

NOVUS

INSTALLATION GUIDE

Version 1.01
English

EN 101.00.NVS07_D1/NVS07_D1K V1.01A

Contents

Safety instructions	4
Introduction	5
Components	5
Basic Components.....	5
Optional Components	6
Disassembling the device housing.....	7
Disassembling the rear cover	7
Disassembling the housing.....	8
Name and function of each part.....	9
Front	9
Name of each part	10
Housing	10
Rear Cover	11
Installation	12
Fixing the device	12
Installing the basic part	14
Power supply	14
Ethernet / PoE (Power over Ethernet)	14
Battery.....	15
Relay	16
Wiegand	16
Installing the Optional Part	17
Fingerprint Sensor	17
RFID Module	19
MSR (Magnetic Swipe Reader)	20
GPS.....	21
Wireless Ethernet	21
Cellular Modem	22
Installing the Application	24
Uninstalling the Application.....	24
Upgrading the Application	24
Product specifications	25
Basic Device	25
Optional Parts.....	26
Dimensions.....	27
FCC compliance information	28
FCC Compliance Statement.....	28
FCC Interference Statement.....	28
FCC Caution.....	28
FCC Radiation Exposure Statement	28
Industry Canada Statement.....	28
Industry Canada Statement.....	28
Industry Canada Radiation Exposure Statement.....	28
EU Declaration of Conformity (CE).....	29
Appendices	30
How to enroll a fingerprint correctly.....	30
Selecting a finger for fingerprint input.....	30
Fingerprint enroll method.....	30
Disclaimers	31

Copyright notice.....	31
Open Source License	31
GNU GENERAL PUBLIC LICENSE.....	31
BoringSSL License	35
OpenSSL License	35
Original SSLeay License.....	36
Chromium License.....	38
Apache License.....	39

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.

NOVUS 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

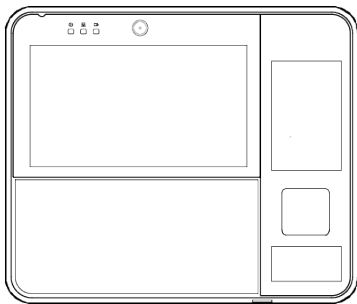
Suprema NOVUS is a multimedia workstation designed to support any Time and Attendance or Workforce Management application.

NOVUS provides an up-to-date development, feature-rich environment that allows partners and integrators to integrate and extend the functionalities of their existing applications using the powerful integrated capabilities of the system. Use the SVP (Suprema Versatile Platform) Android SDK, partners and integrators can apply the advanced features and high performance of NOVUS to their existing or new applications. You can view the SVP Android SDK at <http://kb.supremainc.com/svpsdk>.

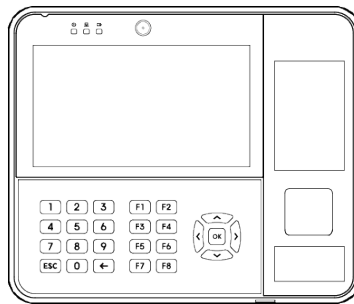
Partners and integrators can use credentials such as fingerprints, RFID cards, magnetic stripe cards, and PIN entry by selecting the options they need. NOVUS also offers a variety of options such as Wi-Fi, GPS, and 4G Cellular modem.

Components

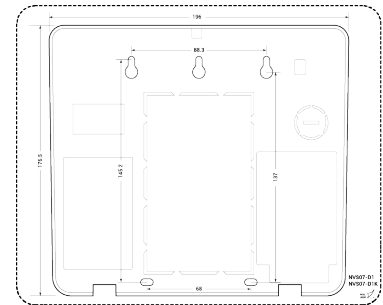
Basic Components



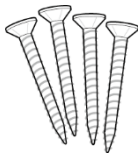
NOVUS (NVS07-D1)



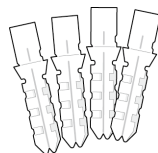
NOVUS (NVS07-D1K)



Drilling Template



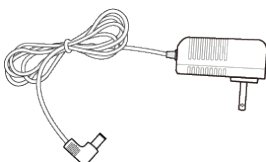
Fixing Screw x4



PVC Anchor x4



Key x2



Power Adapter



Open Source Software Guide



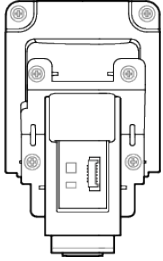
Quick Guide

NOTE

- Component use may vary according to the requirements of the installation environment.
- You can choose NOVUS either NVS07-D1 or NVS07-D1K.
- If installed, the swipe reader option is mounted on the right side of the NOVUS housing. The installer should allow for access to the swipe reader by end-users in choosing the site installation location.

Optional Components

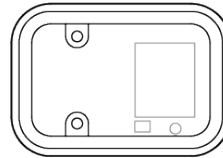
You can assemble the various options you need into NOVUS. For more information on how to install each option, refer to [Installing the Optional Part](#) in this guide.



Fingerprint Sensor

Includes

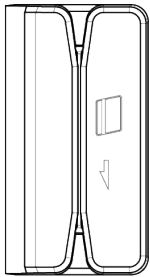
- Fingerprint Sensor
- Cable
- FCC
- Bracket
- M3 Screw x 6



RFID Module

Includes

- RFID Module
- Cable
- M3 Screw x 2



Magnetic Swipe Reader

Includes

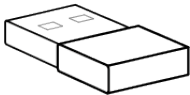
- Magnetic Swipe Reader
- Cable
- Cover
- M3 Screw x 2



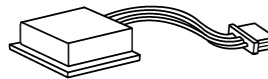
Cellular Modem

Includes

- Modem
- Modem Antenna Cable
- USB cable for Modem data
- Bracket
- M3 Screw x 1



Wi-Fi Dongle



GPS Module

Includes

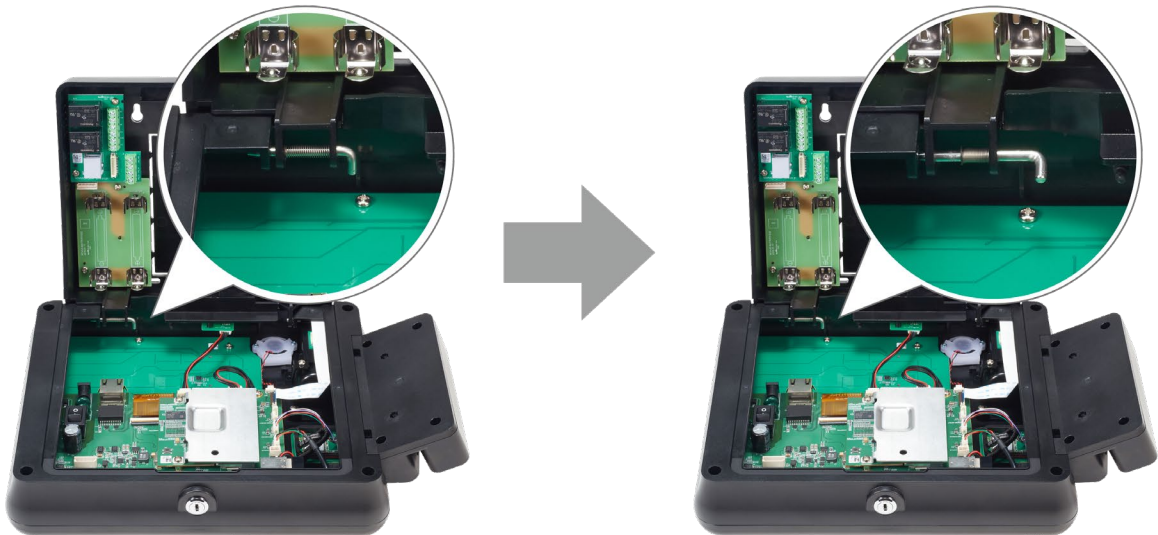
- GPS Module
- Cable

Disassembling the device housing

Disassembling the rear cover

To assemble or disassemble some optional parts and connect cables, you need to separate the rear cover.

- 1** Unlock the device with the key and open the rear cover of the device.
- 2** Unplug one side of the cable and strap that are connected to both the rear cover and the housing side.
- 3** Pull out the latch of the left side and disassemble the rear cover from the housing.



