

# VS-R20D User Guide

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Version Eng-1.00



**UNION**  
COMMUNITY

## &lt;Revision History&gt;

Version	Date	Description	Firmware Version
1.00	2012-08-22	Initial Release	10.01.01-000.00

## &lt; Glossary &gt;

- Authentication Method
  - RF (Card) Authentication


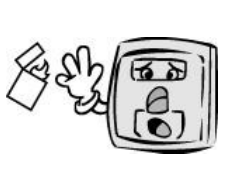


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## 1. Before use


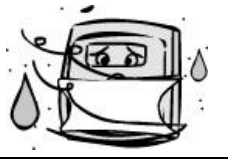


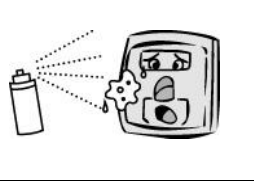
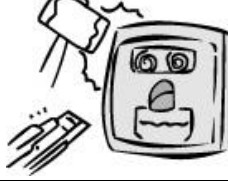
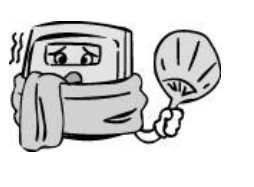
### 1.1. Safety precautions

#### ● Warning

<p>Handling with wet hands or allowing liquid to flow into it is not advised. -&gt; It may cause an electric shock or damage</p>		<p>Do not place a fire source near the unit. -&gt; It may cause a fire.</p>	
<p>Do not disassemble, repair, or modify the unit. -&gt; It may cause an electric shock, fire or damage.</p>		<p>Keep out of reach of children. → It may cause an accident or damage.</p>	

- If the above warnings are ignored, it may result in death or serious injury.

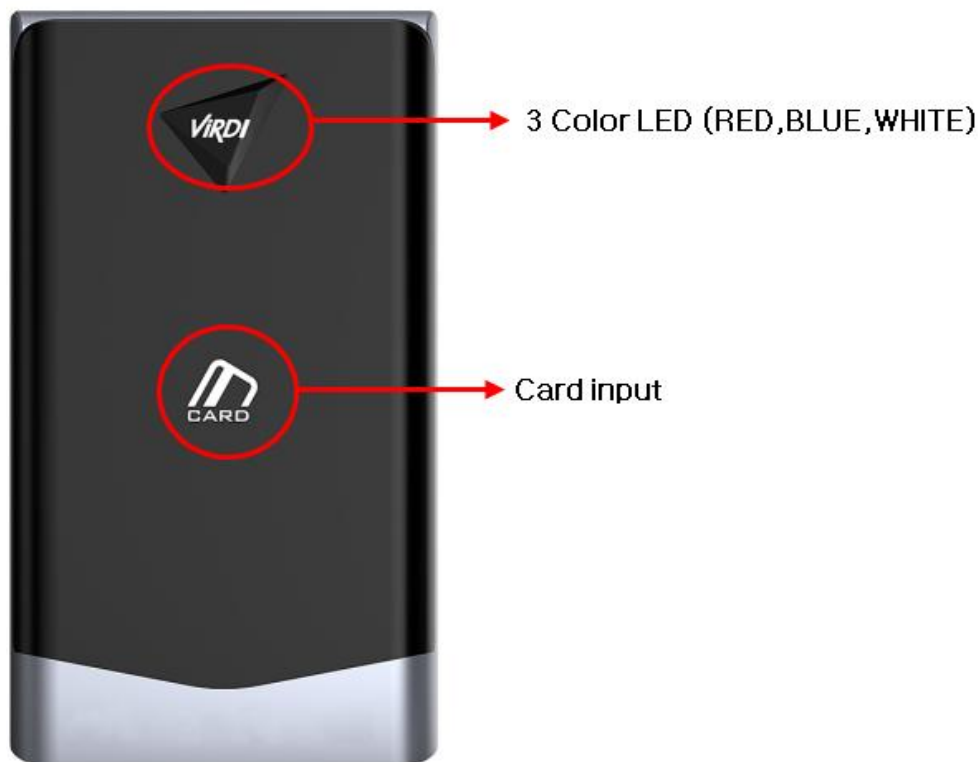
#### ● Cautions

<p>Keep away from direct sunlight → It may cause deformation or color change.</p>		<p>Avoid high humidity or dust -&gt;The unit may be damaged.</p>	
<p>Avoid using water, benzene, thinner, or alcohol for cleaning -&gt; It may cause an electric shock or fire.</p>		<p>Do not place a magnet close to the unit. -&gt; The unit may break down or malfunction.</p>	
<p>Avoid using insecticides or flammable sprays near the unit. → It may result in deformation or color change.</p>		<p>Avoid impacts or using sharp objects on the unit. → The unit may be damaged and broken.</p>	
<p>Avoid severe temperature changes → The unit may be broken.</p>			





- If the above cautions are ignored, it may result in property loss or human injury.

