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INSTALLATION GUIDE

BioLite Net

English

Version 2.10

EN 101.00.BLN V2.10A

Contents

Safety Instructions 3

Getting Started 5
- Components 5
- Part names and features 6
  - Cables and connectors 7
- How to Scan a Fingerprint 8
  - Choosing a finger for registration 8
  - How to register a fingerprint 8

Installation 9
- Mounting the Bracket and Product 9
- Connecting to Power 10
- Connecting to a Network 10
  - TCP/IP 10
- Connecting to an Door button/Door sensor 10
- Connecting to a Relay 11
  - Fail Safe Lock 11
  - Fail Secure Lock 11
  - Connecting to an Automatic door 12
  - How to configure a Relay 12
- Connecting as a standalone 13
- Connecting to Secure I/O 2 14
- Connecting as a Wiegand device 14

Product Specifications 15
- Dimensions 16

FCC Compliance Information 17

Appendix 18
- Disclaimers 18
- Copyright Notice 18

Safety Instructions

Please read the following instructions carefully before using the product. This information is important for ensuring the safety of the user and for preventing damage to the user's property.

⚠Warning

Violation of the instructions may cause serious injury or death.

Installation Instructions

Do not install the product in direct sunlight or in a location that is damp or dusty.

- This can cause a fire or electric shock.

Do not install the product near any heat source such as electric heaters.

- This can cause a fire from overheat or electric shock.

Install the product in a dry place.

- Moisture can cause product damage or electric shock.

Install the product in a place where there is no electromagnetic interference.

- This can cause product damage or electric shock.

Have qualified service professionals install or repair the product.

- Otherwise, it can cause a fire, electric shock, or injury.
- If the product is damaged due to a user's unauthorized installation or dismantling of the product, a service fee will be charged for repair.

Operating Instructions

Be careful not to spill any liquid such as water, drinks, or chemicals inside the product.

- This can cause fire, electric shock, or product damage.

⚠Caution

Ignoring these instructions may result in minor injuries or damage to the product.

Installation Instructions

Protect the power cord from being walked on or pinched.

- This can cause product damage or injury.

Keep the product away from strong magnetic objects such as magnets, TVs, monitors (especially CRT monitors), or speakers.

- This can cause a failure.

Only use the power adapter included with the product or a DC power adapter providing a current more than 500mA.

- This device does not work if the proper power source is not used.

If installing the product outside where the product is completely exposed, it is recommended to install the product together with the enclosure.

Use a separate power supply for Secure I/O 2, electric lock and BioLite Net respectively.

- If connecting and using the power supply to these devices together, the devices may malfunction.

Operating Instructions

Do not drop the product or subject it to shock or impact during use.

- This can cause a failure.

Keep the password secret from others and change it periodically.

- Failure to do so may lead to an illegal intrusion.

Do not press the buttons on the product with excessive force or with a sharp tool.

- This can cause a failure.

Be careful not to contaminate or damage the fingerprint reader with a dirty hand or materials.

- This can decrease performance or cause failure to read a fingerprint.

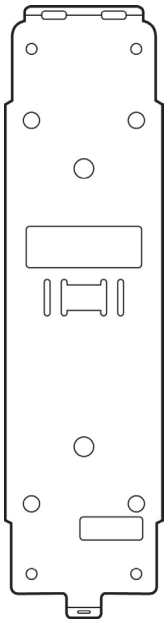
Clean the product with a soft, dry cloth. Do not use alcohol, benzene, or water.

- This can cause a product failure.

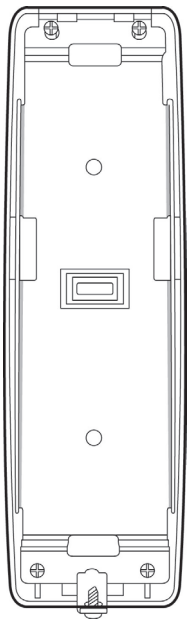
Getting Started

Components

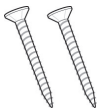
BioLite Net



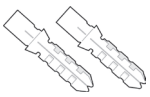
Main bracket



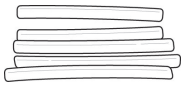
Extension bracket



Mounting screws
for bracket
(2 pcs)



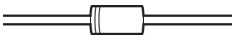
PVC anchors
(2 pcs)



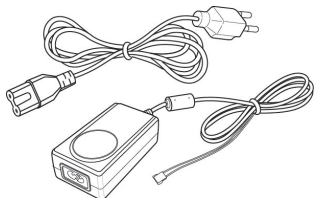
Heat shrink tubes

TCP/IP connector

Hex wrench
(for mounting bracket)