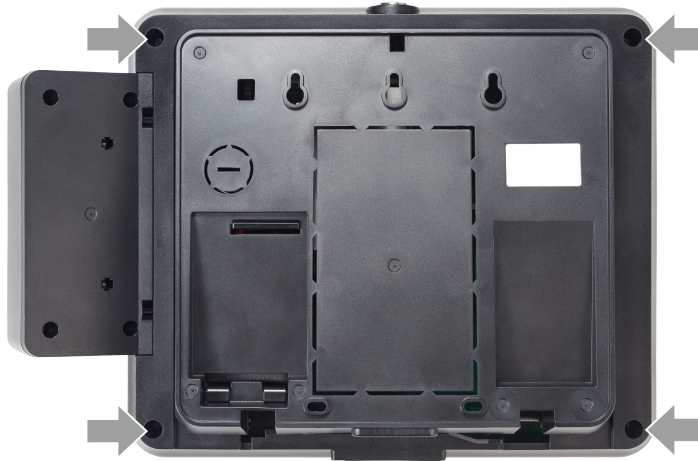
- 4** Pull out the latch of the right side and disassemble the rear cover from the housing completely.



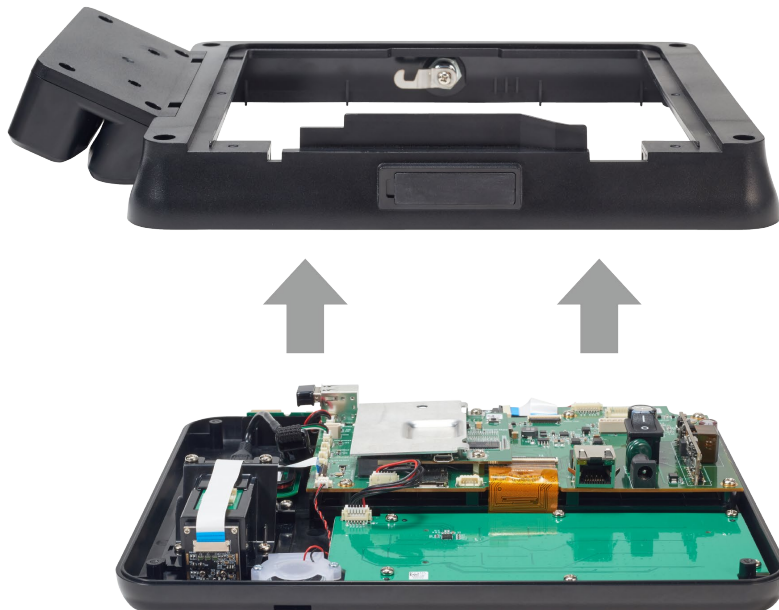
Disassembling the housing

To assemble some optional parts, you need to separate the housing.

- 1 Unplug one side of the cable that is connected to both the front and back of the housing. If a magnetic swipe reader is mounted on the device, you need to unplug the MSR module cable.
- 2 Loosen the four screws on the back of the housing.

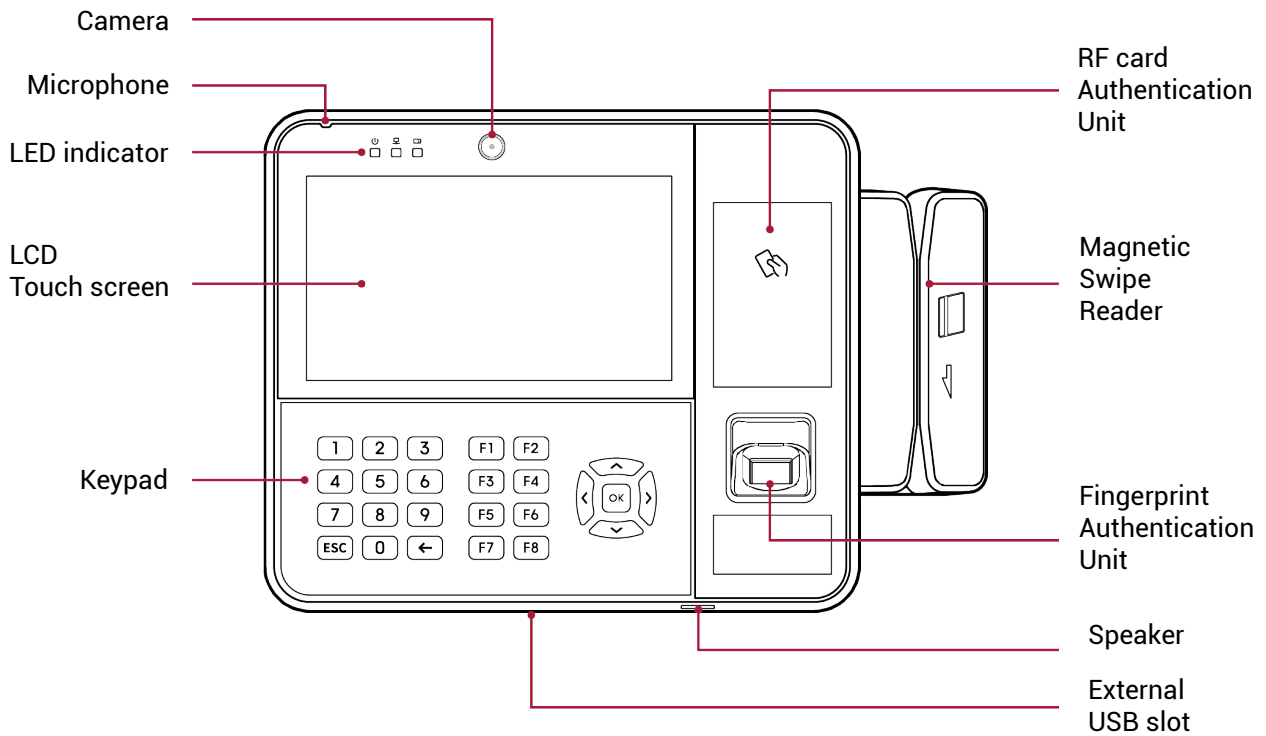


- 3 Disassemble the front and back of the housing.



