www.asis-technologies.com

R300 Series NFC Reader
User Manual

Document History

Description
Mar 2017 Revision 1

Federal Communication Commission Interference 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 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.

FCC Caution: To assure continued compliance, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. (Example - use only shielded interface cables when connecting to computer or peripheral devices).

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.

Contents

1.1 R300 Series NFC Reader Overview

The R300 Series NFC Reader is a weather proof, high heat ABS NFC card reader. The R300 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 industry standard Wiegand or Asis Proprietary RS485.

1.2 Reader Wiring and Color Code

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

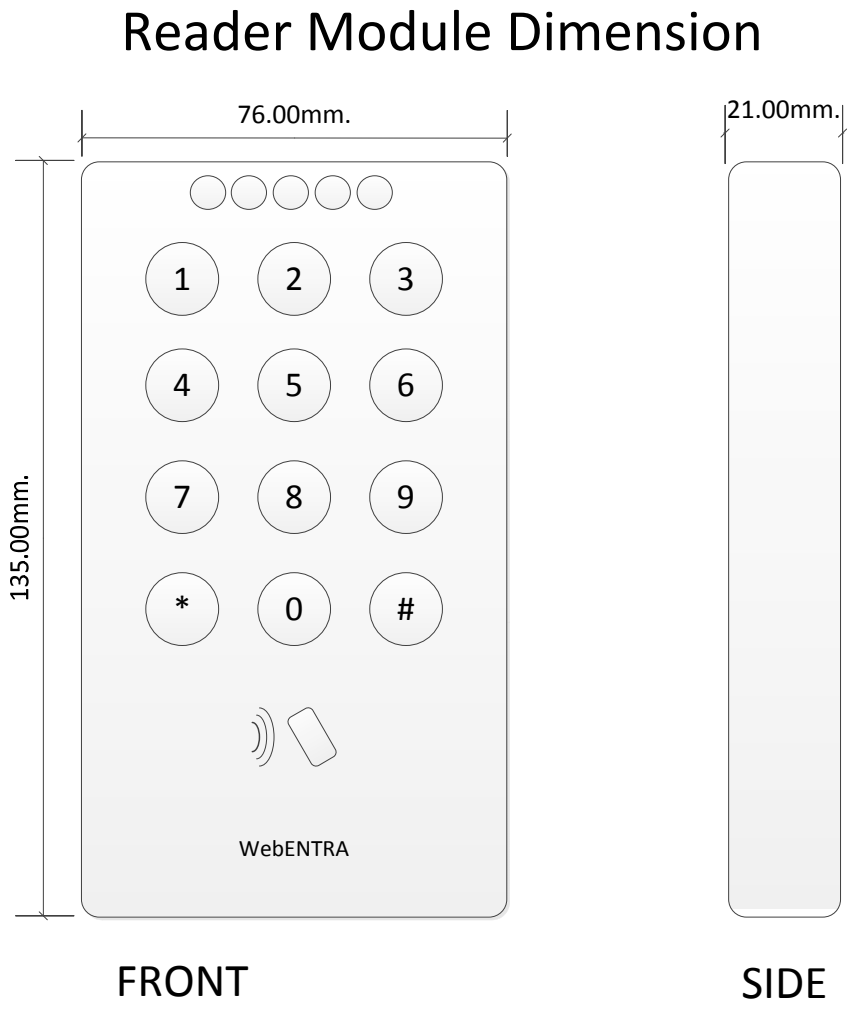
Table 2 Wiring and Cable Color code

1.3 DIP Switch Setting (See table 4,5 for detail)

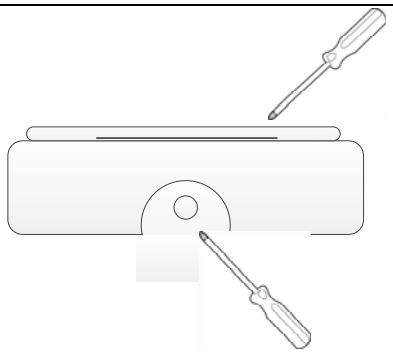
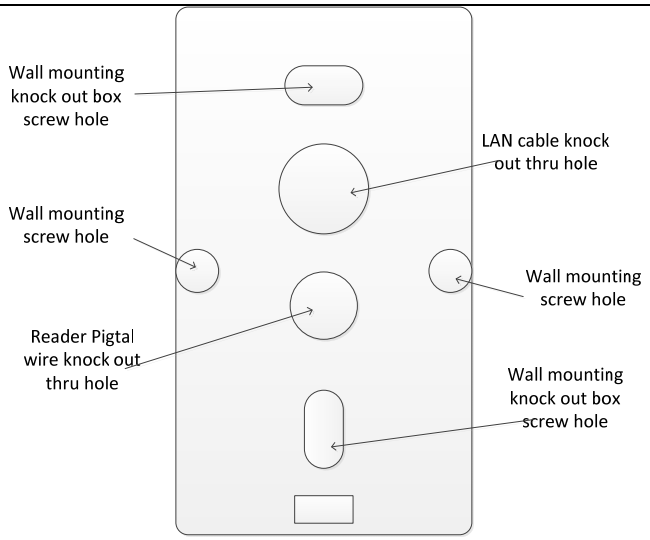
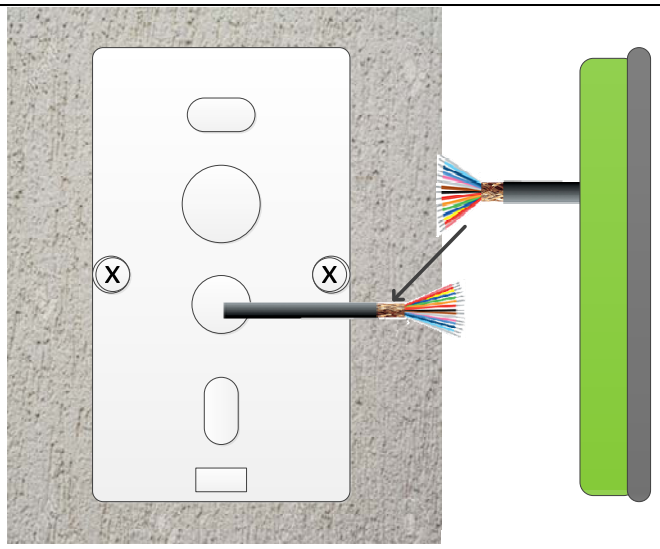
BIT	1	2	3	4	5	6	7	8
