

# OMNIS

# INSTALLATION GUIDE

Version 1.00  
English

EN 101.00.OMNIS V1.00A

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# Safety instructions

Observe the following instructions to use the product safely and prevent any risk of injury or property damage.

## Warning

Noncompliance with instructions can lead to serious injury or death.

### Installation

**Do not install the product in a location with direct sunlight, moisture, dust, or soot.**

- Fire or electric shock may occur.

**Do not install the product in a location with heat from an electric heater.**

- Fire or electric shock may occur due to overheating.

**Install the product in a dry location.**

- Otherwise, product damage or electric shock may occur due to moisture.

**Only qualified technical personnel should install, service, or repair the product.**

- Fire, electric shock, or personal injury may occur.
- Damage caused by unqualified personnel will void the product warranty. Product repair costs will be quoted based on diagnosis and replacement part pricing.

### Operation

**Do not allow liquids such as water, beverages, or chemicals to get inside the product.**

- Fire, electric shock, or product damage may occur.

## Caution

Noncompliance with product instructions could lead to minor injury or product damage.

### Installation

**Do not install the power supply cable in a location that creates a trip hazard to people walking by.**

- Product damage or physical injury may occur.

**Use only Suprema-approved adapters, batteries, and cables.**

- If the proper power is not used, the product may not operate normally.

### Operation

**Do not drop the product or otherwise apply force to the to the product housing.**

- Product failure may occur.

**Do not press the buttons on the product forcibly or use a sharp tool on either the touch screen or the physical keys.**

- Product failure may occur.

**When cleaning the product, wipe the product with a soft, dry cloth.**

**Do not use harsh cleaning agents.**

- These may cause product failure.

**OMNIS uses capacitive buttons and screen. If the environment is moist from wet weather or the product surface is smeared with a lot of water, wipe off the product with a dry towel before using it.**

#### RTC battery

Replacing the battery with an incorrect type of battery may cause explosion.

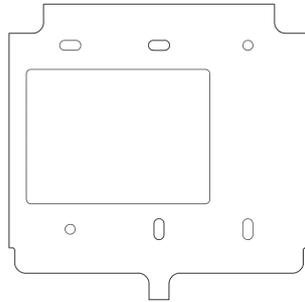
Discard the battery according to the appropriate regional or international waste regulations.

# Introduction

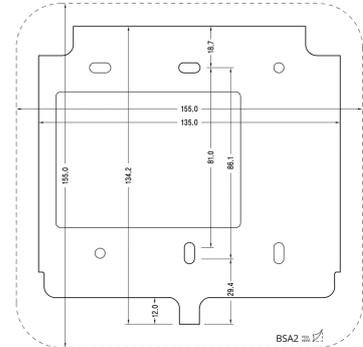
## Components



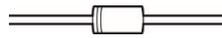
OMNIS



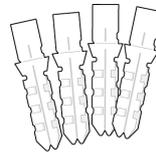
Wall Bracket



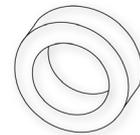
Drilling Template

Connection Cable  
(3 pins x1, 4 pins x2)

Diode

Bracket Fixing Screw  
(Star Shaped)