Name and function of each part

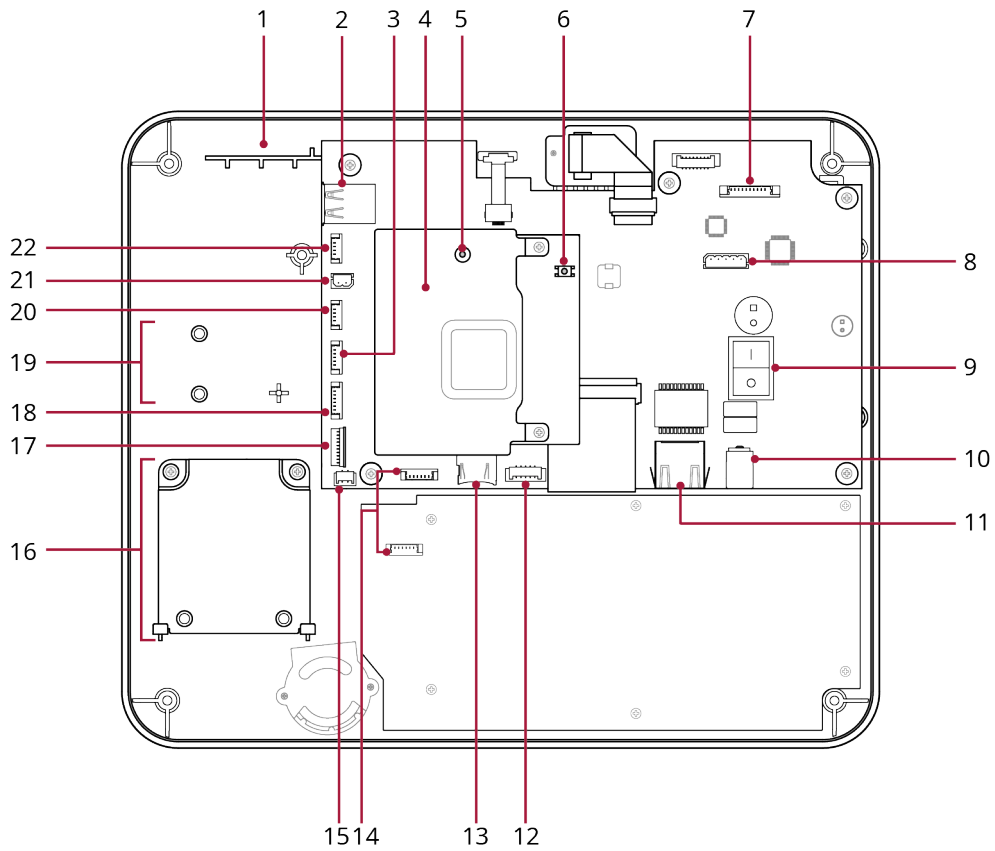
Front



Name	Description
Camera	Captures actual images.
Microphone	Delivers the voice of the user when using some application such as Phone, Sound Recorder, etc.
LED Indicator	Indicates the operational status of the device with the color of the LED. <ul style="list-style-type: none"> ● : Power ● : Network Connection ● : Battery Power
RF card Authentication Unit	Location to scan the card for the authentication.
LCD Touch screen	Provides UI for operation.
Magnetic Swipe Reader	Part to swipe the magnetic card for the authentication.
Keypad	<ul style="list-style-type: none"> ● 0 to 9: Used for entering a number or letter. ● ESC: Used to cancel an operation. ● ← : Used for moving to the previous screen or canceling input. ● F1 to F8: Assign a Time and Attendance or Workforce Management features. ● OK: Used for selecting and setting an item. ● <, ^, >, v : Used for moving to the desired item.
Fingerprint Authentication Unit	Fingerprint placement location for authentication.
Speaker	Delivers sound.
External USB slot	External Host USB port for NOVUS-capable functions.

Name of each part

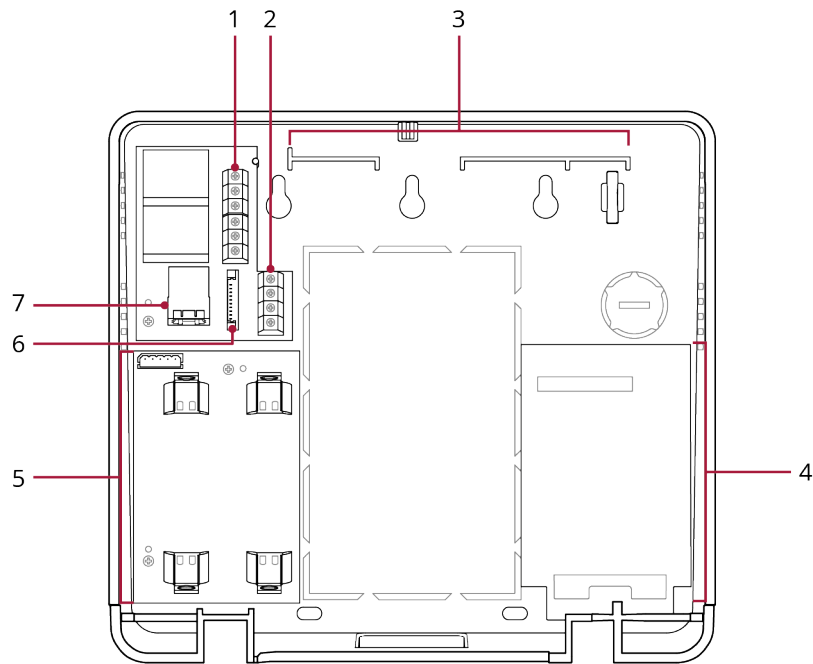
Housing



No.	Name
1	GPS Module Adhesion Area
2	Internal USB Slot for Wi-Fi Dongle and Modem data connection
3	MSR Module Cable Connector
4	Heat Sink
5	Reset Button
6	FW Download Button
7	IO(Relay/Wiegand/RS-232) Board Cable Connector
8	Battery Interface Connector
9	PoE Switch
10	Power Connector
11	Ethernet/PoE Cable Port
12	External USB Cable Connector
13	SD Card Slot

14	Keyboard Cable Connector
15	Speaker Cable Connector
16	Fingerprint Sensor Mounting Area
17	Fingerprint FFC Connector
18	Fingerprint Cable Connector
19	RFID Module Mounting Area
20	RFID Module Cable Connector
21	Modem Power Cable Connector
22	GPS Module Connector

Rear Cover

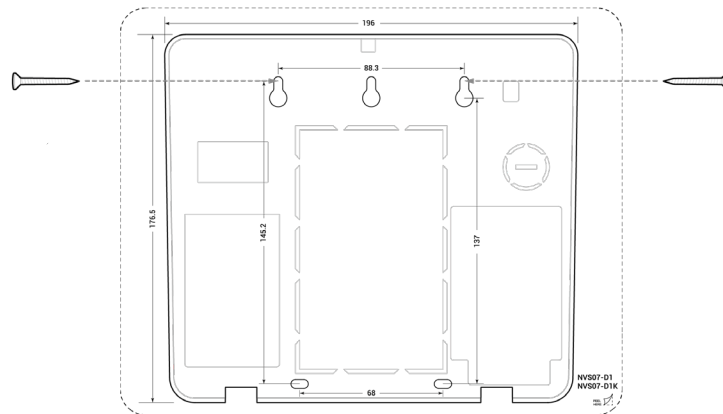


No.	Name
1	Relay Connector
2	Wiegand Connector
3	Modem Antenna Adhesion Area
4	Modem Mounting Area
5	Battery System
6	IO(Relay/Wiegand/RS-232) Board Cable Connector
7	RS-232 Port

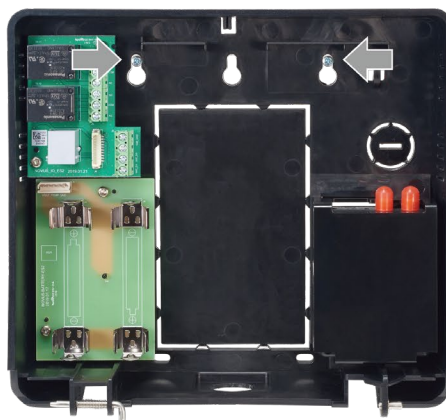
Installation

Fixing the device

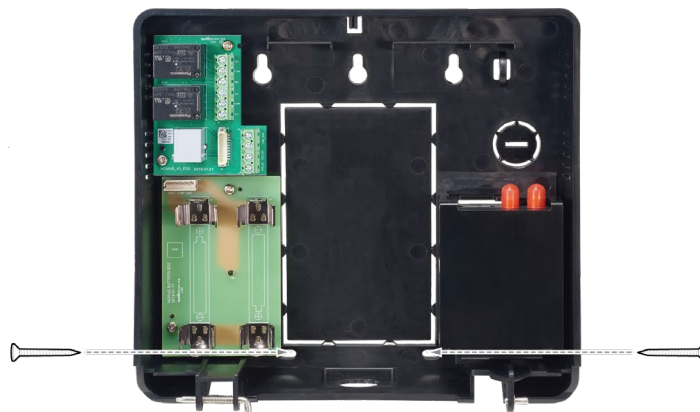
- 1 Disassemble the housing and the rear cover of the NOVUS by referring to [Disassembling the device housing](#).
- 2 Determine the correct position to install the NOVUS using the provided drilling template.
- 3 Screw the two fixing screws first at the upper screw position of the drilling template.



- 4 Mount the rear cover on the screws fixed to the wall.



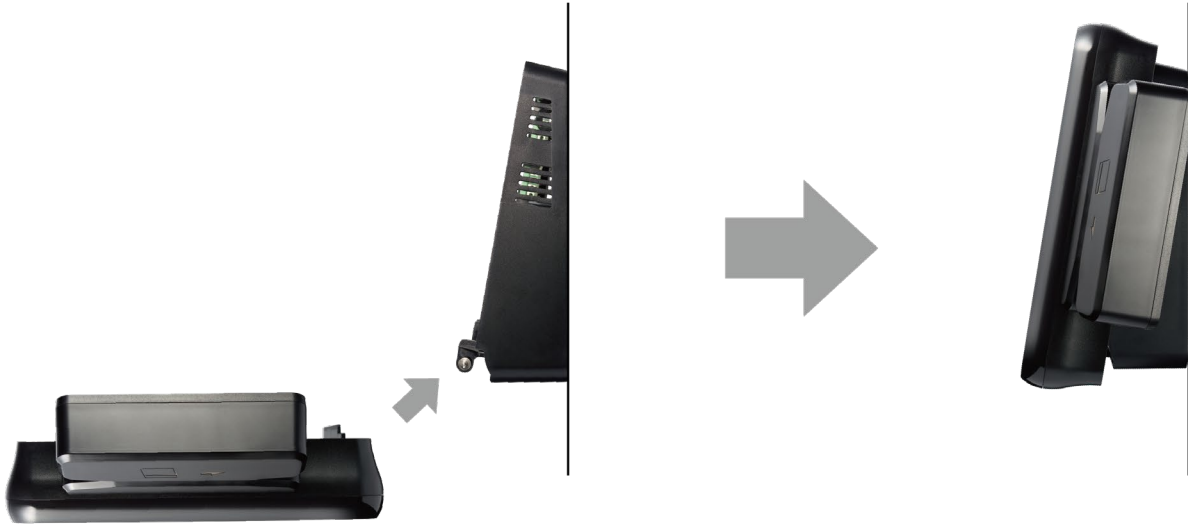
- 5 Fix the rear cover firmly using the two fixing screws at the lower part.



