

VS-R20(SC & RF) User Guide

Version Eng-1.00



UNION
COMMUNITY

<Revision History>

Version	Date	Description	Firmware Version
1.00	2012-08-22	Initial Release	10.51.00-000.00

< Glossary >

- Admin, Administrator
 - As a user who can enter into the terminal menu mode, he/she can register/modify/delete terminal users and change the operating environment by changing settings.
 - If there is no administrator for a terminal, anyone can change the settings, so it is recommended to register at least one administrator.
 - Caution is required with registration and operation because an administrator has the right to change critical environmental settings of the fingerprint recognition unit.

- Authentication Method
 - RF (Card) Authentication

- Function Keys
 - [F1], [F2], [F3], [F4] are the function keys, and they are used to enter menu or to change modes.





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1. Before use






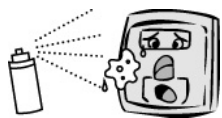

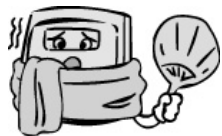
1.1. Safety precautions

● Warning

<p>Handling with wet hands or allowing liquid to flow into it is not advised. -> It may cause an electric shock or damage</p>		<p>Do not place a fire source near the unit. -> It may cause a fire.</p>	
<p>Do not disassemble, repair, or modify the unit. -> 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 ->The unit may be damaged.</p>	
<p>Avoid using water, benzene, thinner, or alcohol for cleaning -> It may cause an electric shock or fire.</p>		<p>Do not place a magnet close to the unit. -> The unit may break down or malfunction.</p>	
<p>Keep the fingerprint area clean. → It cannot read fingerprints correctly.</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. Terminal Description



1.3. LED Signal during operation

●	Abnormal	Red	ON: When authentication is failed
●	Success	Green	ON: When authentication is successful
○	State	White	Flickering: Waiting for a card to input ON: If is set as "LED is always ON" in terminal settings

1.4. Necessary Keys during operation

[F1]~[F4]	- They are used to change authentication mode
[Hold F4 down]	- Hold [F4] key down longer than 4 seconds - It is used to enter menu

1.5. Voice information during operation

Action	Voice information
Authentication is successful	You are authorized.
Authentication is failed	Please try again

1.6. Buzzer sound during operation

“ppig”	Pressing a key or a reading a card	When a button is pressed or a card is being read When fingerprint input is completed, allowing the user to remove his fingerprint
“ppibig”	Failed	Authentication failed or wrong user input
“ppiiiiick”	Successful	Authentication successful or settings for the current user are completed.