Diode
(1 pc)

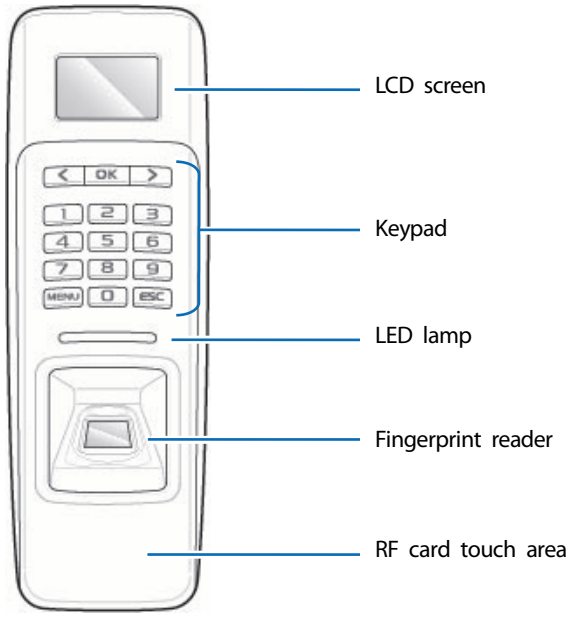


Adapter

Note

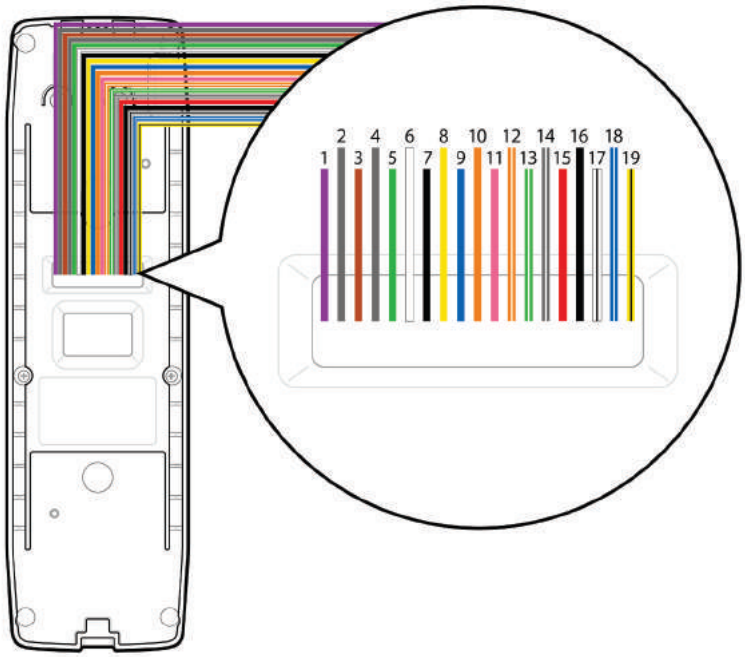
The components may differ depending on where the product is installed.

Part names and features



Name	Feature
LCD screen	Displays various information or settings.
Keypad	• 0–9 buttons: For entering an ID or password. • < > direction button: Navigates to an item. When entering numbers or an IP address, the < button can be used to delete the value entered. • OK button: Chooses a function. • MENU button: Enters or exits a menu. • ESC button: Moves back to the previous screen or cancels an input.
LED lamp	• Green: Authentication success. • Red: Authentication failure. • Pink: Processing. • Blue and yellow alternate flashing every 2 seconds: The IP address has not been received via **DHCP** in **Device IP** configuration. • Blue and sky-blue alternate flashing every 2 seconds: Normal operation. • Red and pink alternative flashing every 2 seconds: The device is locked or no administrator. • Blue and red alternate flashing every 2 seconds: The clock has been reset due to an empty internal battery. (The clock needs to be reconfigured.) • Red flashes every 2 seconds on first use: Failure to reset. Contact the manufacturer. • Yellow flashes briefly: Waiting for an input.
Fingerprint reader	Reads fingerprints placed on it for entering and exiting.
RF card touch area	Reads RF cards for entering and exiting.