NOTE

- If installing NOVUS on a concrete wall, drill holes, insert PVC anchors, and attach them with fixing screws.
- If you use the RFID option, to avoid RF interference, a minimum separation distance must be maintained. The minimum separation distance of NOVUS is 10 cm from the horizontal plane and 10 cm vertically.

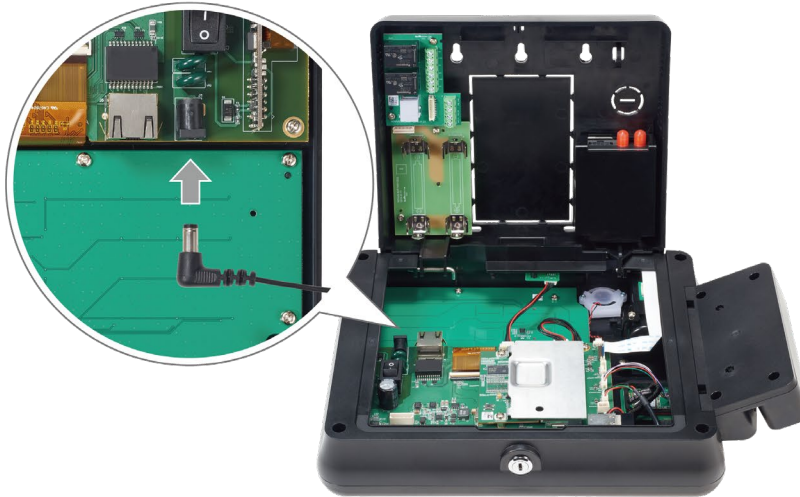
6 Install the housing onto the rear cover.



Installing the basic part

Power supply

- 1 Unlock the device with the key and open the rear cover of the device.
- 2 Connect the power cable to the Power Connector.



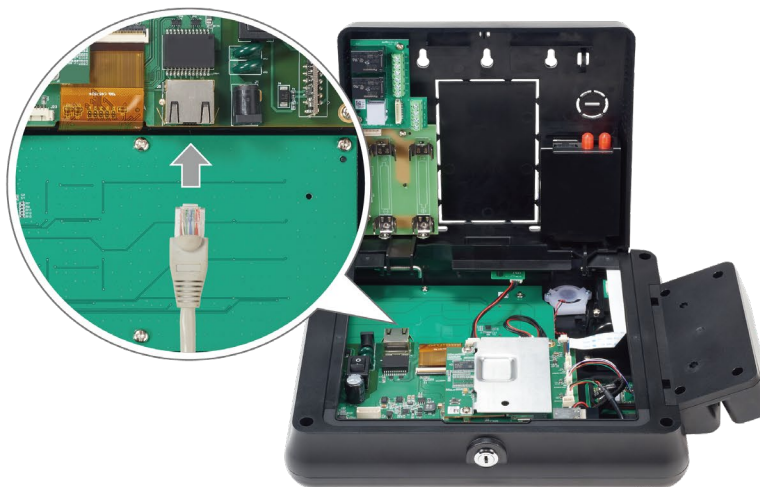
NOTE

- Use a power supply adaptor of DC 12 V with a minimum of 2,140 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.

Ethernet / PoE (Power over Ethernet)

You can connect the Ethernet cable directly to the PC or by using the hub.

- 1 Unlock the device with the key and open the rear cover of the device.
- 2 Connect the Ethernet cable to the Ethernet/PoE port.



NOTE

- You can connect the product to a hub using a general type CAT-5 cable.
- NOVUS 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.
- To supply power through an Ethernet cable, turn on the PoE power by pressing the PoE switch.

Battery


The backup battery can be used to prevent power failure.

- 1 Unlock the device with the key and open the rear cover of the device.
- 2 Mount the batteries into the battery holder. Make sure to observe the correct battery polarity when installing.



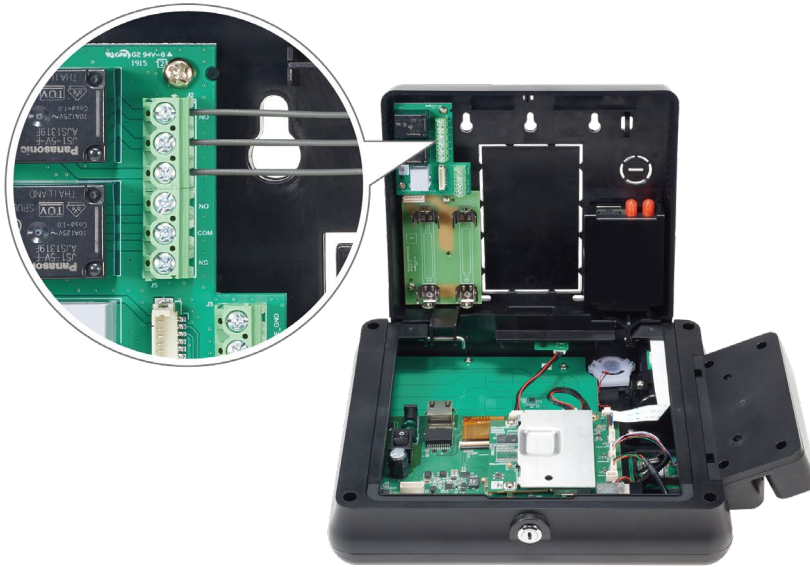
- 3 Connect the battery cable to the battery connector on the battery board and the main board.

NOTE

- When installing batteries with DC or POE power supplied, NOVUS may take up to a few minutes to detect batteries for accurately and safely charge. We recommend to powering off the device when mounting the batteries.
- Use only the specified batteries (3,400 mAh) with this device.
- Make sure the plus and minus poles are correctly oriented.
- The batteries are sold separately.
- If both the power supply and the battery are connected to the device, the battery will be charged. When the battery is charging,  is displayed on the screen.

Relay

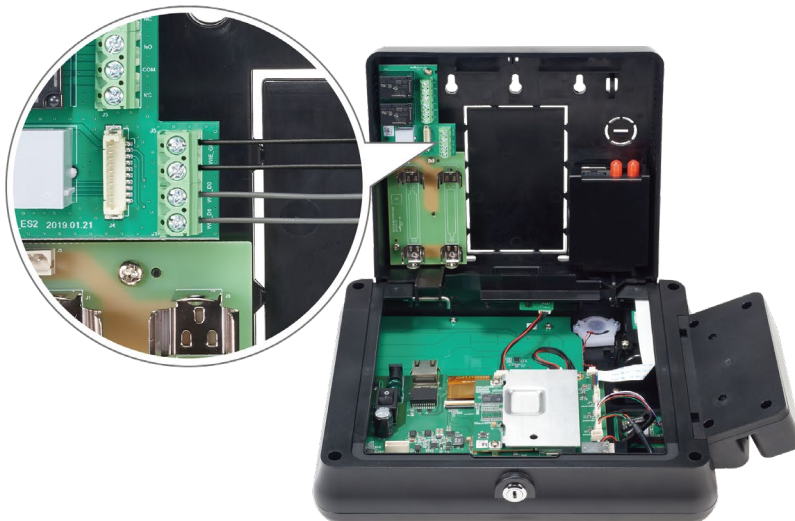
You can control the door by connecting the relay to the NOVUS. Use the SVP Android SDK, you can apply the feature to control the relay to your application.