PVC Anchor x4



Ferrite Core



Fixing Screw x4



Quick Guide

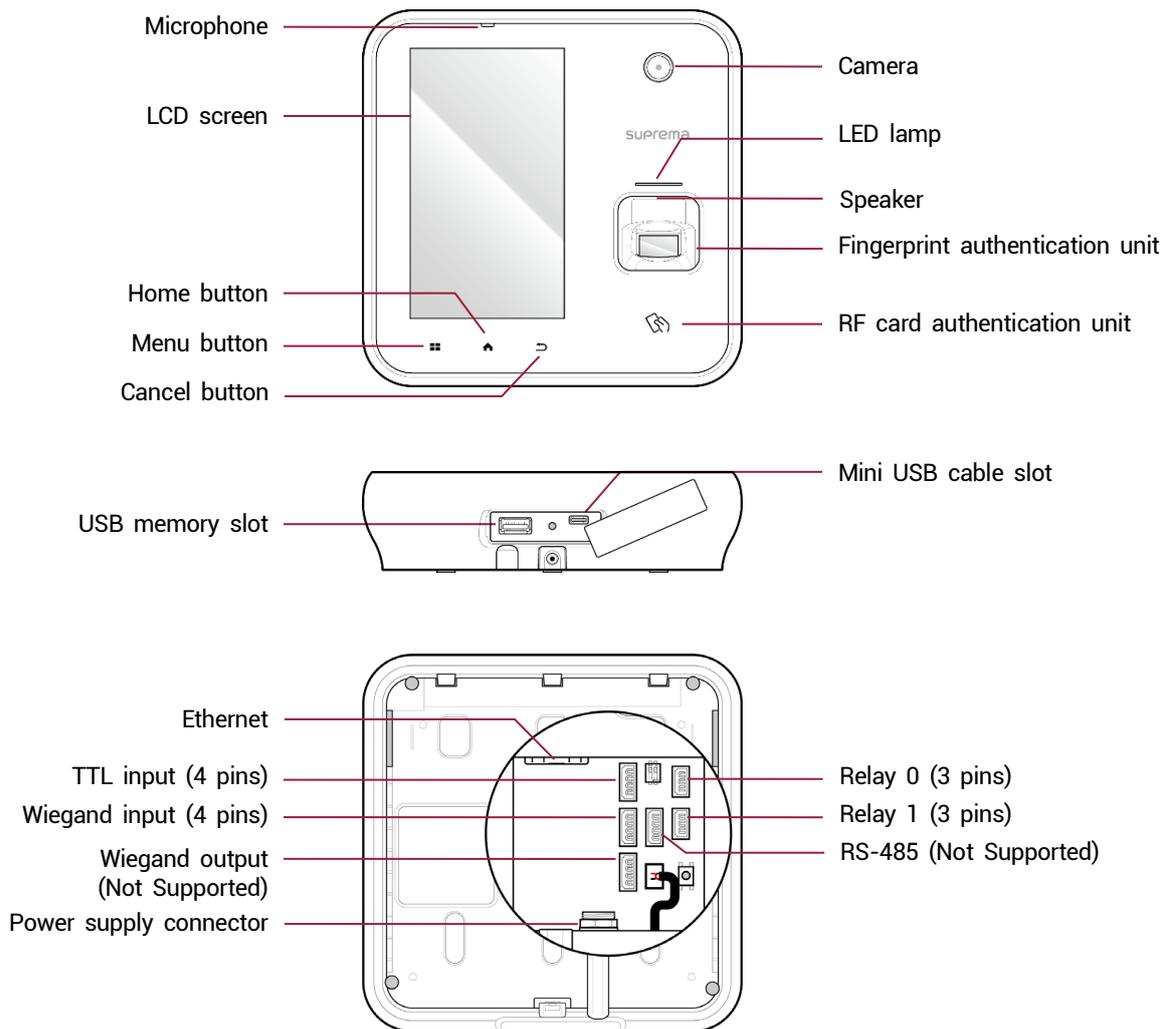


Open Source Software Guide

### NOTE

- Components may vary according to the installation environment.
- A power supply adaptor is sold separately.

## Name and function of each part



Name	Description
<b>Microphone</b>	Delivers the voice of the user when the interphone is connected.
<b>LCD screen</b>	Provides UI for operation.
<b>Menu button (  )</b>	Displays the list of menus.
<b>Home button (  )</b>	Navigates to the home screen.
<b>Cancel button (  )</b>	Navigates back to the previous screen.
<b>Speaker</b>	Delivers sound.
<b>LED lamp</b>	Indicates the operational status of the product with the color of the LED lamp.
<b>Fingerprint authentication unit</b>	Part to scan the fingerprint for entrance.
<b>RF card authentication unit</b>	Part to scan the card for entrance.
<b>USB memory slot</b>	Connects USB memory.
<b>Mini USB cable slot</b>	Will be supported in the future.
<b>TTL input (4 pins)</b>	Connect the TTL input cable.

<b>Relay 0, 1 (3 pins)</b>	Connect the relay cable.
<b>Power supply connector</b>	Connect the power supply cable.
<b>Ethernet</b>	Connect the Ethernet cable.
<b>Wiegand input (4 pins)</b>	Connect the Wiegand input cable.

**NOTE**

- The RS-485, Wiegand Output interface is not available.

## Cables and connectors

### Relay



Pin	Name	Color
1	RLY NO	White
2	RLY COM	Blue
3	RLY NC	Orange

### TTL input



Pin	Name	Color
1	TTL IN0	Red
2	TTL IN1	Yellow
3	TTL GND	Black
4	SH GND	Gray

### Wiegand input



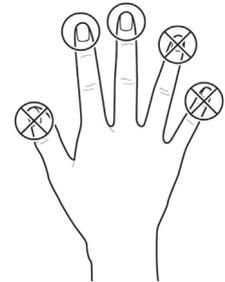
Pin	Name	Color
1	WG D0	Green
2	WG D1	White
3	WG GND	Black
4	SH GND	Gray

## How to enroll a fingerprint

In order to improve the fingerprint authentication rate, register the fingerprint correctly. OMNIS can recognize a fingerprint even if the angle and position of a user's fingerprint input change. If you register the fingerprint with attention to the following matters, the authentication rate can be improved.

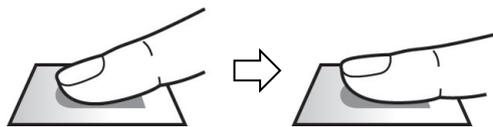
### Selecting a finger for fingerprint input

- In preparation for the case that the fingerprint of a specific finger cannot be used, for example if the user is lifting a load with one hand or a finger gets hurt, up to 10 fingerprints for each user can be registered.
- In the case of a user whose fingerprint cannot be recognized well, the authentication rate can be improved by enrolling the same finger twice repeatedly.
- If a finger has a cut or the fingerprint is blurry, select another finger for the fingerprint.
- It is recommended to use the index finger or the middle finger when scanning the fingerprint. The authentication rate can be reduced if it is difficult to place another finger at the center of fingerprint sensor accurately.