Cables and connectors



Pin	Name	Color
1	TTL IN0	Purple
2	TTL GND	Gray
3	TTL IN1	Brown
4	TTL GND	Gray
5	WG D0	Green
6	WG D1	White
7	WG GND	Black
8	ENET RXN	Yellow
9	ENET RXP	Blue
10	ENET TXN	Orange
11	ENET TXP	Pink
12	RLY NC	Orange (White stripe)
13	RLY COM	Green (White stripe)
14	RLY NO	Gray (White stripe)
15	PWR +VDC	Red
16	PWR GND	Black
17	485 GND	White (Black stripe)
18	485 TRXP	Blue (White stripe)
19	485 TRXN	Yellow (Black stripe)

How to Scan a Fingerprint

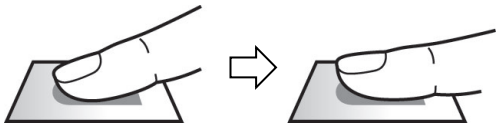
Register a fingerprint correctly to improve the recognition rate of the fingerprint. BioLite Net can read a fingerprint even when the angle or position of the finger has changed. If you register a fingerprint with the following instructions, the recognition rate can be improved.

Choosing a finger for registration

- Each person can register up to 10 fingerprints. If some fingers were injured or used to carry something, they should not be used.
- If a fingerprint is not well scanned, the fingerprint can be registered twice, which improves the recognition rate.
- If a finger is injured or the fingerprint is not clear, please use another finger for registering.
- The index finger or middle finger is preferred for registering a fingerprint. The other fingers may show a lower recognition rate because those fingers tend to have difficulty being placed at the center of the fingerprint reader.

How to register a fingerprint

1 When registering a fingerprint, the "**Scan 1st finger"** message will appear on the LCD screen. Place a finger on the fingerprint reader, and then press softly in order to improve the recognition rate.



2 After a beep sounds and a screen appears to scan again, scan the finger again.
(The finger should be scanned twice for registering.)

Note

Precautions for registering a fingerprint

Registering a finger is the most important procedure because this device uses the registered fingerprint to compare it with a fingerprint that the device tries to read. Please ensure the following when registering a fingerprint:

- Place a finger firmly on the fingerprint reader for it to be read completely.
- The center of the fingerprint should be placed at the center of the fingerprint reader.
- If a finger is injured or the fingerprint is not clear, please use another finger for registering.
- Follow the instructions on the screen and place the finger correctly without movement when a finger is read.
- If the finger is lifted up, not placed at the center, or only part of the finger is placed on the fingerprint reader, the fingerprint may not register.

Precautions for reading a fingerprint

BioLite Net can read fingerprints regardless of the change in seasons or condition of the fingers. However, the external environment or the finger's placement can affect the recognition rate.

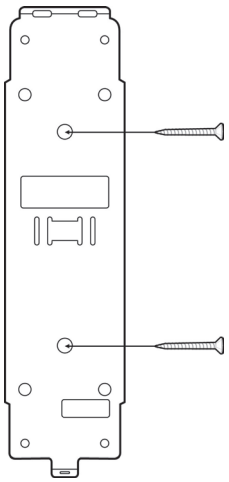
If a fingerprint is not well read, the following actions are recommended.

- If there is water or sweat on the finger, please wipe it off before placing the finger.
- If the finger is too dry, please blow softly on the fingertip before placing the finger.
- If the finger is injured, please register another finger.
- The fingerprint that is registered on the first attempt tends to be placed incorrectly. So, register a fingerprint multiple times according to '**Precautions for registering a fingerprint**'.

Installation

Mounting the Bracket and Product

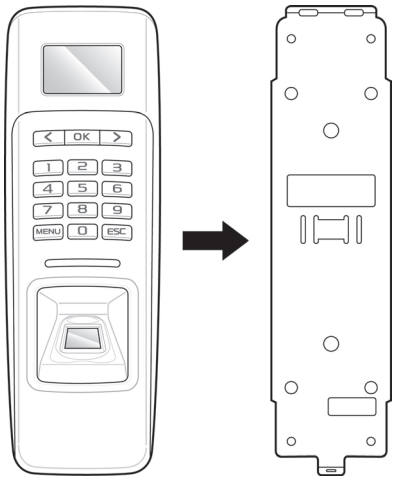
1 With the mounting screws for the bracket, mount the bracket firmly onto the surface where BioLite Net is to be installed.



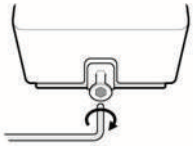
Note

If BioLite Net is to be installed on a concrete wall, make a hole with a drill, and then insert a PVC anchor into the hole before inserting the mounting screw.