NOTE

- Relay cable is sold separately.
- You can view the SVP Android SDK at <http://kb.supremainc.com/svpsdk>.

Wiegand



NOTE

- Wiegand cable is sold separately.

Installing the Optional Part

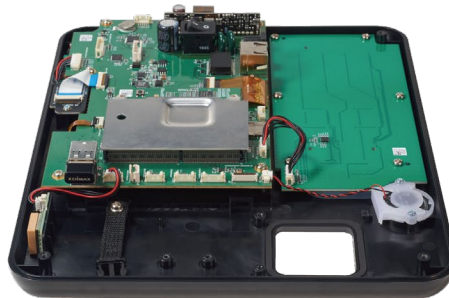
You can assemble the various options you need into NOVUS. This section describes how to mount each option to NOVUS.

NOTE

- Before installing the optional parts, turn off the power and PoE on the device, and remove the batteries.
- To more information on optional parts supported by NOVUS and how to purchase them, please visit <https://support.supremainc.com> and contact to Suprema Tech Team.

Fingerprint Sensor

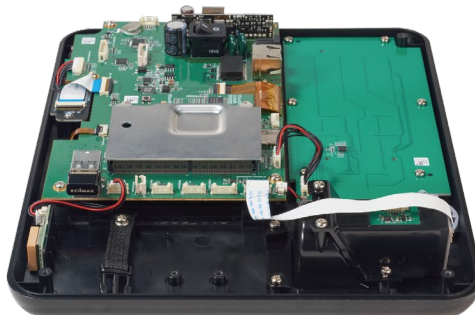
- 1** Disassemble the front and back of the housing by referring to [Disassembling the housing](#).
- 2** Loosen the two screws on the cover of the fingerprint sensor mounting area and then disassemble the cover.



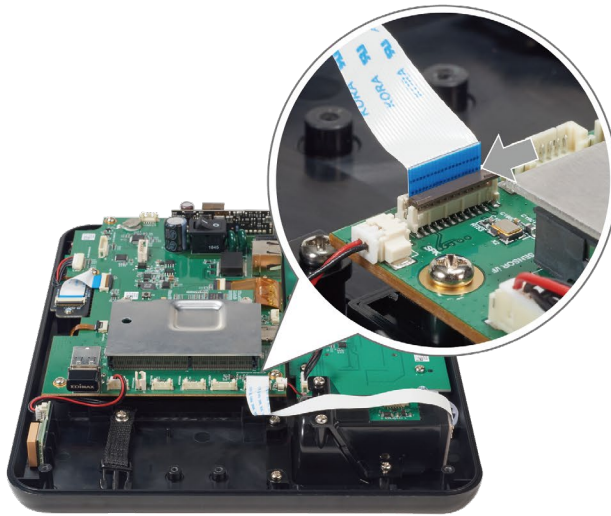
- 3** Mount the bracket with the fingerprint sensor to the housing.



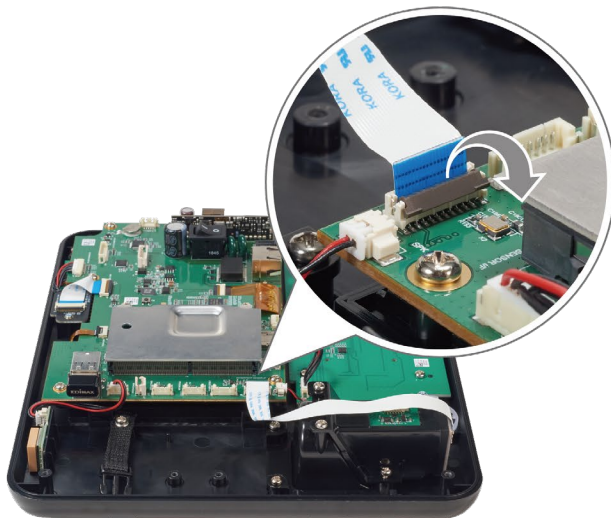
- 4** Fix the bracket firmly at the housing using the four screws.



- 5 Hold the FCC with the blue side up connect it so that the outer dotted outline contacts the holder of the FCC connector.



- 6 Close the holder of the FCC connector to lock the cable in place.



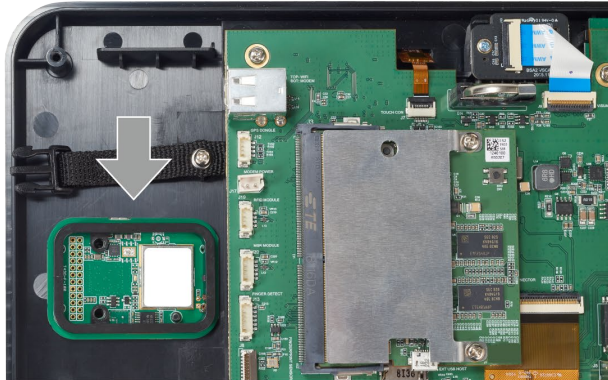
- 7 Connect the fingerprint cable to the fingerprint cable connector.

NOTE

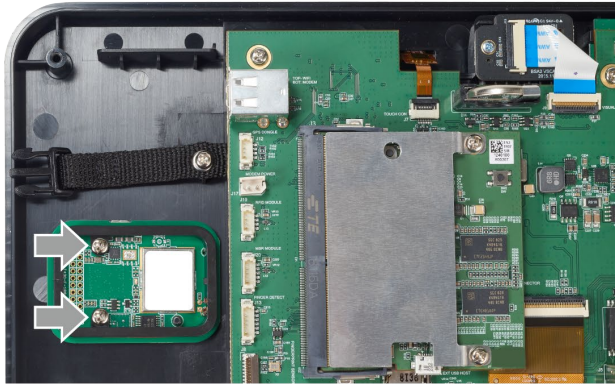
- For more information on how to enroll the fingerprints, please refer to [How to enroll a fingerprint correctly](#).

RFID Module

- 1 Disassemble the front and back of the housing by referring to [Disassembling the housing](#).
- 2 Place the RFID module on the RFID module mounting area.



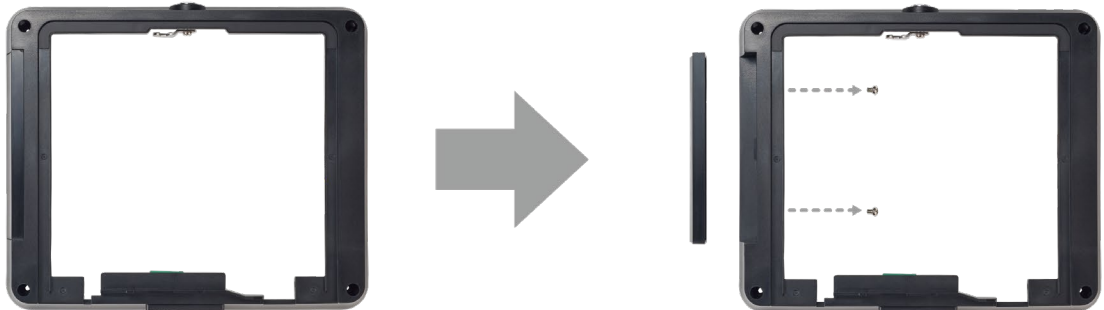
- 3 Fix the RFID module firmly at the housing using the two screws.



- 4 Connect the RFID cable to the RFID module cable connector.

MSR (Magnetic Swipe Reader)

- 1 Disassemble the front and back of the housing by referring to [Disassembling the housing](#).
- 2 Loosen the two screws on the inside of the housing side and disassemble the cover.



- 3 Insert the MSR module cable into the hole in the housing side and mount the reader on the housing.



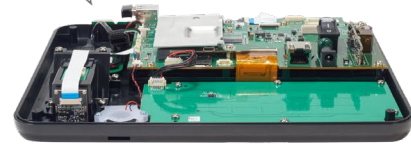
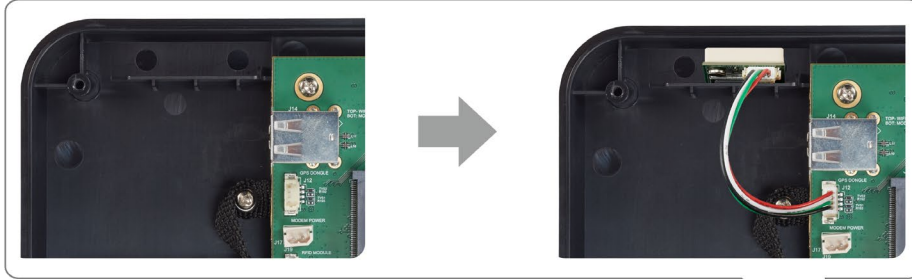
- 4 Fix the magnetic swipe reader firmly at the housing using the two screws.



