

# XPass S2

## INSTALLATION GUIDE

Version 2.22

English

EN 101.00.XPS2.V2.22A

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# 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.

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

- Moisture can cause product damage 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 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 product failure.

**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 XPass S2 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 product failure.

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

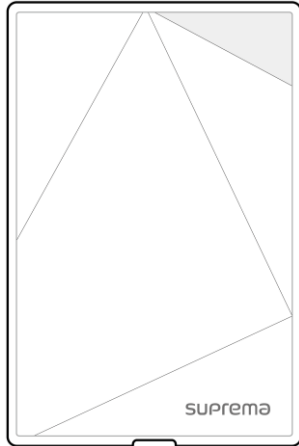
- This can cause a failure.

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

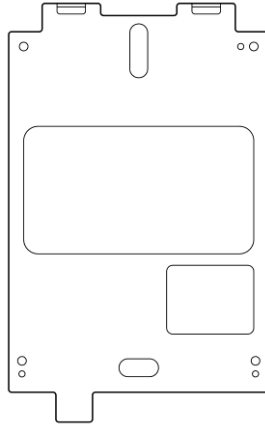
- This can cause a product failure.

# Getting Started

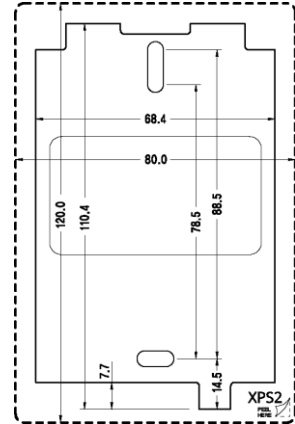
## Components



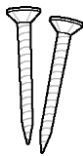
XPass S2



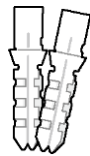
Main bracket



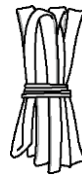
Drilling Template



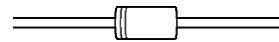
Fixing Screw x2



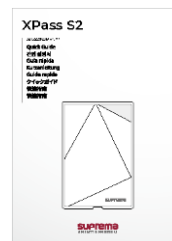
PVC Anchor x2



Shrink Tube



Diode

Bracket Fixing Screw  
(Star Shaped)120  $\Omega$  Resistor

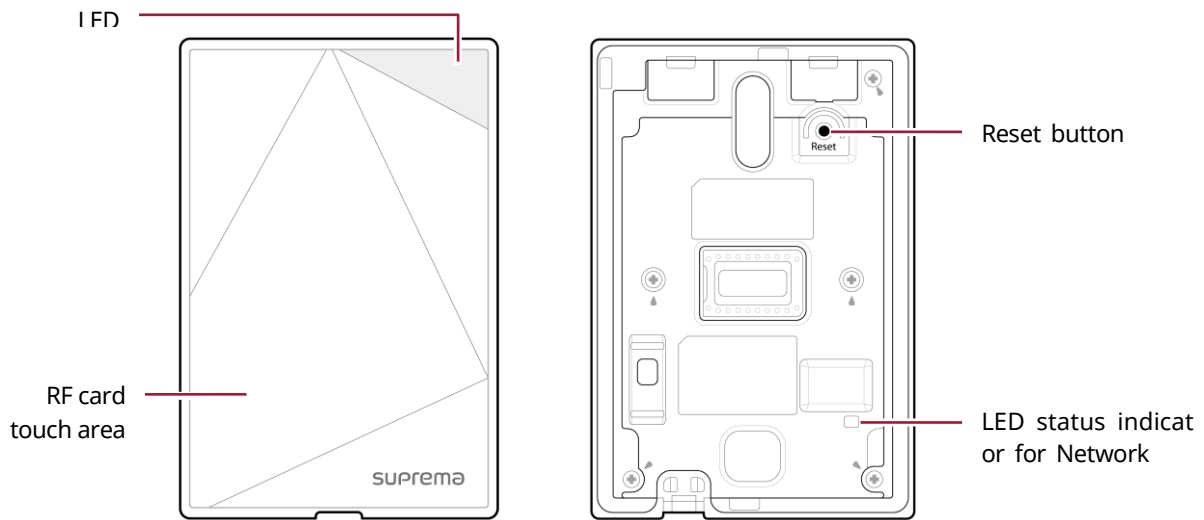
Quick Guide

### NOTE

- Components may vary according to the installation environment.