※ Under no circumstances will Union Community be responsible for accidents or damages caused by inappropriate use of the product caused by not referring to the user manual.

## 1.2. Device Description



## 1.3. LED Signal during operation

	Abnormal	Red	ON : When authentication is failed Flickering : <u>Emergency Alarm, Disconnection of RS485</u> (when connect controller)
	Success	BLUE	ON: When authentication is successful
	Enrollment	Red / BLUE	<u>ON: User registration mode (when connect controller)</u> Flickering : <u>Indicating for RS485 ID</u>
	State	White	<u>ON: Standby mode (Normal state)</u>

## 1.4. Buzzer sound during operation

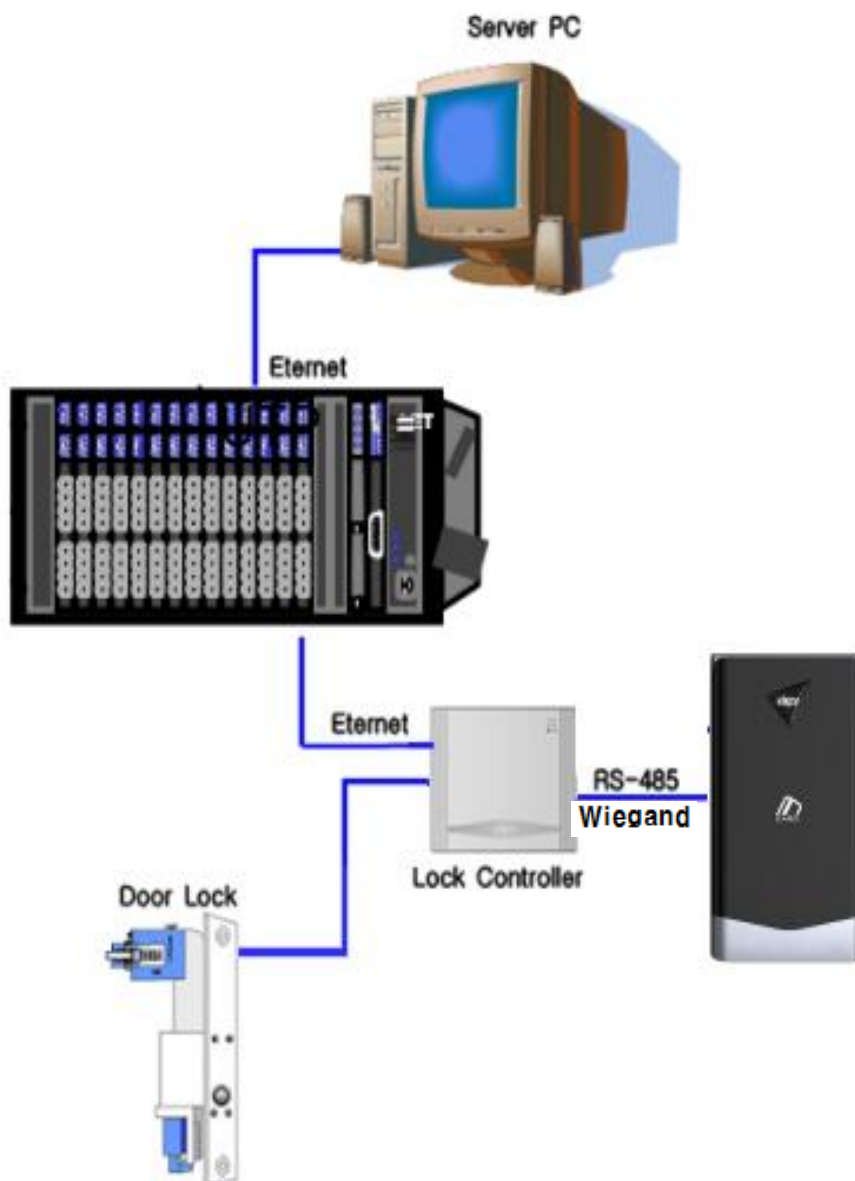
“ppig”	reading a card	<u>When a card is being read</u>
“ppibig”	Failed	Authentication failed
“ppiiiick”	Successful	Authentication successful
“ppirick”(short)	Alarm / Emergency	Alarm / Emergency
“ppirick~”(long)	Dismantling Terminal	In case of open tamper(when terminal dismantle)

## 2. Introduction

### 2.1. Features

- Quick and convenient authentication function
  - Simple and quick authentication with only using a card
  
- Card authentication method provided
  - 125Khz card and 13.56Mhz card supported per product
  
- IP65 Outdoor Rating – Die Cast Casing : The terminal can be installed outdoor.
  