- 5 Connect the MSR module cable to the MSR module cable connector.

GPS

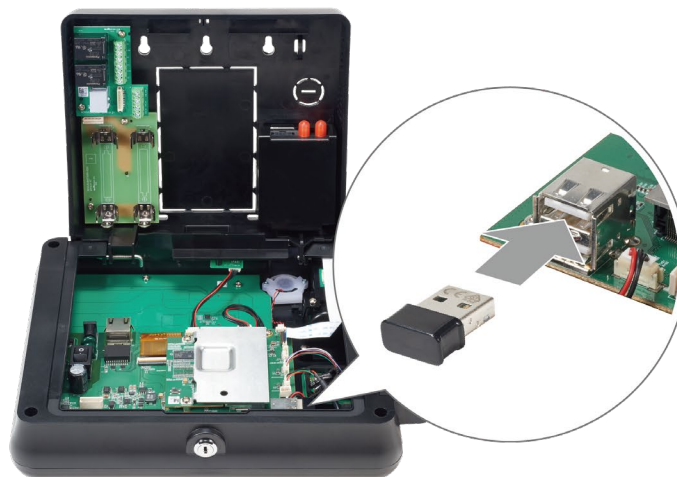
- 1 Disassemble the front and back of the housing by referring to [Disassembling the housing](#).
- 2 Attach the GPS module to the GPS module adhesion area using double-sided tape.



- 3 Connect the GPS module cable to the GPS module cable connector.

Wireless Ethernet

- 1 Unlock the device with the key and open the rear cover of the device.
- 2 Plug the WiFi Dongle in to the top of the internal USB slot.



Cellular Modem

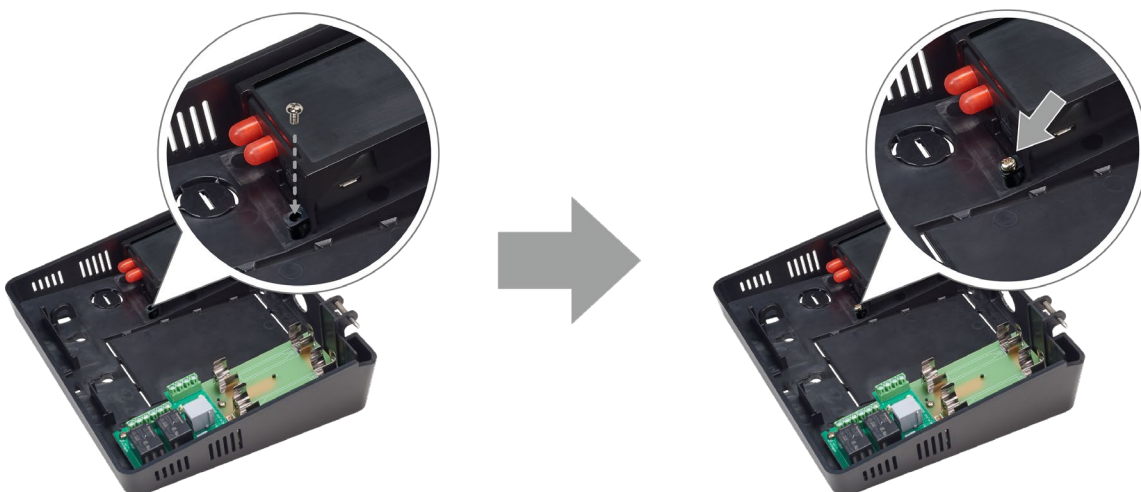
- 1 Unlock the device with the key and open the rear cover of the device.
- 2 Insert the cellular modem into the modem bracket from the top first and attach it using a double sided tape.



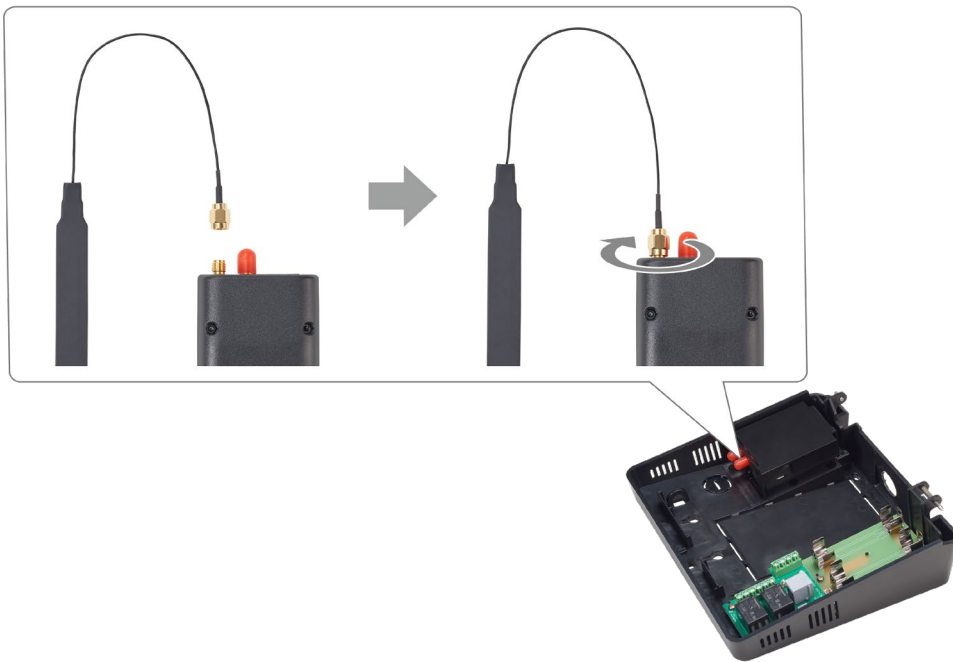
- 3 Mount the lower part of the bracket into the modem mounting area of the rear cover and mount the upper part.




- 4 Fix the modem bracket firmly at the rear cover using a screw.



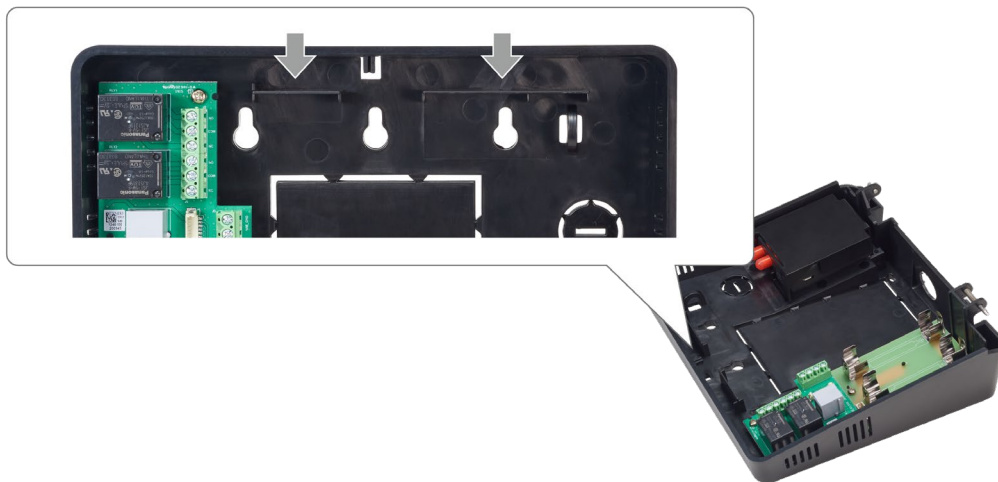
5 Connect the modem antenna to the cellular modem.



NOTE

- Connect the modem antenna to the  side of the antenna connector on the cellular modem.

6 Attach the modem antenna to the modem antenna adhesion area. The internal antenna may be omitted if the site requires use of a remote antenna to capture signal. The remote antenna shall provide a connector suitable for use with the internal cellular modem, and be of the correct impedance.