2 Attach BioLite Net onto the mounted bracket.



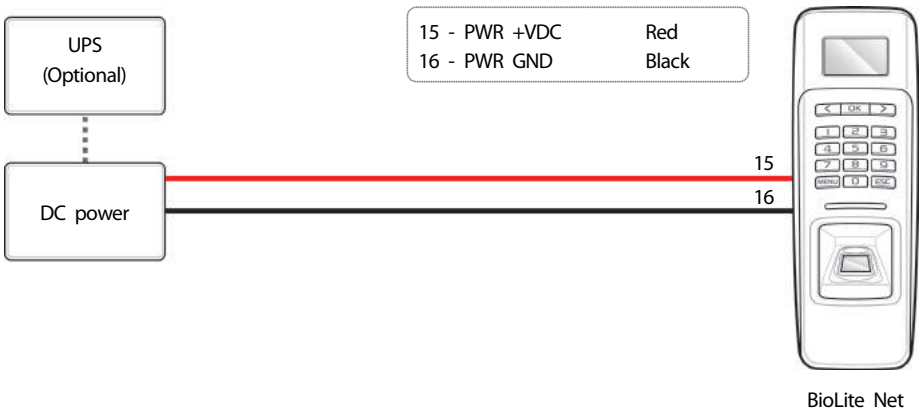
3 Assemble BioLite Net with the wall mount bracket by fastening hex socket head screws on the bottom of BioLite Net with a hex wrench.



Note

An extension bracket is provided to help with wiring depending on the installation environment. Remove the main bracket from BioLite Net when using the extension bracket.

Connecting to Power

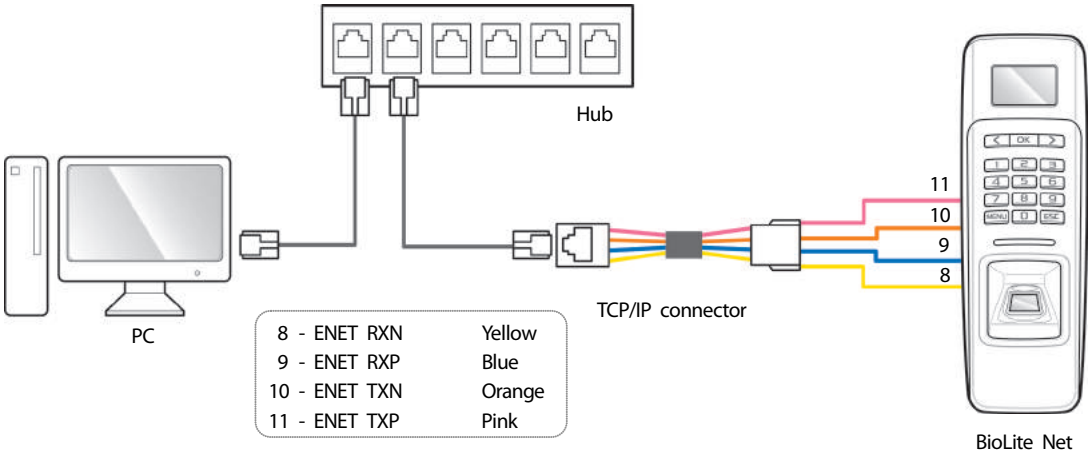


Note

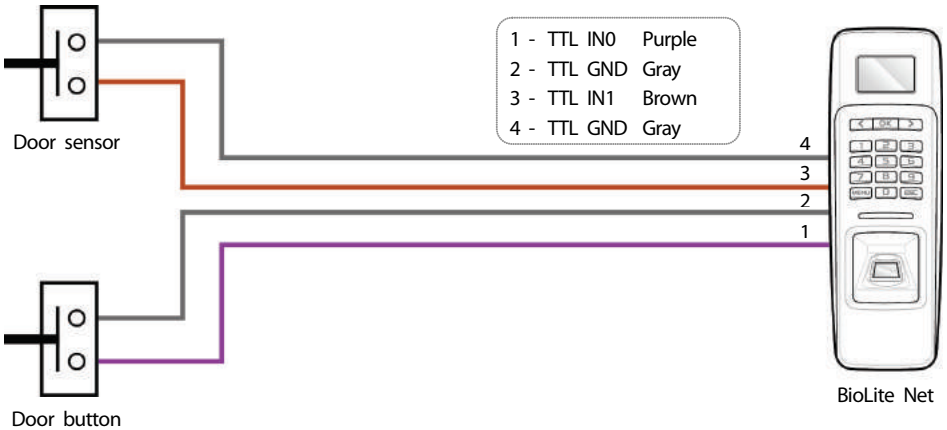
- Use a power adapter that has a DC 12 V (± 10%) specification with a minimum current of 500 mA. If the power adapter is shared by other devices, the power adapter should provide a current more than the sum of the power consumption from this device (500 mA) and other devices.
- Use a separate power supply for Secure I/O 2, electric lock and BioLite Net respectively. If connecting and using the power supply to these devices together, the devices may malfunction.