### Fingerprint enroll method

- 1 When a message saying "Scan the fingerprint." is displayed on the LCD screen for enrolling the fingerprint, place the finger with the fingerprint to be registered on the fingerprint authentication unit and press the finger gently for better authentication.



- 2 When the re-input screen is displayed after a beep sound, scan the fingerprint of the registered finger again (scan the fingerprint of a finger to be registered twice).

#### NOTE

##### Cautions for enrolling a fingerprint

When a fingerprint is recognized, it is compared with the initially registered fingerprint, so the initial fingerprint enroll is the most important. Pay attention to the following matters when enrolling the fingerprint.

- Place the finger deep enough to contact with the sensor completely.
- Place the center of the fingerprint in the center of the sensor.
- If a finger has a cut or the fingerprint is blurry, select another finger for the fingerprint.
- Scan the fingerprint correctly without moving according to the instruction on the screen.
- If you make the finger upright so that the contact area with the sensor has decreased or the angle of finger has warped, fingerprint authentication may not be performed.



##### When the fingerprint recognition fails

OMNIS can recognize a fingerprint regardless of a change of season or finger condition. However, the authentication rate may vary according to the external environment or fingerprint input method.

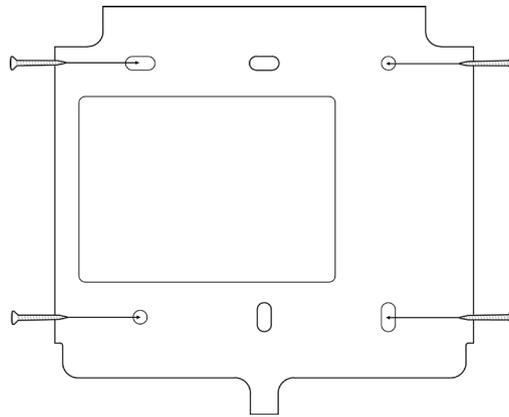
If the fingerprint authentication cannot be done smoothly, it is recommended to take the following measures.

- If the finger is smeared with water or sweat, dry off the finger and then scan the finger.
- If the finger is too dry, blow your breath on the fingertips and then scan the finger.
- If the finger has a cut, register the fingerprint of another finger.
- The initially registered fingerprint often may have not been scanned correctly, so register the fingerprint again according to 'Cautions for enrolling a fingerprint'.

# Installation

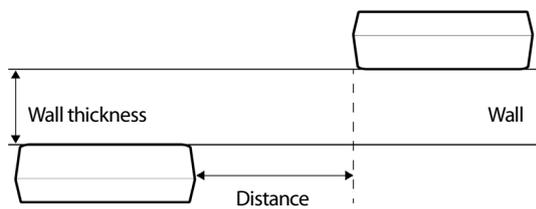
## Fixing the bracket and the product

- 1 Determine the correct position to install the bracket using the provided drilling template. Fix the bracket firmly using fixing screws through the bracket to the position where OMNIS will be installed.

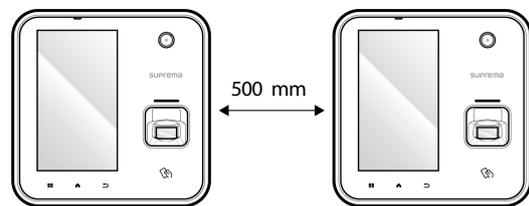


**NOTE**

- If installing OMNIS on a concrete wall, drill holes, insert PVC anchors, and fix them with fixing screws.
- To avoid RF interference, a minimum separation distance must be maintained.