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

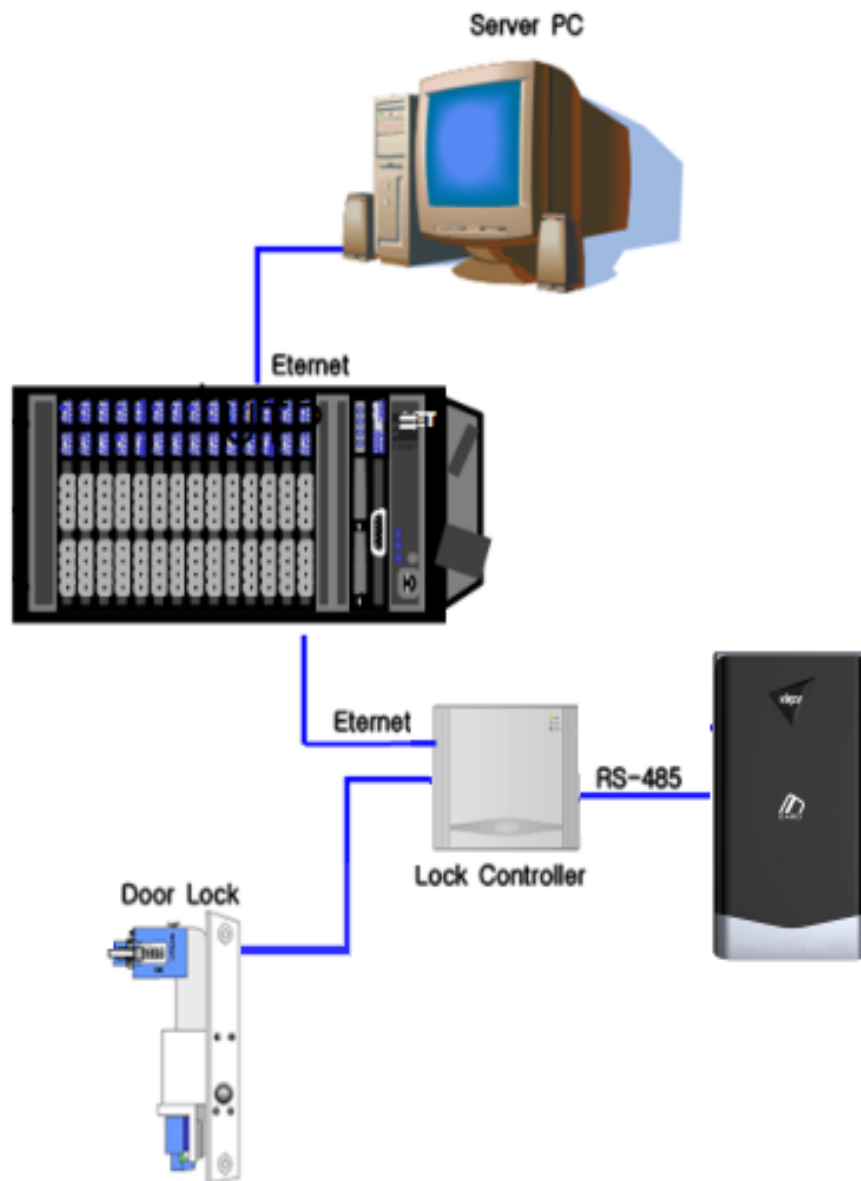
- IP65 Outdoor Rating – Die Cast Casing : The terminal can be installed outdoor.

- 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 fingerprint touching is sufficient.

- Various and flexible access management provided
 - Perfect control function provided by giving the right of access per user group

2.2. Configuration



2.3. Specifications

Item	Spec	Description
CPU	32bit RISC 72MHz	ST Micro
Pin Pad	4key	F1~F4
LED	3 LED (Red, White, Blue), 4 LED (key_Led)	
Flash	Internal 256k Byte , External 8Mbyte	Nor Flash
Number of enrolled users	10,000 users 50,000 Log	
Voice Message	Various languages supported (Possible to download from PC) Possible to control volume	
Buzzer Sound	Possible to control volume	
Card Module	125KHz RF 13.56MHz Smart (1 Sam Card Socket Support) 125KHz HID Card	
Authentication Method	Card	
RTC	Internal RTC Support	
I/O	6 Dip Switch (485 ID Setting : 3pole, 485<->Wiegand In/Out change 1pole BLC015/BLC020/CP040 Select 2pole)	
Lock Control	- If POE is supported, separate lock Controller is used - If POE is supported, EM, Strike, Motor Lock are possible to use	
RS-485	1 Port	Interworking with 485 Controller
Wiegand-In	1 Port	Interworking with Wiegand-Type card reader
Wiegand-Out	1 Port	Display Wiegand signal output or success/fail
RS-232	3 Port	Debug
Power	12 VDC	

3. Environment settings

3.1. Check items before setting the environment

3.1.1. Entering menu

▶ [Hold F4 down] → (Red & Green LED On) Menu Mode

If you hold [F4] key down longer than 4 seconds, you can enter menu mode.

When you enter menu mode, red and green LED on a terminal are on to classify menu mode.

To change from menu mode to waiting authentication mode, press [F4] button, or do not press any button longer than 10 sec so that it will automatically to change to waiting authentication mode.

3.2. Menu Configuration

- [Fn~ long] means hold each function key down longer than 4 sec.