Connecting to a Network

TCP/IP



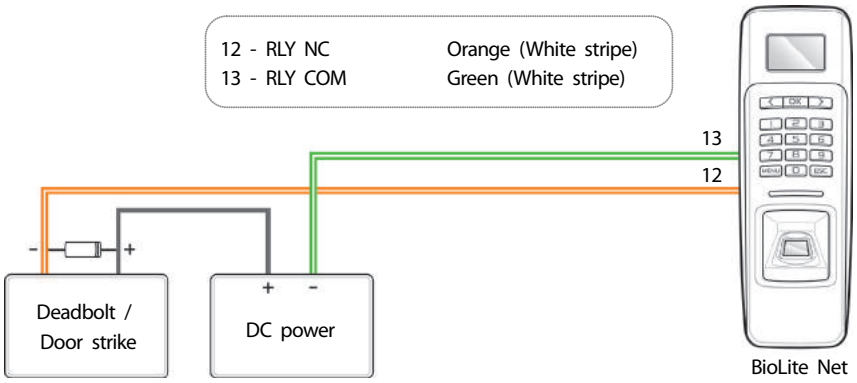
Connecting to an Door button/Door sensor



Connecting to a Relay

Fail Safe Lock

To use fail safe lock, connect N/C terminal as shown below. Normally, there is a current flowing through the relay and the door is opened when the relay is activated by blocking current flows. The door is opened when there is a blackout or power failure caused by external conditions.

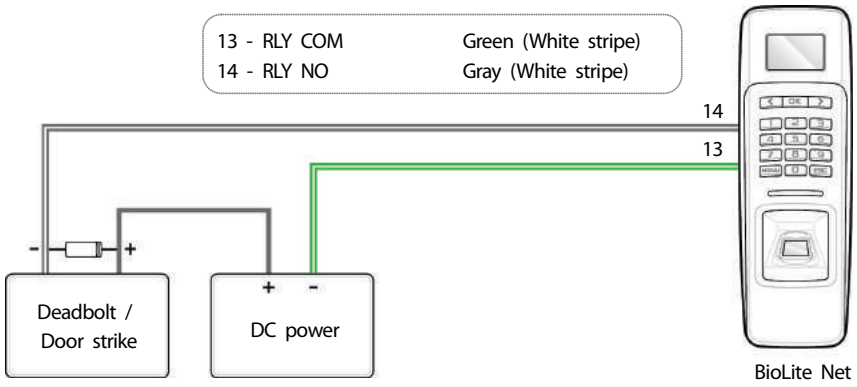


Note

- Install the diode at both ends of the wire for the door lock device as shown in the figure to protect the relay from being damaged by the reverse current induced when the door lock device operates.
- Make sure that the direction of the installed diode is correct.
- Install the diode close to the door lock device.
- Use a separate power source for BioLite Net from the door lock device.

Fail Secure Lock

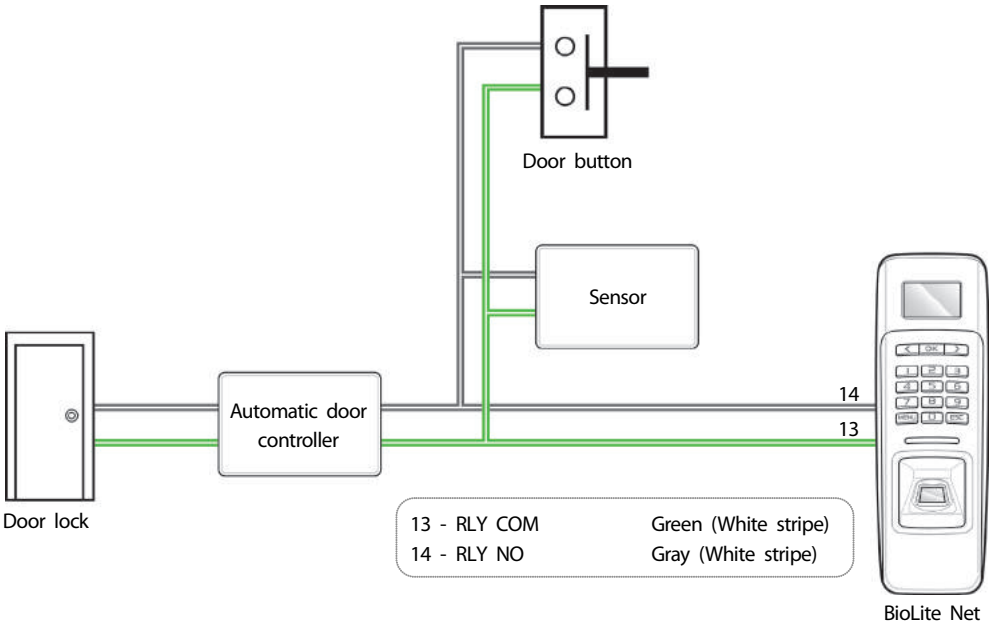
To use fail secure lock, connect N/O terminal as shown below. Normally, there is no current flowing through the relay and the door is opened when the relay is activated by a current flows. The door is locked when there is a blackout or power failure caused by external conditions.