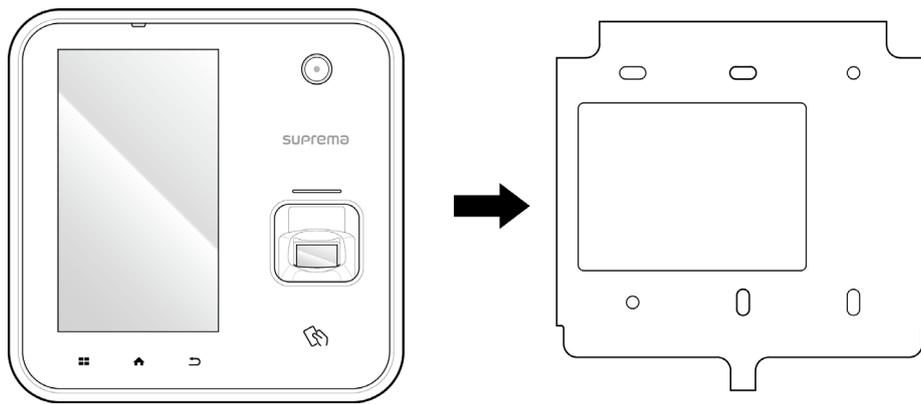


Wall

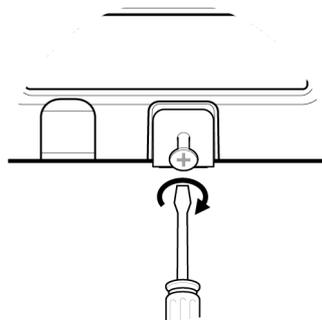


Wall thickness	Distance
100 mm	500 mm
120 mm	400 mm
150 mm	300 mm

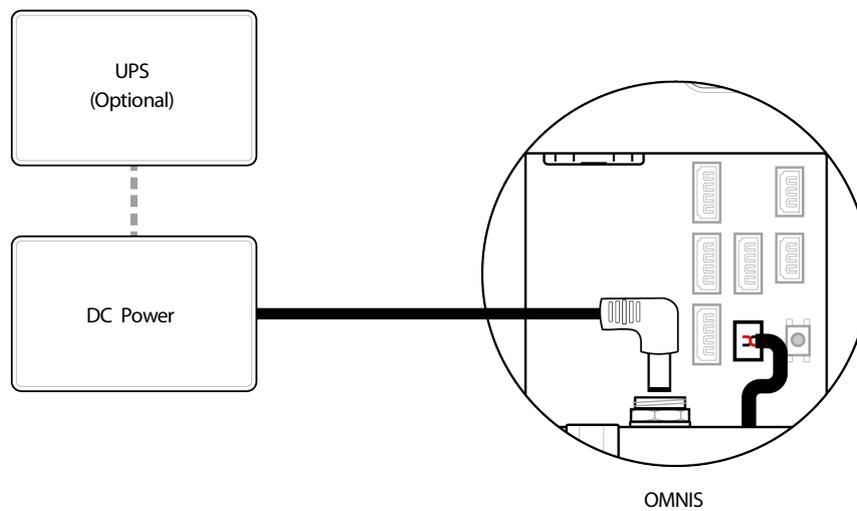
- 2** Assemble the cable cover and install OMNIS onto the fixed bracket.



- 3** Connect OMNIS to the bracket by rotating the product fixing screw of OMNIS.



## Power supply connection

**NOTE**

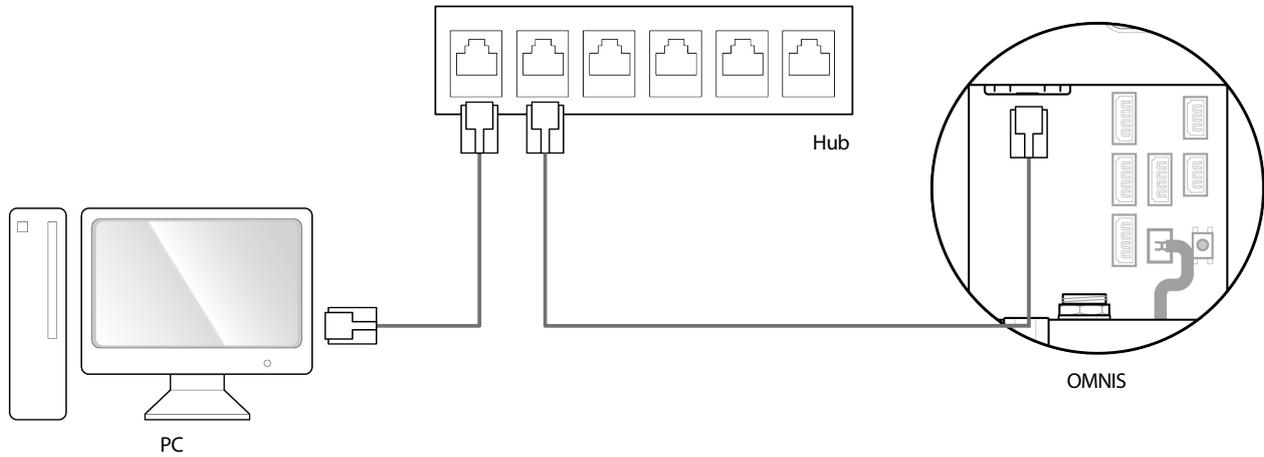
- Use a power supply adaptor of DC 12 V ( $\pm 10\%$ ) with a minimum of 1,500 mA which has obtained the approval of IEC/EN 60950-1. If you wish to connect and use another device to the power supply adaptor, you should use an adaptor with a current capacity which is the same or larger than the total power consumption required for the terminal and another device.
- DO NOT connect the device to the DC power supply (or adapter) and PoE power supply at the same time.
- A power supply adaptor is sold separately.