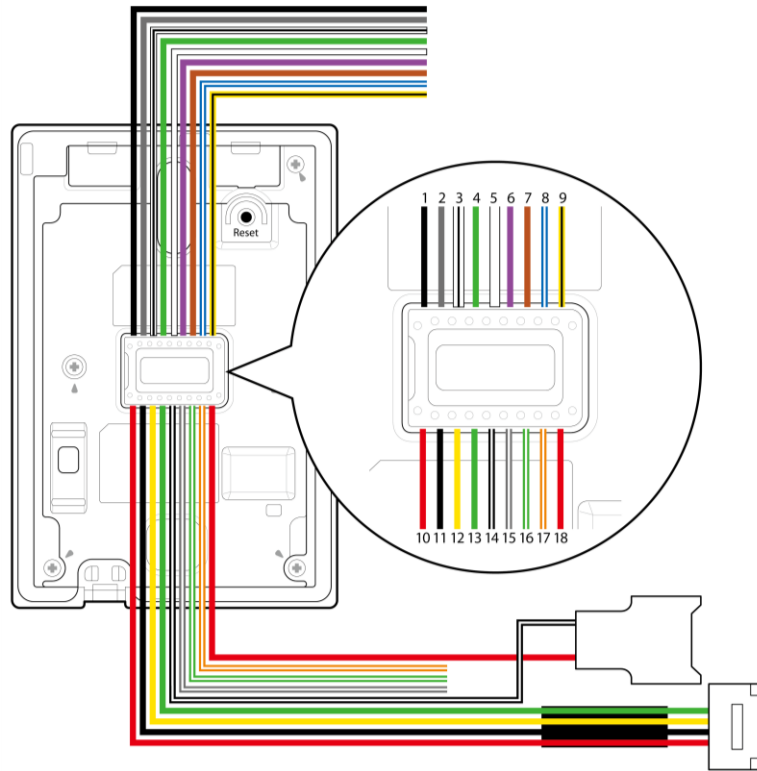
## Features

### Part names and features



Name	Feature
<b>LED</b>	<ul style="list-style-type: none"> <li>• Green: Authentication success</li> <li>• Red: Authentication failure</li> <li>• Pink: Processing</li> <li>• Blue and sky-blue alternate flashing every 2 seconds: Normal operation</li> <li>• Red and pink alternate flashing every 2 seconds: The device is locked.</li> <li>• Blue and red alternate flashing every 2 seconds: The clock has been reset. The clock needs to be reconfigured.</li> <li>• Blue and yellow alternate flashing every 2 seconds: An IP address has not been received when DHCP is set to USE.</li> <li>• Red flashes every 2 seconds on first use: Failure to reset. Contact the manufacturer.</li> <li>• Yellow flashes briefly: Waiting for an input.</li> </ul>
<b>RF card touch area</b>	Reads RF card for entering and exiting.
<b>Reset button</b>	<ul style="list-style-type: none"> <li>• Resets the network configurations when the device does not work properly. For details, refer to the <b>Resetting Network Setting</b>.</li> <li>• Deletes all data and certificate on the device and reset the settings. For details, refer to the <b>Restoring the Factory Defaults</b>.</li> </ul>
<b>LED status indicator for Network</b>	Shows the status of the network connection.