Note

- Install the diode at both ends of the wire for the door lock device as shown in the figure to protect the relay from being damaged by the reverse current induced when the door lock device operates.
- Make sure that the direction of the installed diode is correct.
- Install the diode close to the door lock device.
- Use a separate power source for BioLite Net from the door lock device.

Connecting to an Automatic door



How to configure a Relay

Set up the relay according to the following steps only when BioStar is not used to set up the door.

1. Press the **MENU** button, and then authenticate with the administrator authentication method.
2. Select **Device** > **Door**> **Relay**, and then press the **OK** button.
3. Press the **OK** button after entering the time that the relay is on.
4. Press the **OK** button after entering the time that you want.
5. Select **Door Sensor**, and then press the **OK** button.
6. Press the **OK** button after selecting the port that will be used to control the door sensor.
7. Select **Exit Button**, and then press the **OK** button.
8. Press the **OK** button after selecting the port that will be used to control the exit button.

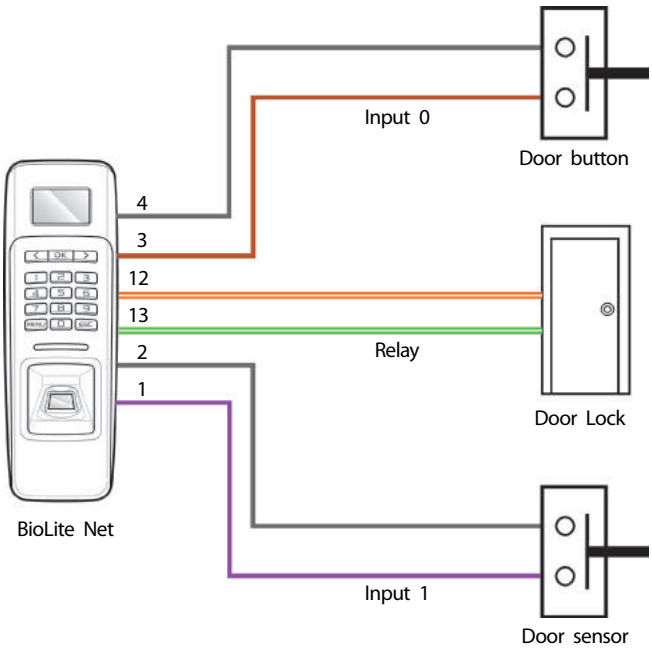
Note

- The **INIT** switch of Secure I/O 2 should be pressed after completing the relay setup when Secure I/O 2 is used together.
- Refer to BioStar administrator guide when setting up the door with BioStar.

Connecting as a standalone

Here is how to install the device as a standalone without a connection with BioStar or other devices.

1 Refer to the following figure for connecting.



1 - TTL IN0	Purple
2 - TTL GND	Gray
3 - TTL IN1	Brown
4 - TTL GND	Gray
12 - RLY NC	Orange (White stripe)
13 - RLY COM	Green (White stripe)