## Network connection

### TCP/IP

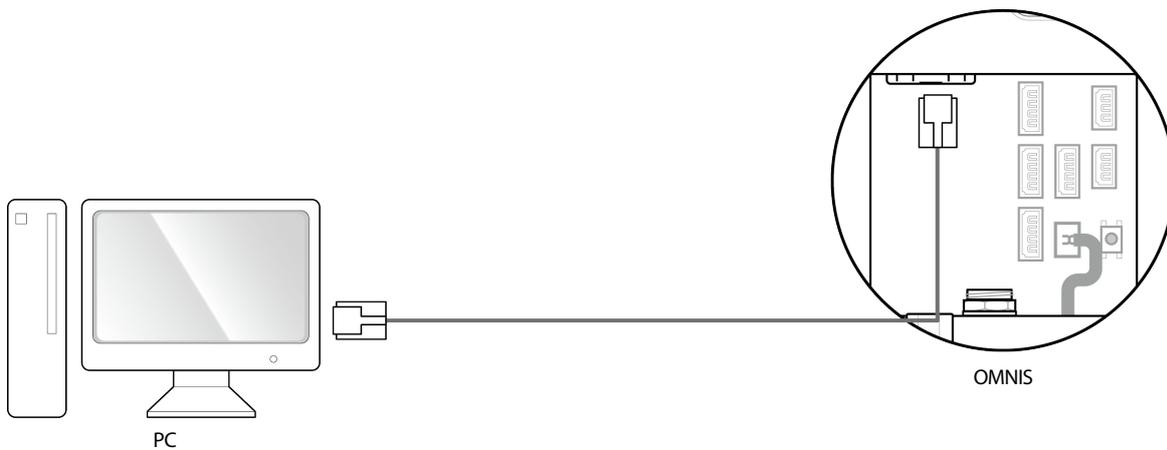
#### LAN connection (connecting to a hub)

You can connect the product to a hub using a general type CAT-5 cable.

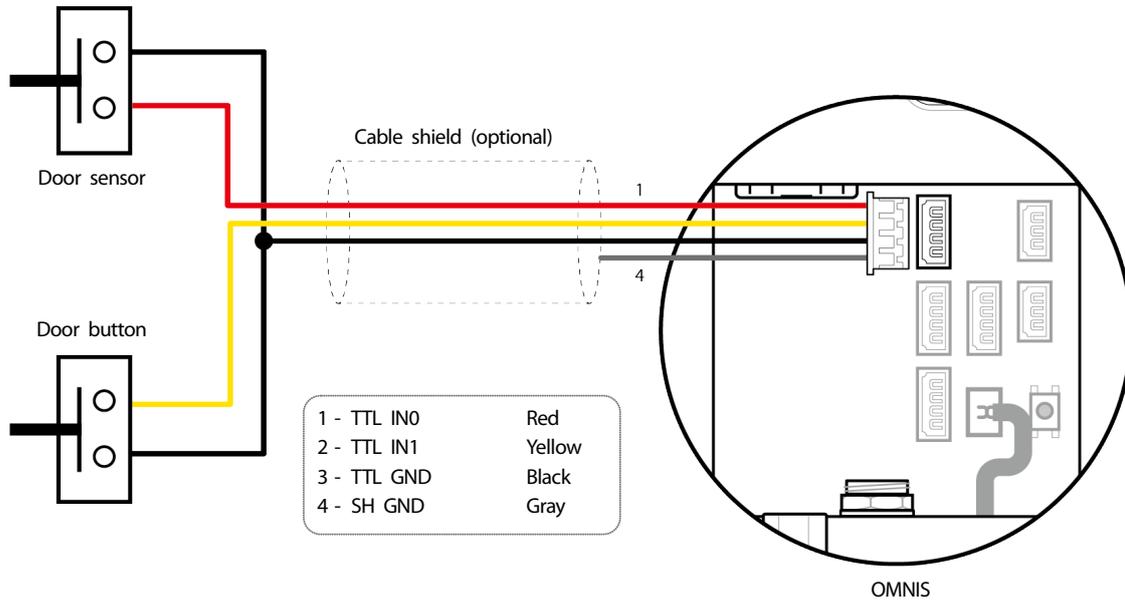


#### LAN connection (connecting to a PC directly)

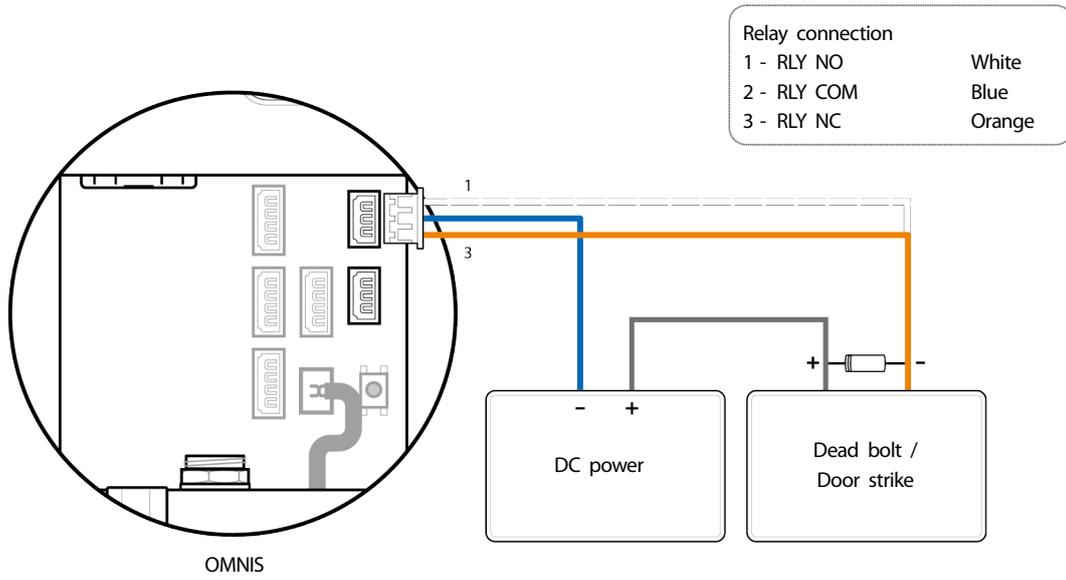
OMNIS has an automatic MDI/MDIX function so that it can be connected to a PC directly using a normal straight type CAT-5 cable or a cross cable.