- Understated Design
  - Simple and understated design with minimum interface reflected without LCD
  - Pursuit of convenience and luxury from simplicity
  
- Convenient Auto Sensing function
  - Simple authentication process without any key input; simple swiping the card is sufficient.

## 2.2. Configuration



## 2.3. Specifications

Item	Spec	Description
CPU	32bit RISC 36MHz	ST Micro
LED	3 LED (Red, White, Blue),	
Flash	Internal 64k Byte	NOR Flash
Buzzer Sound	Five buzzer sounds	
Card Module	125KHz RF 13.56MHz Smart (1 Sam Card Socket Support)	
Authentication Method	Card	
I/O	6 Dip Switch (485 ID Setting : 3pole, Changing 485<->Wiegand : 1pole, Administrator Setting : 1pole, Reserve : 1pole)	
Tamper	Case Open Detection	
RS-485	1 Port	Interworking with 485 Controller
Wiegand-Out	1 Port	Wiegand signal output
RS-232	3 Port	Debug Samcard RS485 port
Power	12 VDC	



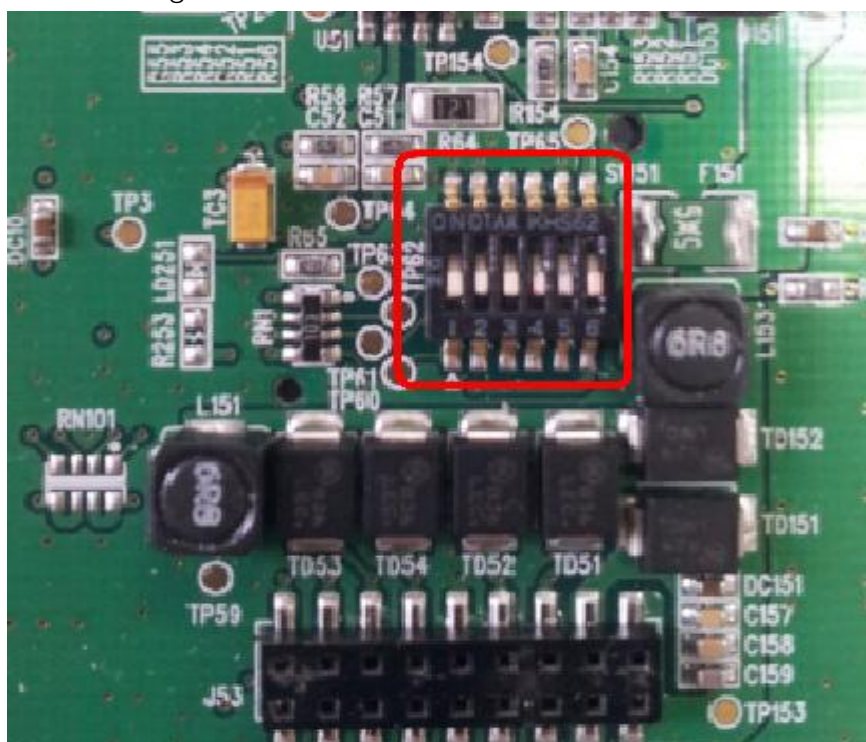
## 3. How to use a terminal

### 3.1. Authentication

#### 3.2.1. . Card Authentication

- Swipe a card on the card input area.
- In case of SC card, it supports max 5cm,  
In case of RF card, it supports max 4cm (It depends on Card Type)

### 3.2. Dip Switch Setting



- It has 6 switches, and they are divided in 485 ID Setting (3pole) and changing 485 <-> Wiegand (1pole), Administrator Setting : (1pole)



	1	2	3	4	5	6
Function	485 ID Setting and Wiegand bit Setting			485 <-> Wiegand changing	Administrator Setting	Not using

- 485 ID Setting (Switch Number : 1~3)

	1	2	3	ID Value
Function	0	0	0	0
	0	0	1	1
	0	1	0	2
	0	1	1	3
	1	0	0	4
	1	0	1	5
	1	1	0	6
	1	1	1	7

▷ If the device is set to RS485, red/blue LED will flash based on ID number when power on.

- Wiegand Setting (Switch Number : 1~3)

	1	2	3	Bits	Output Format (ex) 0500916DD8
Function	0	0	0	26bit	<u>145,28120 (35 Decimal)</u>
	0	0	1	42bit (Only RF Ver)	<u>0500916DD8 (Hexa Full byte)</u>
	1	1	1	34bit	<u>00916DD8 (Hexa 4byte)</u>

- Changing 485 <-> Wiegand (No.4 Switch)

	4	Mode
Function	1	Wiegand
	0	RS485

- Administrator Setting

	4	Mode
Function	1	Administrator
	0	General User

## 4. Cable Pin Out

### 4.1. Main Cable