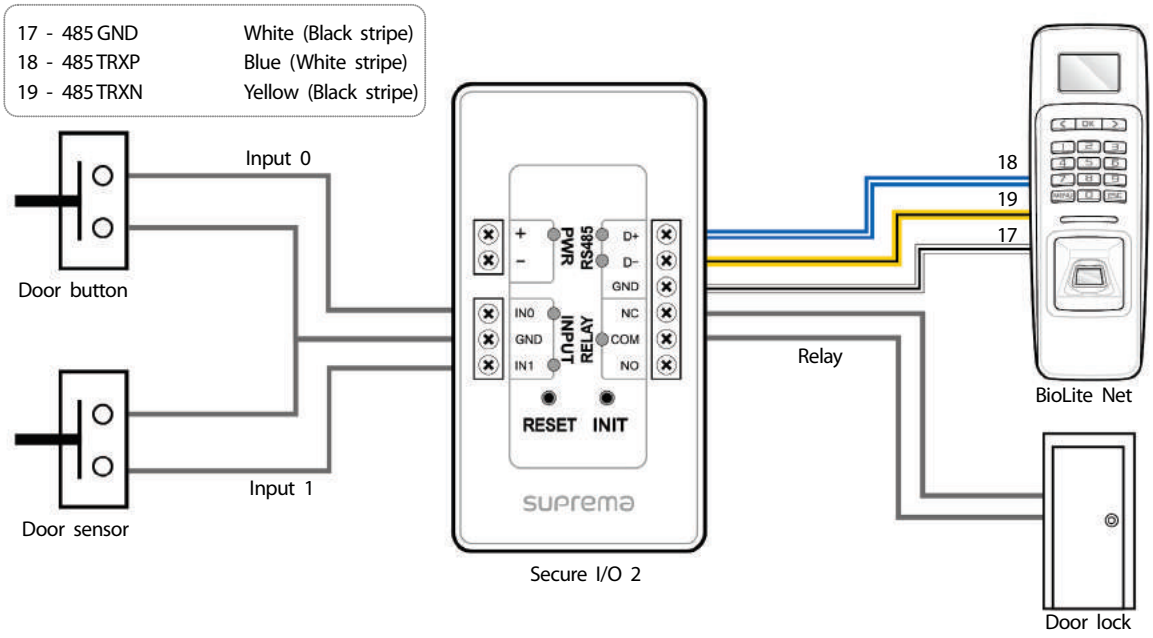
2 Set up the relay. (Please refer to **How to configure a Relay**.)

Connecting to Secure I/O 2

Here is how to install the device when BioLite Net is connected to Secure I/O 2.

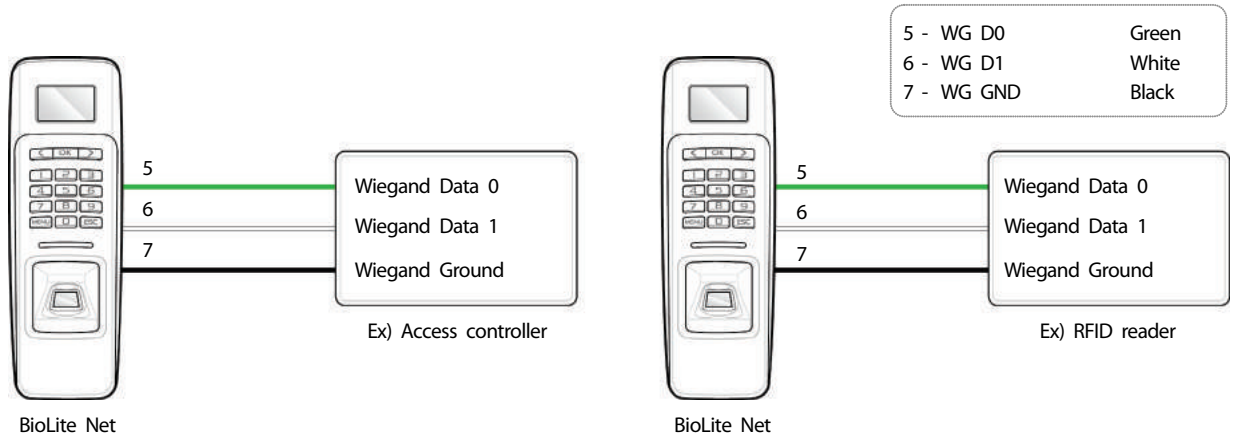
1 Refer to the following figure for connecting.

- RS-485 should be AWG24, twisted pair, and maximum length is 1.2 km.
- Connect a termination resistor (120Ω) to both ends of a RS-485 daisy chain connection. It should be installed at both ends of the daisy chain. If it is installed in the middle of the chain, the performance in communicating will deteriorate because it reduces the signal level.
- Up to 32 devices can be connected via daisy chain (1 master device and 31 other devices).