## Cables and connectors



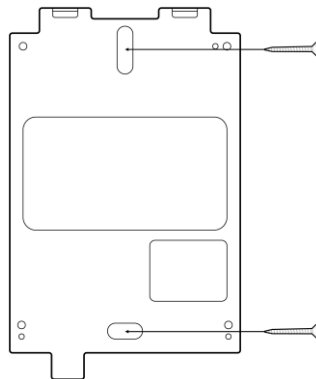
Pin	Name	Color
1	WG GND	Black
2	TTL GND	Gray
3	485 GND	White (Black stripe)
4	WG D0	Green
5	WG D1	White
6	TTL IN0	Purple
7	TTL IN1	Brown
8	485 TRXP	Blue (White stripe)
9	485 TRXN	Yellow (Black stripe)
10	ENET TXN	Red
11	ENET TXP	Black
12	ENET RXN	Yellow
13	ENET RXP	Green
14	PWR GND	Black (White stripe)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

# Installation

## Mounting the Bracket and Product

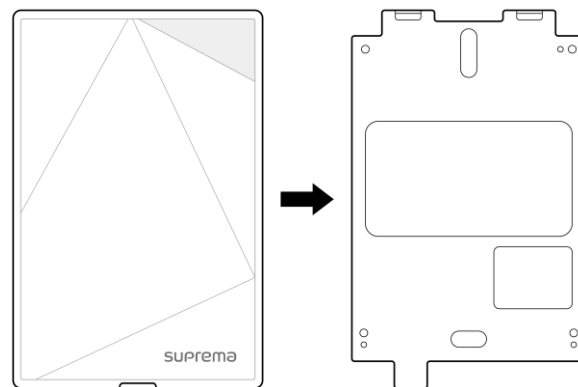
### Installing the main bracket

- 1 With the fixing screws for the bracket, mount the bracket firmly onto the surface where XPass S2 is to be installed.

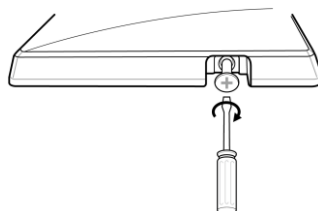
**NOTE**

- If XPass S2 should be installed onto a concrete wall, make a hole with a drill, and then insert a PVC anchor into the hole before screwing the fixing screw.

- 2 Attach XPass S2 onto the mounted main bracket.

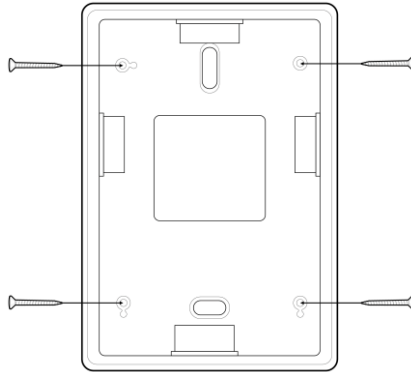


- 3 Assemble XPass S2 with the main bracket by screwing the fixing screws on the bottom of XPass S2.

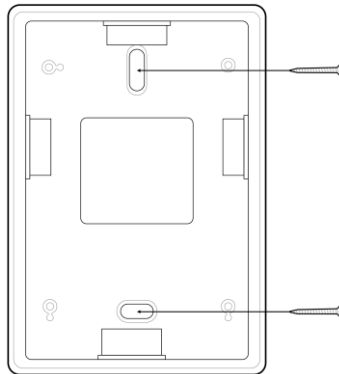


## Installing the extension bracket

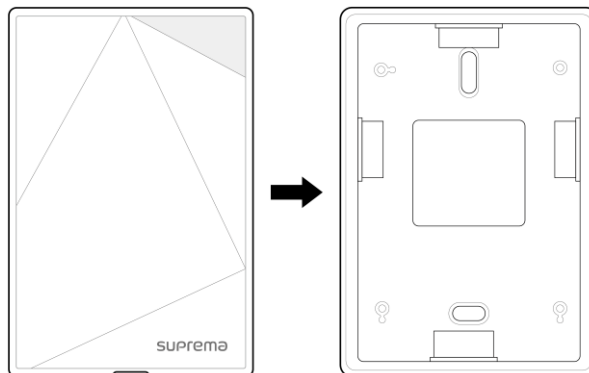
- 1 Assemble the extension bracket with the main bracket with the screws included with the extension bracket.