7 Connect the modem cable to the modem power cable connector on the housing.


8 Plug the USB cable for Modem data into the bottom of the internal USB slot.

Installing the Application

The Time and Attendance or Workforce Management applications can be installed on NOVUS 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 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 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.


Uninstalling the Application

You can uninstall the application installed on NOVUS.

- 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

Basic Device

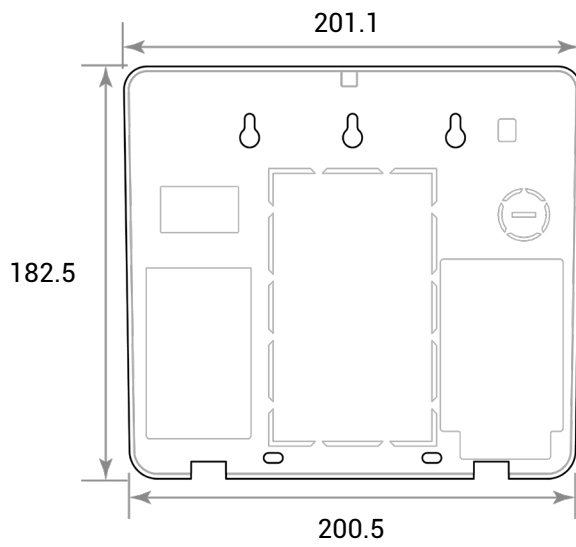
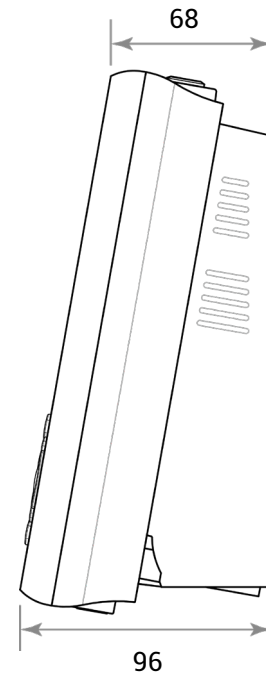
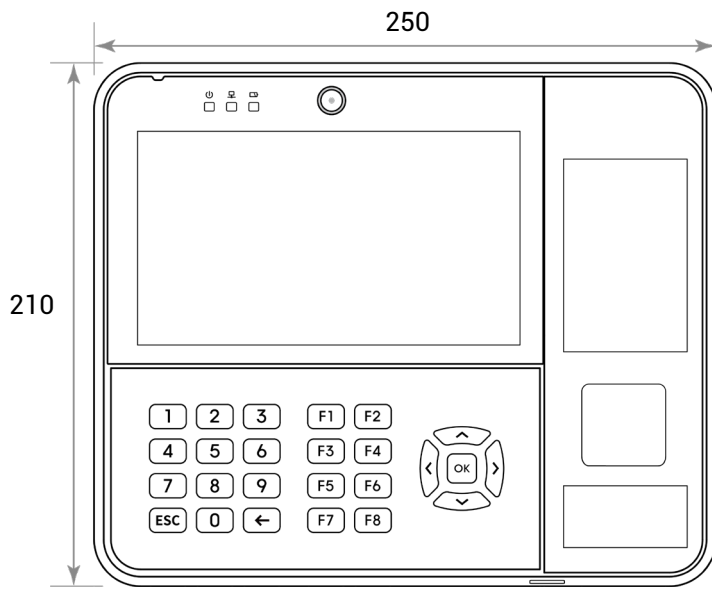
Category	Feature	Specification
General	CPU	1.0 GHz Quad-core
	Memory	16 GB eMMC
	LCD type	7.0" Touchscreen
	LCD resolution	1024 x 600 pixels
	LED	Multiple colors
	Sound	Max 1W Loudspeaker
	Operating temperature	0°C ~ 50°C
	Storage temperature	-20°C ~ 70°C
	Operating humidity	0% ~ 80%, non-condensing
	Storage humidity	0% ~ 90%, non-condensing
	Camera type	CMOS 1M pixels
	Camera resolution	1280 x 720 pixels
	Camera angle	Diagonal 122°, Horizontal 64.7°, Vertical 103.3°
	Dimension (W x H x D)	210 mm x 250 mm x 96 mm
	Weight	<ul style="list-style-type: none"> NVS07-D1: 1,189 g NVS07-D1K: 1,235 g
Certificates	CE, FCC, RoHS, REACH, WEEE	
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	Ethernet	Supported (10/100 Mbps, auto MDI/MDI-X)
	PoE+	Supported (IEEE 802.3at compliant)
	RS-232	Supported (RXD, TXD, CTS, RTS)
	Wiegand	1ch Input
	Relay	2 Relays
	USB	USB 2.0 (Host)
	SD card	Supported
Electrical	Power	<ul style="list-style-type: none"> Voltage: DC 12 V Current: Max.2,140 mA (Full option)
	Wiegand input VIH	<ul style="list-style-type: none"> Max. 5V Min. 3V
	Wiegand input VIL	Max. 1V
	Wiegand input Pull-up resistor	Internally pulled up with 4.7 kΩ
	Relay	<ul style="list-style-type: none"> Voltage: Max. 100 VDC / 250 VAC Current: Max. 5 A (DC) / 6 A (AC)

Optional Parts

Category	Specification
Fingerprint	<ul style="list-style-type: none">• Sensor: Optical sensor (OP6)• Template: SUPREMA / ISO 19794-2 / ANSI 378
RFID	<ul style="list-style-type: none">• R1: 125kHz EM, & 13.56MHz MIFARE, MIFARE Plus, DESFire/EV1, FeliCa, HID iCLASS SE/SR/Seos (UID Only), Legic Advant (UID Only)• R2: 125kHz EM, HID Prox & 13.56MHz MIFARE, MIFARE Plus, DESFire/EV1, FeliCa, HID iCLASS SE/SR/Seos, Legic Advant (UID Only)• R3: 125kHz EM & 13.56MHz MIFARE, MIFARE Plus, DESFire/EV1, Legic Advant/Prime (Planned)
MSR	Selectable
Cellular Modem	Sierra - GL7500
GPS	Selectable
Wi-Fi	802.11 b/g/n/ac
Battery	<ul style="list-style-type: none">• Voltage: 7.4 V (Max. 8.4 V)• Capacity: 3,400 mAh

Dimensions

(Unit: mm)



FCC compliance information

FCC Compliance Statement

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.

FCC Interference Statement

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 instructions, 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.

FCC Caution

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Industry Canada Statement

Industry Canada Statement

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Industry Canada Radiation Exposure Statement

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

Separation Distance: The separation distance is the distance that must be maintained between the device under test and the user. This separation distance is specified by the manufacturer in the user manual as per the requirements of RSS-102. It may be greater than the compliance distance but must be based on typical usage of the device under test.

EU Declaration of Conformity (CE)

This product is CE marked according to the provisions of the Radio Equipment Directive (RED) 2014/53/EU. Hereby, Suprema Inc. declares that this product is in compliance with the essential requirements and other relevant provisions of Radio Equipment Directive (RED) 2014/53/EU.

- NFC Frequency: 13.56 MHz
- RFID Frequency: 13.56 MHz + 125 kHz

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

Suprema Inc.

Website: <https://www.supremainc.com>

Address: 17F Parkview Tower, 248, Jeongjail-ro, Bundang- gu, Seongnam-si, Gyeonggi-do, 13554, Rep. of KOREA

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

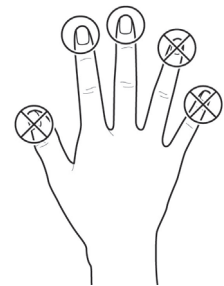
Appendices

How to enroll a fingerprint correctly

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

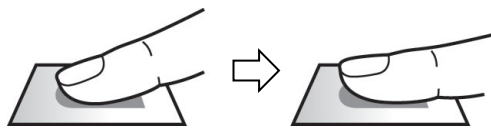
Selecting a finger for fingerprint input

- In preparation for a situation in which 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 enrolled.
- 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 you wish to enroll 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 enrolled finger again (scan the fingerprint of a finger to be enrolled 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 is decreased or the angle of finger is warped, fingerprint authentication may not be performed.



When the fingerprint recognition fails

NOVUS 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 enrolled fingerprint often may have not been scanned correctly, so enroll the fingerprint again according to 'Cautions for enrolling a fingerprint'.