## TTL input connection

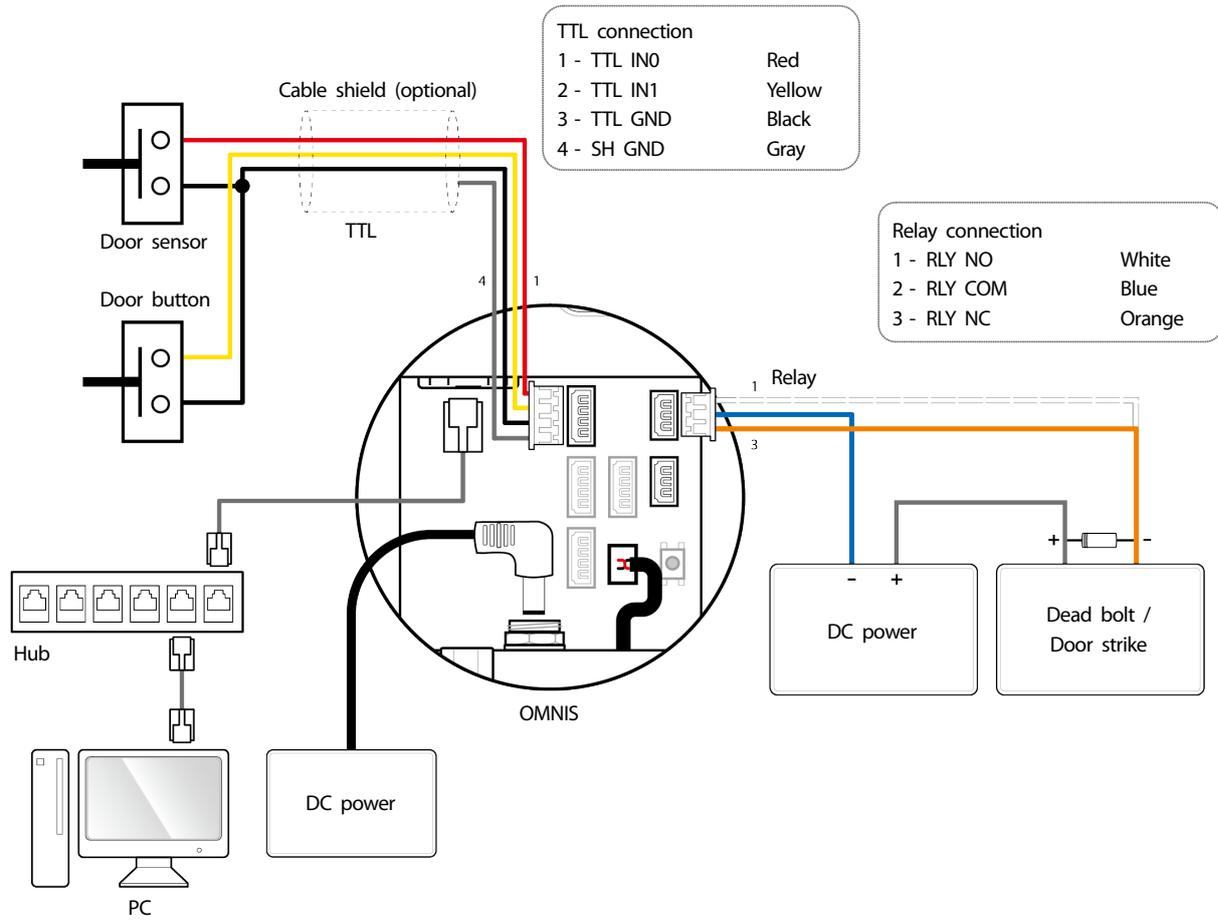


## Relay connection



## Connecting as a standalone

OMNIS can be connected to the door lock, door button, and door sensor directly without connecting a separate I/O device.