Function (RS485)	ADDRESS BIT				MODE and Data Out BIT			TEST BIT
	bit 0	bit 1	bit 2	bit 3	Off-Wiegand On- RS485	Off- 8 byte On -4 byte	Off – CSN On - CAN	Off – Run On - Testing
Function (Wiegand)	Card format Setting							

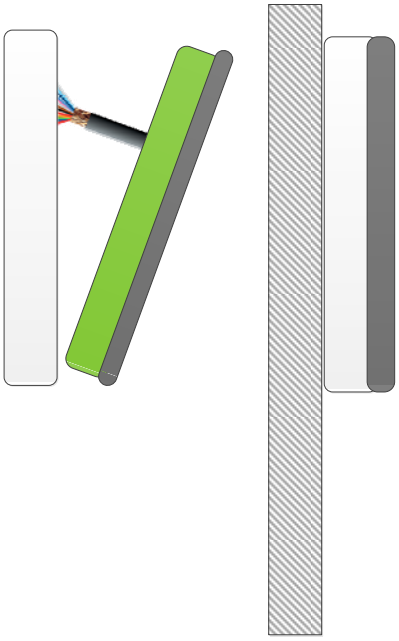
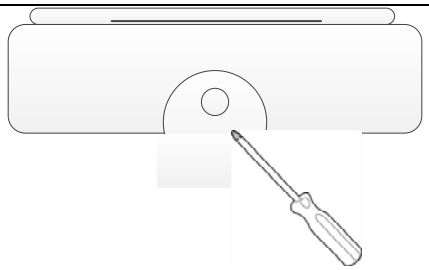
Table 3 Dip Switch function explain

1.4 Dimension



1.5 Installation And Mounting Instruction

Remove Bottom Screw **Ply open the front cover using flat head screw driver remove the front of the unit.** **Remove the front of unit**	
Mark out reader base (reader wire pigtail) and (wall mounting hole) drill hole on the wall for mounting reader.	
Half tighten wall mount screw. **Terminate reader pigtail cable to cable from controller. Tighten wall mount screw**	

Reinsert reader front to base by set the bottom. Align reader pigtail cable accordingly. Push to front top to snap into the base.	
Tighten bottom screw	

1.6 Operation Guide

Keeping the card in parallel to the R300 reader a maximum read range can be obtained. The Reader will still be able to read Card when the card is presented at an angle but this will result in the reducing of read range.