Disclaimers

- The information in this manual is provided with regard to the Suprema's products.
- The right to use is acknowledged only for products included in the terms and conditions of the sales agreement guaranteed by Suprema. The right of license to other intellectual property rights not discussed in this manual is not acknowledged.
- Suprema does not guarantee or hold responsibility for the suitability and commerciality of the product for a specific purpose, or the infringement of patent, copyright, or other intellectual property rights with regard to sales or usage of Suprema's products.
- Do not use the product of Suprema under the situations related to medical, rescue of human lives, or maintenance of life, as a person may get injured or lose his/her life due to product malfunction. If an accident occurs while a consumer is using the product under the situations described as examples above, employees, subsidiaries, branches, affiliated companies and distributors of Suprema do not accept responsibility nor will they reimburse for all related direct and indirect expenses or expenditure including attorney fees even if the consumer has discovered any shortcomings in the product design or manufacturing process and claims this as a significant fault.
- Suprema may modify the product size and specifications at any time without proper notice in order to improve the safety, function and design of the product. Designers must keep in mind that functions or descriptions indicated as "to be implemented" or "undefined" may change at any time. Suprema will implement or define such functions or descriptions in the near future and Suprema accepts no responsibility for compatibility issues and any other problems arising from such compatibility issues.
- If you wish to obtain the newest specifications before ordering the product, contact Suprema through a Sales Representative or local distributor of Suprema.

Copyright notice

The copyright of this document is vested in Suprema. The rights of other product names, trademarks and registered trademarks are vested in each individual or organization that owns such rights.

Open Source License

- The software of this product is based on "Linux Kernel 4.x", which is licensed under GPL. As for GPL, please refer to the [GNU General Public License](#) in this manual.
- This product uses the "BoringSSL", which is licensed under the OpenSSL and Original SSLeay licenses. As for the OpenSSL and Original SSLeay licenses, please refer to [OpenSSL License](#) and [Original SSLeay License](#) in this manual.
- This product uses the "Chromium", which is licensed under GPL. As for GPL, please refer to the [GNU General Public License](#) in this manual.
- This product uses the "AOSP", which is licensed under the Apache License 2.0. As for the Apache License 2.0, please refer to [Apache License](#) in this manual.
- 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.

GNU GENERAL PUBLIC LICENSE

Version 2, June 1991

Copyright © 1989, 1991 Free Software Foundation, Inc. <<http://fsf.org/>>

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make

sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all. The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

- a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives

a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR

THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

BoringSSL License

BoringSSL is a fork of OpenSSL. As such, large parts of it fall under OpenSSL licensing. Files that are completely new have a Google copyright and an ISC license. This license is reproduced at the bottom of this file.

Contributors to BoringSSL are required to follow the CLA rules for Chromium:
<https://cla.developers.google.com/cla>

Files in `third_party/` have their own licenses, as described therein. The MIT license, for `third_party/flatbuffers`, which, unlike other `third_party` directories, is compiled into non-test libraries, is included below.

The OpenSSL toolkit stays under a dual license, i.e. both the conditions of the OpenSSL License and the original SSLeay license apply to the toolkit. See below for the actual license texts. Actually both licenses are BSD-style Open Source licenses. In case of any license issues related to OpenSSL please contact openssl-core@openssl.org.

The following are Google-internal bug numbers where explicit permission from some authors is recorded for use of their work. (This is purely for our own record keeping.)

27287199
27287880
27287883

OpenSSL License

Copyright (c) 1998-2011 The OpenSSL Project. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. All advertising materials mentioning features or use of this software must display the following acknowledgment: "This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit. (<http://www.openssl.org/>)"
4. The names "OpenSSL Toolkit" and "OpenSSL Project" must not be used to endorse or promote products derived from this software without prior written permission. For written permission, please contact openssl-core@openssl.org.
5. Products derived from this software may not be called "OpenSSL" nor may "OpenSSL" appear in their names without prior written permission of the OpenSSL Project.
6. Redistributions of any form whatsoever must retain the following acknowledgment: "This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (<http://www.openssl.org/>)"

THIS SOFTWARE IS PROVIDED BY THE OPENSSL PROJECT ``AS IS'' AND ANY EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE OPENSSL PROJECT OR ITS CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

This product includes cryptographic software written by Eric Young (eay@cryptsoft.com). This product includes software written by Tim Hudson (tjh@cryptsoft.com).

Original SSLeay License

Copyright (C) 1995-1998 Eric Young (eay@cryptsoft.com) All rights reserved.

This package is an SSL implementation written by Eric Young (eay@cryptsoft.com). The implementation was written so as to conform with Netscapes SSL.

This library is free for commercial and non-commercial use as long as the following conditions are adhered to. The following conditions apply to all code found in this distribution, be it the RC4, RSA, lhash, DES, etc., code; not just the SSL code. The SSL documentation included with this distribution is covered by the same copyright terms except that the holder is Tim Hudson (tjh@cryptsoft.com).

Copyright remains Eric Young's, and as such any Copyright notices in the code are not to be removed. If this package is used in a product, Eric Young should be given attribution as the author of the parts of the library used. This can be in the form of a textual message at program startup or in documentation (online or textual) provided with the package.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. All advertising materials mentioning features or use of this software must display the following acknowledgement:
"This product includes cryptographic software written by Eric Young (eay@cryptsoft.com)" The word 'cryptographic' can be left out if the routines from the library being used are not cryptographic related :-).
4. If you include any Windows specific code (or a derivative thereof) from the apps directory (application code) you must include an acknowledgement: "This product includes software written by Tim Hudson (tjh@cryptsoft.com)"

THIS SOFTWARE IS PROVIDED BY ERIC YOUNG ``AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

The licence and distribution terms for any publically available version or derivative of this code cannot be changed. i.e. this code cannot simply be copied and put under another distribution licence [including the GNU Public Licence.]

ISC license used for completely new code in BoringSSL:
Copyright (c) 2015, Google Inc.

Permission to use, copy, modify, and/or distribute this software for any purpose with or without fee is hereby granted, provided that the above copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS" AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

The code in third_party/ fiat carries the MIT license:

Copyright (c) 2015-2016 the fiat-crypto authors (see <https://github.com/mit-plv/fiat-crypto/blob/master/AUTHORS>).

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

The code in third_party/sike also carries the MIT license:

Copyright (c) Microsoft Corporation. All rights reserved.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE

Licenses for support code

Parts of the TLS test suite are under the Go license. This code is not included in BoringSSL (i.e. libcrypto and libssl) when compiled, however, so distributing code linked against BoringSSL does not trigger this license:
Copyright (c) 2009 The Go Authors. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- * Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
- * Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
- * Neither the name of Google Inc. nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

BoringSSL uses the Chromium test infrastructure to run a continuous build, trybots etc. The scripts which manage this, and the script for generating build metadata, are under the Chromium license. Distributing code linked against BoringSSL does not trigger this license.

Copyright 2015 The Chromium Authors. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- * Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
- * Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
- * Neither the name of Google Inc. nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Chromium License

Copyright (C) 2014 The Chromium Authors. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- * Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
- * Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
- * Neither the name of Google Inc. nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY

AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Apache License

Version 2.0, January 2004 (<http://www.apache.org/licenses/>)

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

- (a) You must give any other recipients of the Work or Derivative Works a copy of this License; and
- (b) You must cause any modified files to carry prominent notices stating that You changed the files; and
- (c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and
- (d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.


5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or



rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

The logo for Suprema, featuring the word "suprema" in a white, lowercase, sans-serif font. Below it, the words "BIOMETRICS & SECURITY" are written in a smaller, all-caps, sans-serif font. The logo is set against a dark red rectangular background.

suprema
BIOMETRICS & SECURITY

Suprema Inc.

17F Parkview Tower, 248, Jeongjail-ro, Bundang- gu, Seongnam-si, Gyeonggi-do, 13554, Rep. of KOREA
Tel: +82 31 783 4502 | Fax: +82 31 783 4503 | Inquiry: sales@supremainc.com

©2019 Suprema Inc. Suprema and identifying product names and numbers herein are registered trade marks of Suprema, Inc. All non-Suprema brands and product names are trademarks or registered trademarks of their respective companies. Product appearance, build status and/or specifications are subject to change without notice.