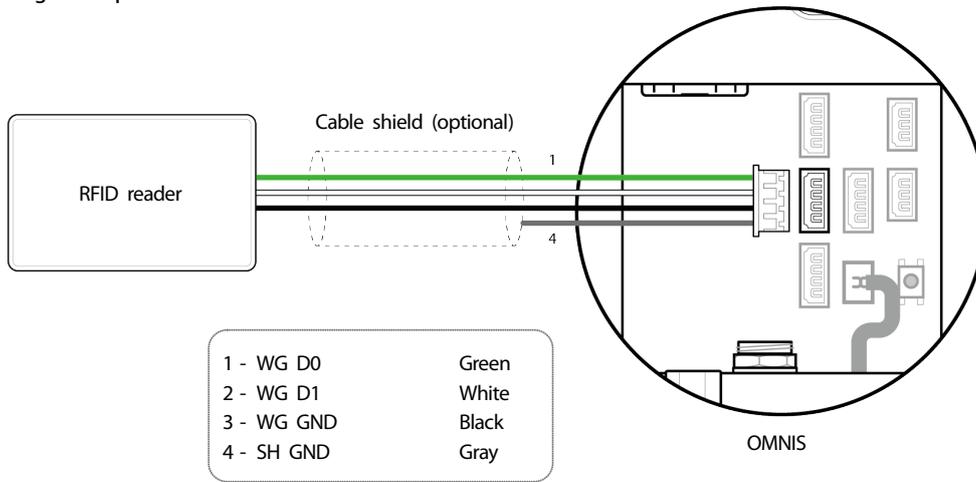


**NOTE**

- For more information, contact the Suprema technical support team (<http://support.supremainc.com>).

## Wiegand connection

Use as a Wiegand input device



## Installing the Application

The Time and Attendance or Workforce Management applications can be installed on OMNIS via USB memory device.

### NOTE

- You can use the SVP (Suprema Versatile Platform) Android SDK to integrate the features of NOVUS to your applications. You can view the SVP Android SDK at <http://kb.supremainc.com/svpsdk>.

- 1 Save the .apk file of the Time and Attendance or Workforce Management application to a USB memory device.
- 2 Insert the USB memory device into the USB port.
- 3 Swipe the screen upwards and then tap **Files** >  .
- 4 Select the USB memory device.
- 5 Select the .apk file of the application to install.
- 6 Read the pop up message and tap **CONTINUE**.
- 7 Tap **INSTALL**.
- 8 Tap **DONE** to finish the installation. Tap **OPEN** to run the application.

## Uninstall the Application

You can uninstall the application installed on OMNIS.

- 1 Swipe a screen upwards.
- 2 Tap and hold the application to uninstall and then tap **App info**.
- 3 Tap **UNINSTALL** > **OK**.

## Upgrading the Application

You can upgrade the version of the application.

- 1 Save the .apk file of the application which is upgraded to a USB memory device.
- 2 Insert the USB memory device into the external USB port.
- 3 Swipe the screen upwards and then tap **Files** >  .
- 4 Select the USB memory device.
- 5 Select the .apk file of the application which is upgraded.
- 6 Read the pop up message and tap **CONTINUE**.
- 7 Tap **INSTALL**.
- 8 Tap **DONE** to finish the installation. Tap **OPEN** to run the application.