Menu Mode [F4~ long]	Enroll a user (Card)	[F1~ long] → Flickering white LED for 5 sec → Swipe a card (Buzzing sound + blue LED light on) Enrolling a card is completed (Buzzing sound + red LED light on) Enrolling a card is failed
	Delete a user (Card)	[F3~ long] → Flickering the white LED for 5 sec → Swipe a card (Buzzer + blue LED light on) Enrolling a card is completed. (Buzzer + red LED light on) Enrolling a card is failed.

4. How to use a terminal

4.1. Change to authentication mode

Start a shift [F1], End a shift [F2], Start a break [F3], or Return from a break [F4] is pressed to change to correct authentication mode.

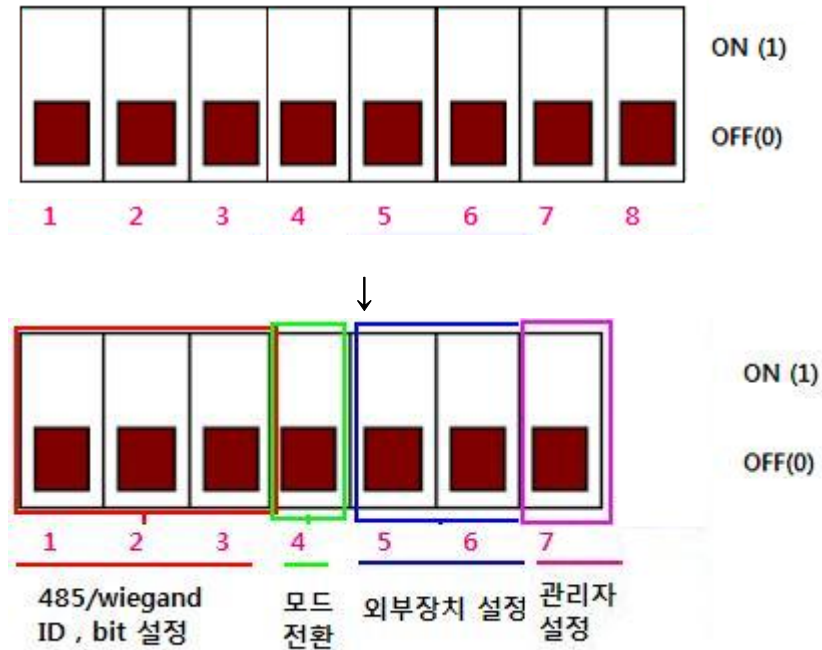
4.2. Authentication

4.2.1. Card Authentication

Swipe a card on the card input area.

4.3. Control Dip Switch

It has 6 switches, and they are divided in 485 ID Setting (3pole), changing 485 <-> Wiegand (1pole), and selecting BLC015/BLC020/CP040(2pole)



	1	2	3	4	5	6	7	8
Function	485 ID Setting			485 <-> Wiegand	BLC015/BLC020/CP040		Admin	Not using

※ VS-R20 enables to change to Wiegand In mode or to Wiegand Out mode with using SW52. (Each only supports Mode 1) Please check switch pins when using. When using Wiegand, check GND pin and DATA1, DATA0 pin (DATA1-DATA1 Connected, DATA0-DATA0 Connected)

- 485 ID Setting (No.1,2 and 3 Switch)

	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

- Wiegand Setting (No.1,2 and 3 Switch)

	1	2	3	Bits
Function	0	0	0	26bit
	1	1	1	34bit

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

	4	Mode
Function	1	Wiegand
	0	RS485

- Changing BLC015/BLC020/CP040 (No. 5 and 6 Switch)

	5	6	Equipment to use
Function	0	0	BLC015
	0	1	BLC020
	1	0	CP040
	1	1	Not using

- Changing admin (NO.7 Switch)

	8	Function
Function	1	Use admin
	0	Not using admin

INFORMATION TO THE USER (15.105(a))

For Class A digital device

INFORMATION TO THE USER

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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