Card and PIN operation (Model 303)

a) When the Green Led is blinking after presenting card, the means that PIN is request. Key in PIN and follows by “#” key

b) Key in PIN + 1 for PIN DURESS (Example PIN is 1234, for duress activation, key pin 1235) Note that the maximum PIN is up to 6 digit. When the reader is powered-up, the LED and the Buzzer will respond.

c)

Description	Buzzer response (R300/R303)	LED Response (R300/R303)
a) Upon Power Up the Reader **N is setting on the DIP switch.	The buzzer will beep (N+1) time accord to the DIP switch setting	Reader's Amber LEDs Blink (N+1) times
b) Reader Ready	Silent	Red LED always 'ON' Green LED Short blink at every 3 secs interval

Access Grant	Buzzer Beep once	Green LED Blink once
Access Denied	Buzzer Beep once	Red LED Blink once
Access Invalid	Buzzer Beep once	Red LED Blink once
Door Open Too Long	Buzzer Beeping	Red LED Blinking
Door Force Open	Buzzer Beeping	Red LED Blinking
Free Access	Silent	Green LED ON
Door Locked	Silent	Red LED ON
Fire Activated	Buzzer Beeping	Red LED Blinking
Box Tamper	Buzzer beeping	Red LED Blinking
Pin Mode	Buzzer beeping	Green LED Blinking
Pre-Alarm	Buzzer beeping	Red LED Blinking

			BIT				
	Reader	Hex address	1	2	3	4	5 ~ 8
Function (RS485) BIT Address	1	80	Off	Off	Off	Off	Refer to above table
	2	81	On	Off	Off	Off	
	3	82	Off	On	Off	Off	
	4	83	On	On	Off	Off	
	5	84	Off	Off	On	Off	
	6	85	On	Off	On	Off	
	7	86	Off	On	On	Off	
	8	87	On	On	On	Off	

Table 4 RS485 Readers Address Dip Switch Setting

	BIT	1	2	3	4	5~8
Function (Wiegand) Card format	26bit	off	off	off	off	Refer to above table
	32bit	on	off	off	off	
	32bit(8bit)	off	on	off	off	
	34bit	on	on	off	off	
	37bit	off	off	on	off	
	37(8digit)	on	off	on	off	
	40bit	off	on	on	off	
	40bit(8digit)	on	on	on	off	
	56bit	off	off	off	on	
	64bit	on	off	off	on	
	80bit	off	on	off	on	
	168bit(ASIS)	on	on	on	on	

Table 5 Wiegand bit format Dip Switch setting

Note : Since the Contactless SmartCard CSN is 32 bit can be up to 10 digits decimal when converted. This is the solution to truncate the CSN and provide a result that once converted, it only give maximum of 8-digit decimal. The 37 bit odd and even priority bit is a result of getting the first and second half of total bit length.

1.7 Package List – R300 Reader

Item Description: Complete with snap on cover. 1 x Mounting cover security screw [M3], 1 x security screw driver, and this document.

Radio Frequency Interference

Devices generate RF noise that may interfere with the reception of the signal from the access card. This will result in the reduction of read range. Examples of devices are radios, televisions, and cellular phones. The read range is affected by the amount of interference (noise) in the area. The reader should mount more than 1.5m away from the any devices that emits RF that may interfere with the signal received from the access control cards.

1.8 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 foilshield) (for wiegand interface) (base on Belden 9534 24 AWG 0.6mm, 4 core cable foilshield) (for RS485 interface)
Read Range	<=50mm (2”) (Read Range is dependent on local installation conditions)
Transmit Frequency	13.56MHz
LED	Tri Color – Red, Green, Amber
Buzzer	Multi-tone
Operating temperature Range	-20°C to 50°C
Colour	Black
Material	High Heat ABS
Weight	200 grams
Dimension	135mm (Height) X 76mm (Width) X 21mm (Thickness)
Wire Termination	9 conducting wire at length approx. 300mm
Reader Mode	Card Only, Card and PIN.
PIN Input	1 – 6 Digits
Keypad	3 x 4 Keys
Communication Interface	RS485 or Wiegand (Selectable)
Wiegand interface Output bit format	26, 32, 37, 40, 56, 80, 168(Asis) bits format and 8-digit 32, 37, 40 bits format
Support Card Type	Mifare (ISO 14443-A, ISO 14443-B)
EZ-Link	Output CAN or CSN (Selectable)
Mounting	Reader back casing mount