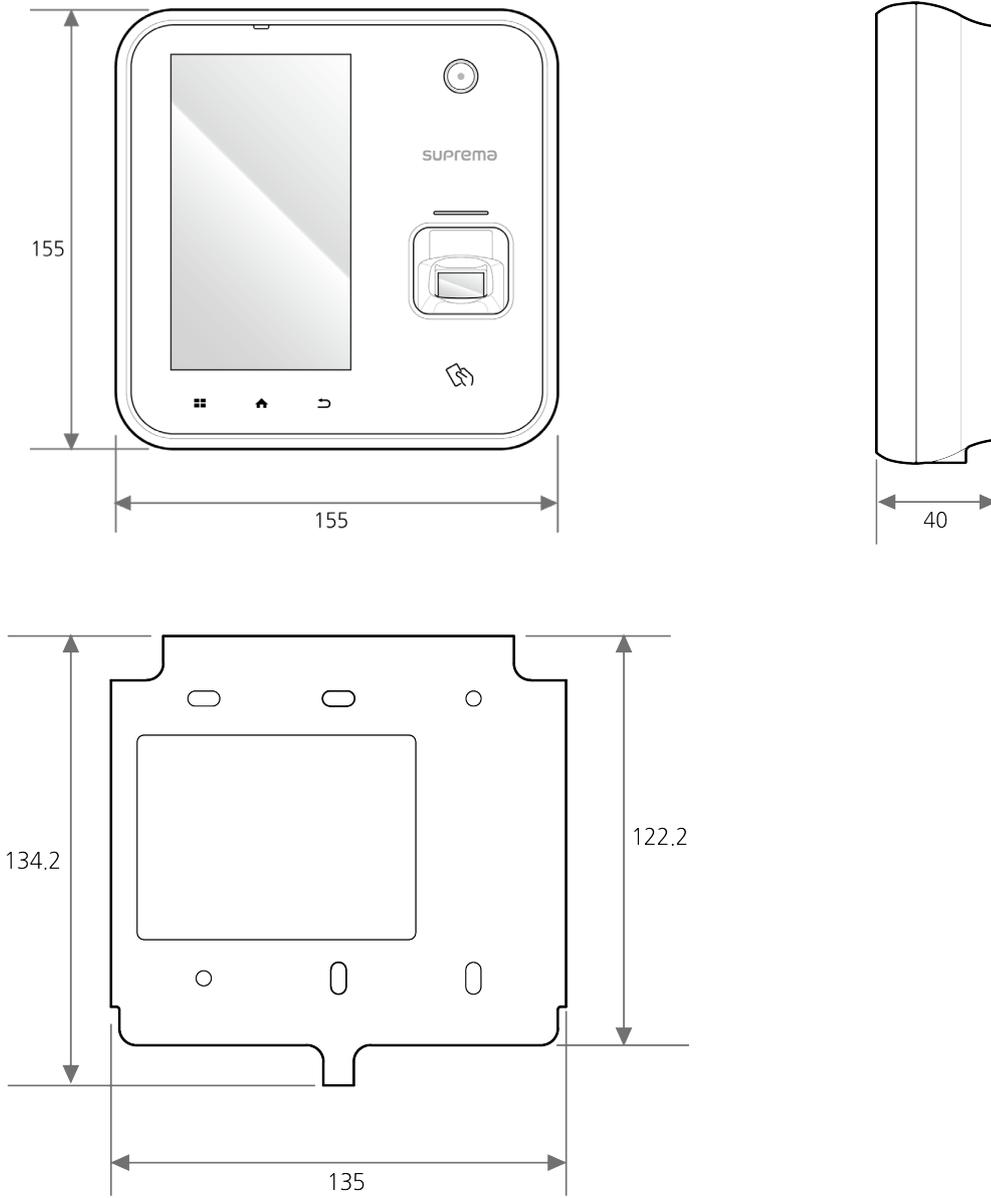
# Product specifications

Category	Feature	Specification
Credential	Biometric	Fingerprint
	RF Option	<ul style="list-style-type: none"> <li>• OMNIS-E: 125kHz EM</li> <li>• OMNIS-H: 125kHz HID Prox</li> <li>• OMNIS-I: 13.56MHz iCLASS SE/SR/Seos, NFC</li> <li>• OMNIS-M: 13.56Mhz MIFARE, MIFARE Plus, DESFire/EV1, FeliCa, NFC</li> </ul>
	RF read range*	EM/HID Prox: 50 mm, MIFARE: 50 mm, DESFire: 50 mm, Felica: 30 mm
	LFD	Supported
General	CPU	1.0 GHz Quad Core
	Memory	8GB Flash + 1GB RAM
	LCD type	5" color TFT touch
	LCD resolution	480 x 854
	LED	Multiple colors
	Sound	24 bit/Voice DSP (echo cancel)
	Operating temperature	-20 °C - 50 °C
	Storage temperature	-40 °C - 70 °C
	Operating humidity	0% - 80%, non-condensing
	Storage humidity	0% - 90%, non-condensing
	Camera type	CMOS 2M pixels
	Camera resolution	1600 x 1200
	Camera angle	Diagonal 122°, Horizontal 64.7°, Vertical 103.3°
	Dimension (W x H x D)	155 mm x 155 mm x 40 mm
	Weight	Device: 444 g Bracket: 89 g (Including washer and bolt)
	Certificates	CE, FCC, KC, RoHS, REACH, WEEE
Fingerprint	Image dimension	272 x 320 pixels
	Image bit depth	8bit, 256 grayscale
	Resolution	500 dpi
	Template	SUPREMA / ISO 19794-2 / ANSI 378
	Extractor / Matcher	MINEX certified and compliant
	LFD	Supported
Capacity	Max. User (1:1)	50,000
	Max. User (1:N)	20,000
	Max. Template (1:1)	100,000 (Two templates per finger)
	Max. Template (1:N)	40,000 (Two templates per finger)
Interface	Wi-Fi	Supported
	Ethernet	Supported (10/100 Mbps, auto MDI/MDI-X)
	Wiegand	1ch Input
	TTL input	1ch Input
	Relay	2 Relay
	USB	USB 2.0 (Host)
	SD Card	microSD card (Supports up to 32 GB)
	PoE	Supported (IEEE 802.3af compliant)
Electrical	Tamper	Supported
	Power	Voltage: 12 VDC Current: Max. 850 mA
	Switch input VIH	Min.: 3 V Max.: 5 V
	Switch input VIL	Max.: 1 V
	Switch Pull-up resistance	4.7 kΩ (The input pots are pulled up with 4.7 kΩ.)
Relay	Voltage: Max. 30 VDC Current: Max. 1 A	

\* RF read range will vary depending on installation environment.

## Dimensions

(Unit: mm)



## FCC compliance information

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.

Note: 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.

Modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment under FCC rules.

This appliance and its antenna must not be co-located or operation in conjunction with any other antenna or transmitter. A minimum separation distance of 20 cm must be maintained between the antenna and the person for this appliance to satisfy the RF exposure requirements.

## EU Declaration of Conformity (CE)

This product is CE marked according to the provisions of the R&TTE Directive(1999/5/EC). Hereby, Suprema Inc. declares that this product is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC. This device is Class 1 radio equipment under the European Radio and Telecommunications Terminal Equipment (R&TTE) Directive (1999/5/EC).

For more information, contact us at the following contact information.

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Tel: +82-31-783-4502 / Fax: +82-31-783-4503

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- To request the modified source code based on Linux Kernel 4.x and the source code of BoringSSL, Chromium, and AOSP, which are included in this product, please visit at <https://support.supremainc.com> and contact to Suprema Tech Team.

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Version 2, June 1991

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