Controller

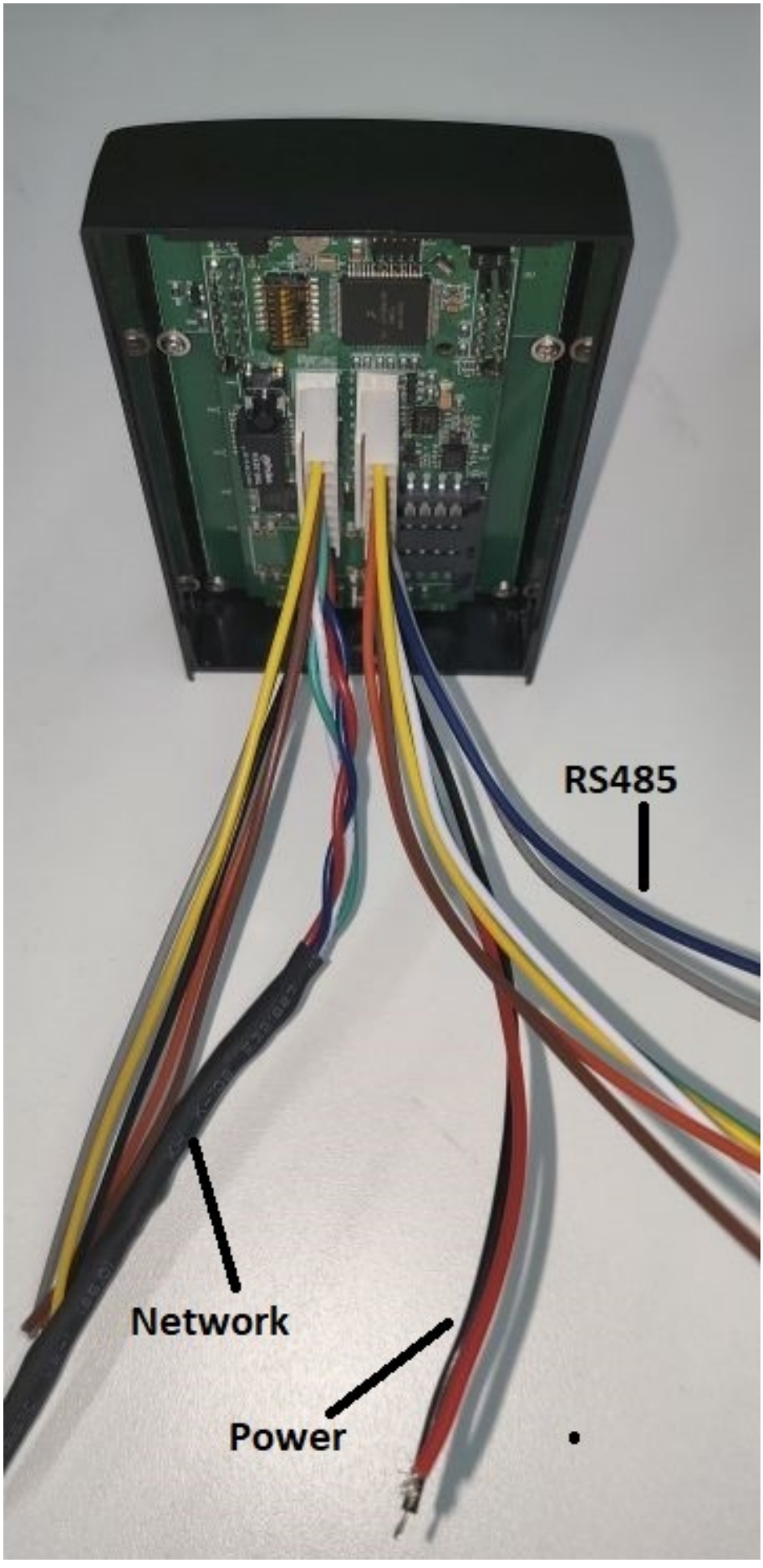


RS485



Wiegand


12V+
Gnd
Red
Black
1
2
3
4
5
6
7
8
9
*
0
#


RS485
Network
Power

1.5 Operation Guide

Reader access via following operation.

R510 NFC card access

Bring the card in parallel to the R510 reader for a maximum read range. The Reader will read Card for door access function.	

1.6 Package List - R510 Reader

Item Description Qty. Complete with snap on cover 1 Mounting cover screw.

1.7 Product Electrical Specification

Power Supply (Recommend)	Regulated linear power supply, +12VDC, 300mA
Operating Voltage Range	+9VDC - + 24VDC
Operating Current at +12VDC	85mA (average) – 185mA (peak)
Maximum Cable Distance	150meters (500feet) (base on Belden 9538 24AWG 0.6mm, 8 core cable foil shield) (for wiegand interface) (base on Belden 9534 24AWG 06.mm, 4 core cable foil shield) (for RS485 interface)
Read Range	<=50mm (2”) (Read Range is dependent on local installation conditions)
Transmit Frequency	13.56MHz
LED	9RGB LED
Light sensor	Infra red
Speaker	Polyphonic
Operating temperature Range	-20^{o}C to 50^{o}C (-22^{o}F to 150^{o}F)
Colour	Black
Material	ABS
Weight	350 grams
Dimension	105mm (Height) X 65mm (Width) X 25mm (Thickness)
Wire Termination	9 conducting wire at length approx. 300mm
Reader Mode	Card Only, Card and PIN, Phone
PIN Input	1 – 6 Digits (R512K)
Keypad	3 x 4 Keys (R512K)
Communication Interface	RS485 or Wiegand (Selectable)
Wiegand interface Output bit	26, 32, 37, 40, 56, 80, 168(Asis) bits format and 8-digit 32, 37, 40

format	bits format
Support Card Type	Mifare (ISO 14443-A, ISO 14443-B)
EZ-Link	Output CAN or CSN (Selectable)
Mounting	Hook On Bracket

FCC Statement

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 provide reasonable protection against harmful interference in a residential installation. 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 equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

•Reorient or relocate the receiving antenna.

•Increase the separation between the equipment and receiver.

•Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

•Consult the dealer or an experienced radio/TV technician for help.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

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.

RF Exposure Information

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.