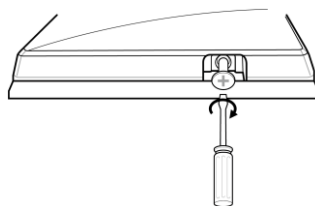
- 2 Mount the assembled extension bracket onto the desired place with the fixing screws for the bracket.



- 3 Attach XPass S2 onto the mounted extension bracket.

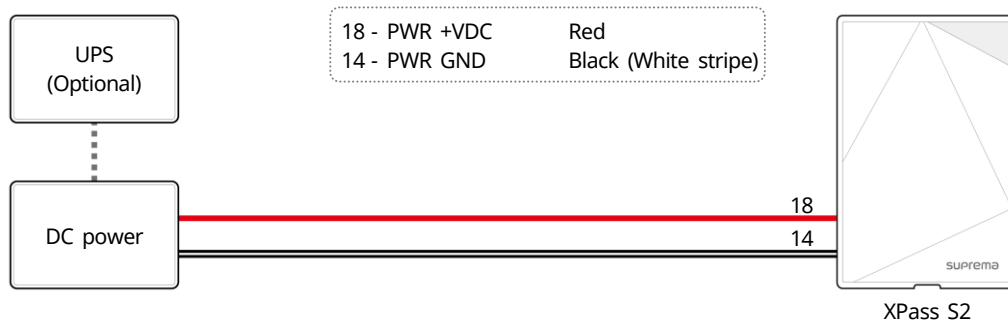


- 4 Assemble XPass S2 with the extension bracket by screwing the fixing screws on the bottom of XPass S2.





## Connecting to Power



### NOTE

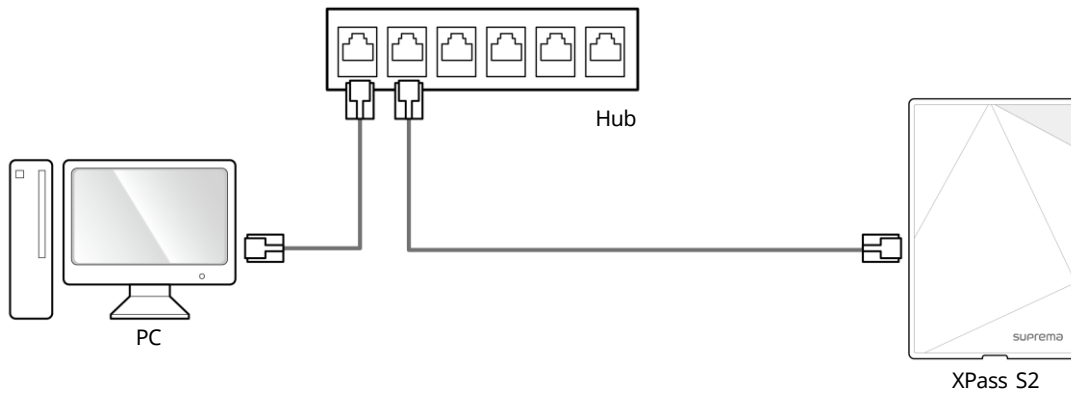
- Use a power adapter that has a DC 12 V ( $\pm 10\%$ ) specification of with the minimum current of 1,500 mA and has IEC/EN 60950-1 certification. If the power adapter is shared by other devices, the power adapter should provide a current more than the sum of the power consumption from this device (1,500 mA) and other devices.
- Use a separate power supply for Secure I/O 2, electric lock and XPass S2 respectively. If connecting and using the power supply to these devices together, the devices may malfunction.

## Connecting to a Network

### TCP/IP

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

A normal CAT-5 cable can be used to connect to a hub.