2 Set up the relay. (Please refer to **How to configure a Relay**.)

Connecting as a Wiegand device



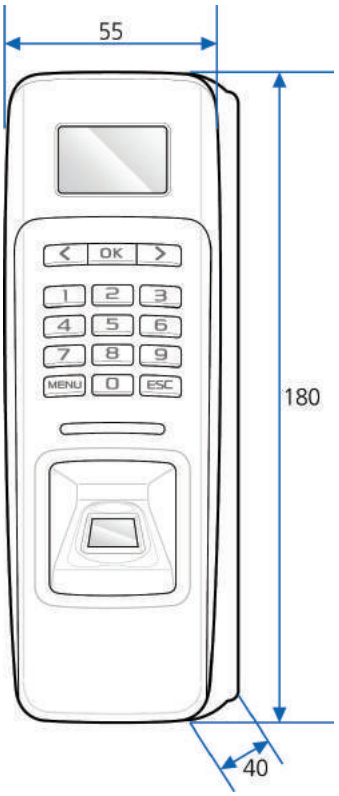
Using as a Wiegand output device

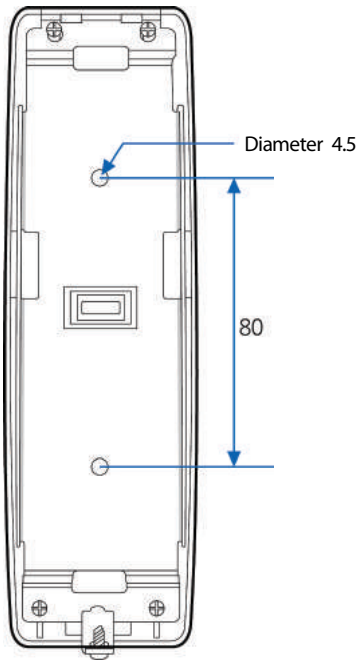
Using as a Wiegand input device

Product Specifications

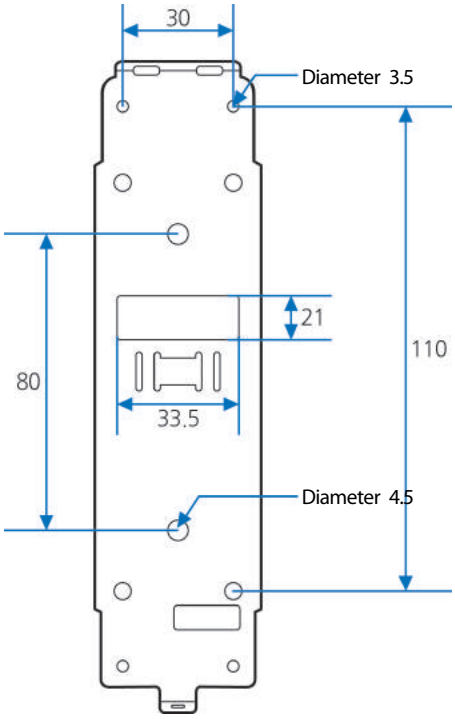
Category	Feature	Specification
Main	Biometric	Fingerprint
	IP Rating	IP 65
	RF Card	125KHz EM, 13.56MHz Mifare/DESFire
	Multi-Controller	Yes
Capacity	Max. User (1:1)	5,000
	Max. User (1:N)	5,000
	Max. Template (1:1)	10,000
	Max. Template (1:N)	10,000
	Max. Text Log	50,000
Interface	TCP/IP	Yes
	RS-485	1ch Host or Slave (Selectable)
	Wiegand	1ch In or Out (Selectable)
	TTL Input	2 Inputs
	Relay	1 Relay
Relay	Voltage	Max. 24VDC
	Current	Typ. 0.5A, Max. 1.0A
Hardware	CPU	533MHz DSP
	Memory	16MB RAM + 8MB Flash
	LCD	128 x 64 Graphic LCD (Mono)
	LED	Multi-Color
	Sound	Multi-tone Buzzer
	Operating Temp.	-20℃ ~ 50℃
	Tamper	Yes
	Power	12V
	Dimensions (W x H x D mm)	60 x 185 x 40
	Certification	CE, FCC, KC, RoHS

Dimensions





Extension bracket



Main bracket

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.

Appendix

Disclaimers

- This document provides the information pertaining to Suprema's products.
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Suprema Inc. 16F Parkview Office Tower, Jeongja-dong, Bundang-gu Seongnam, Gyeonggi, 463-863 Korea
Tel) +82-31-783-4502 Fax) +82-31-783-4503
Sales information sales@supremainc.com **Technical support** support@supremainc.com