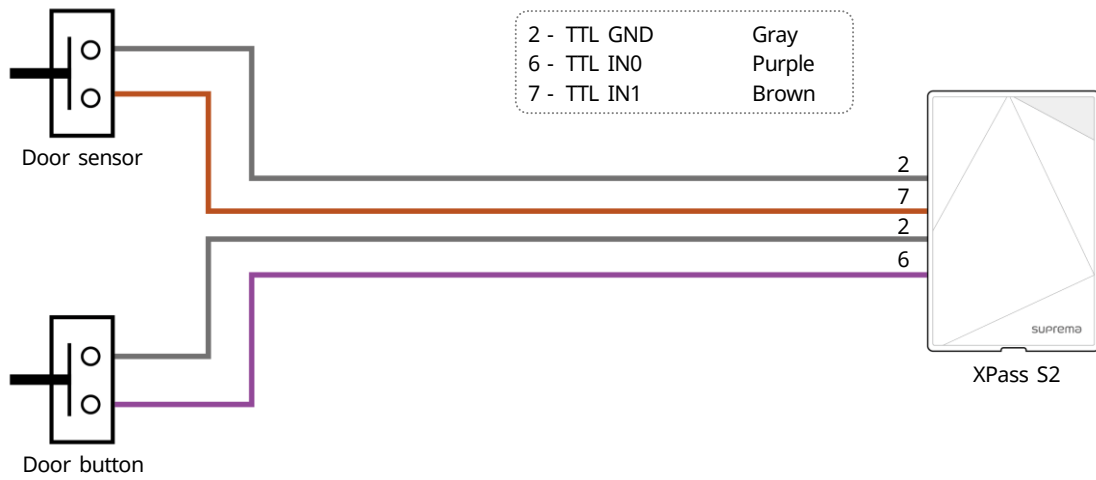
#### LAN connection (connecting directly to a PC)

XPass S2 can be connected directly to a PC by using a normal type CAT-5 cable because it supports an automatic MDI/MDIX function.

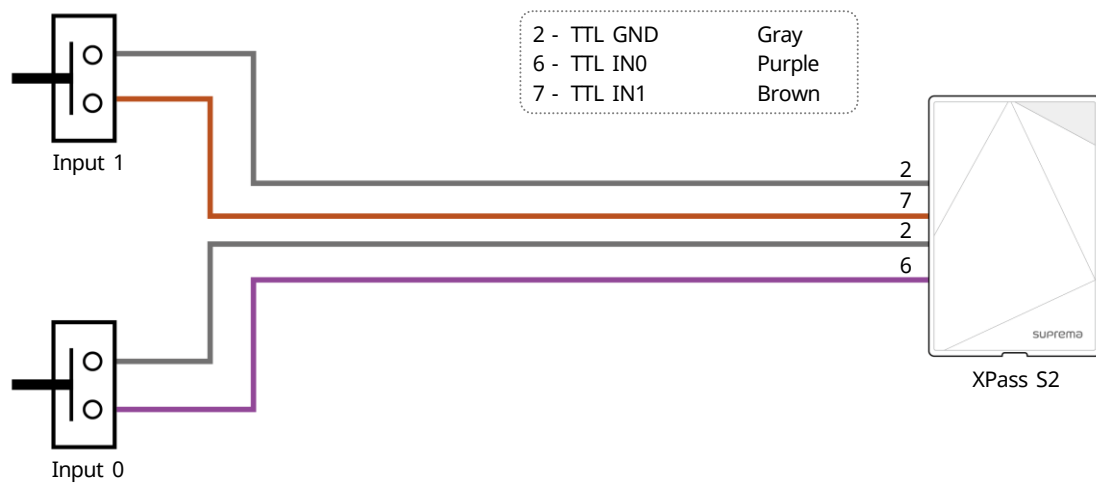


## Connecting to an Door button/Door sensor

### Digital input connection (Door button, Door sensor)



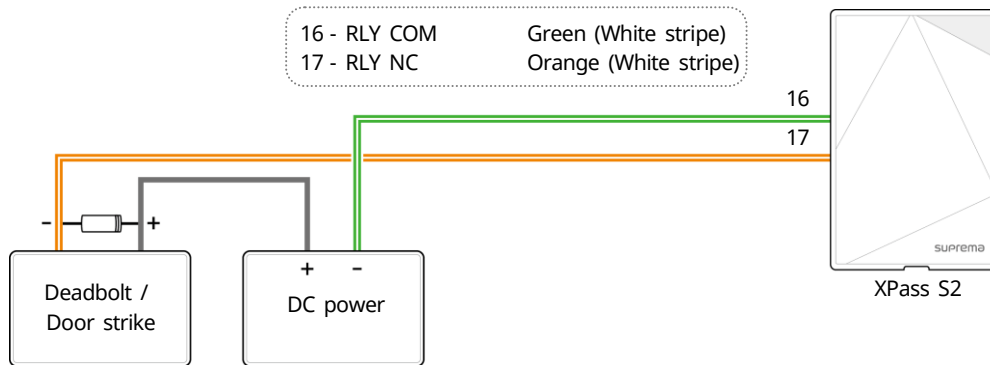
### Digital input connection (Alarm, Emergency switch)



## 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.



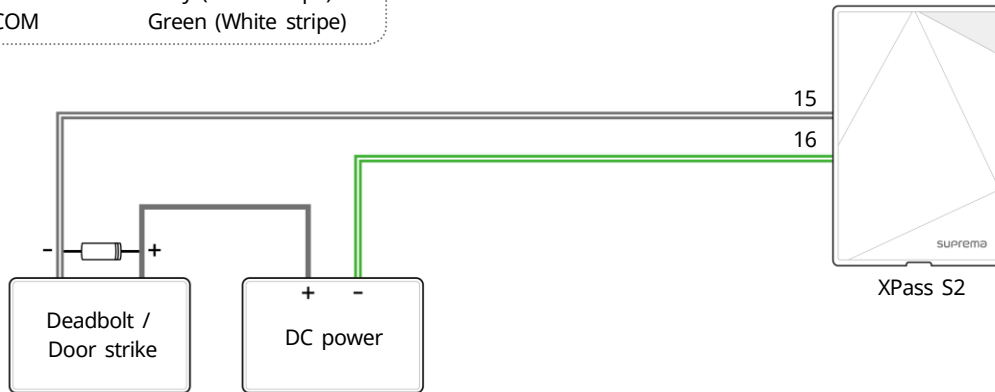
#### NOTE

- 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 XPass S2 from the door lock device.
- Suprema's standalone intelligent readers contain internal relays that can directly lock/unlock doors without external controllers for added convenience. For access control applications in need of security, however, it is NOT recommended to use the internal relay of a reader to prevent any tampering attacks which can potentially trigger the door unlock. For such applications, it is highly recommended to use a separate relay unit for a lock control such as Suprema's Secure I/O 2, DM-20 or CoreStation installed at a secure side of a door.

## 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.

15 - RLY NO            Gray (White stripe)  
16 - RLY COM        Green (White stripe)

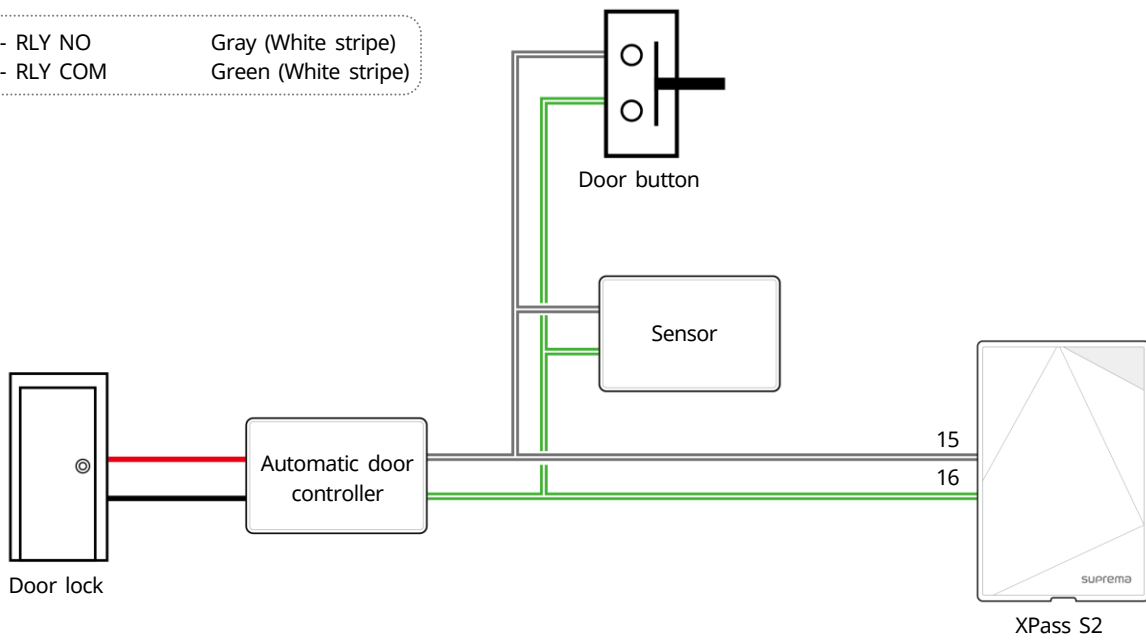


### NOTE

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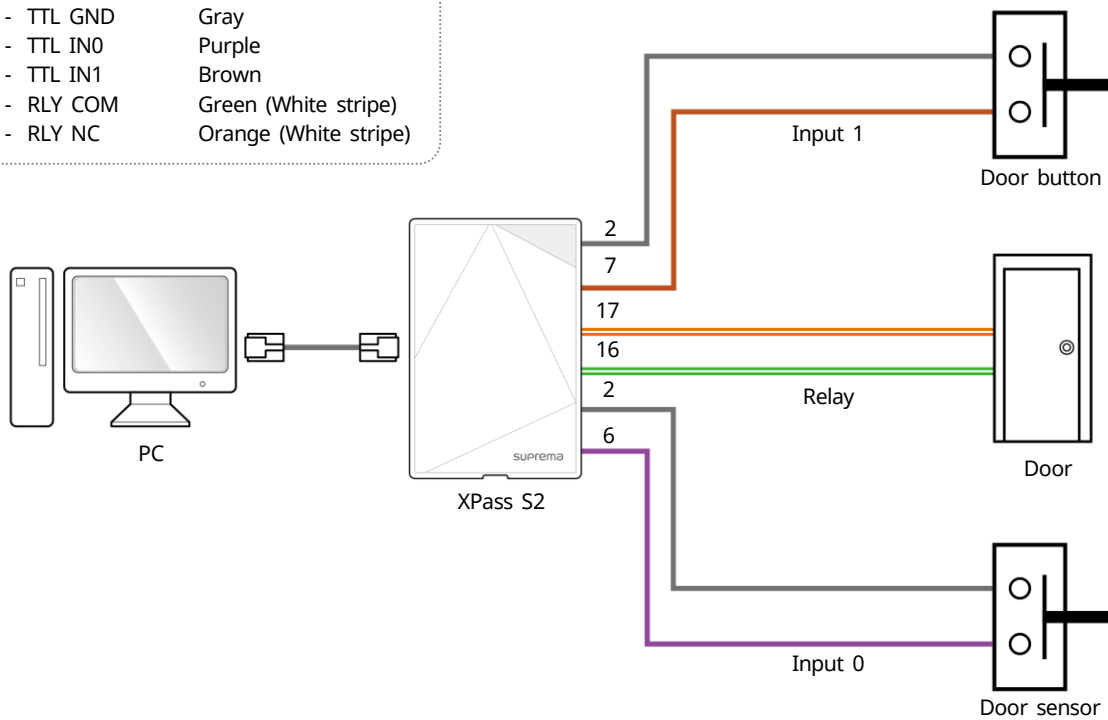
### Connecting to an Automatic door

- 15 - RLY NO      Gray (White stripe)
- 16 - RLY COM    Green (White stripe)



### Connecting as a standalone

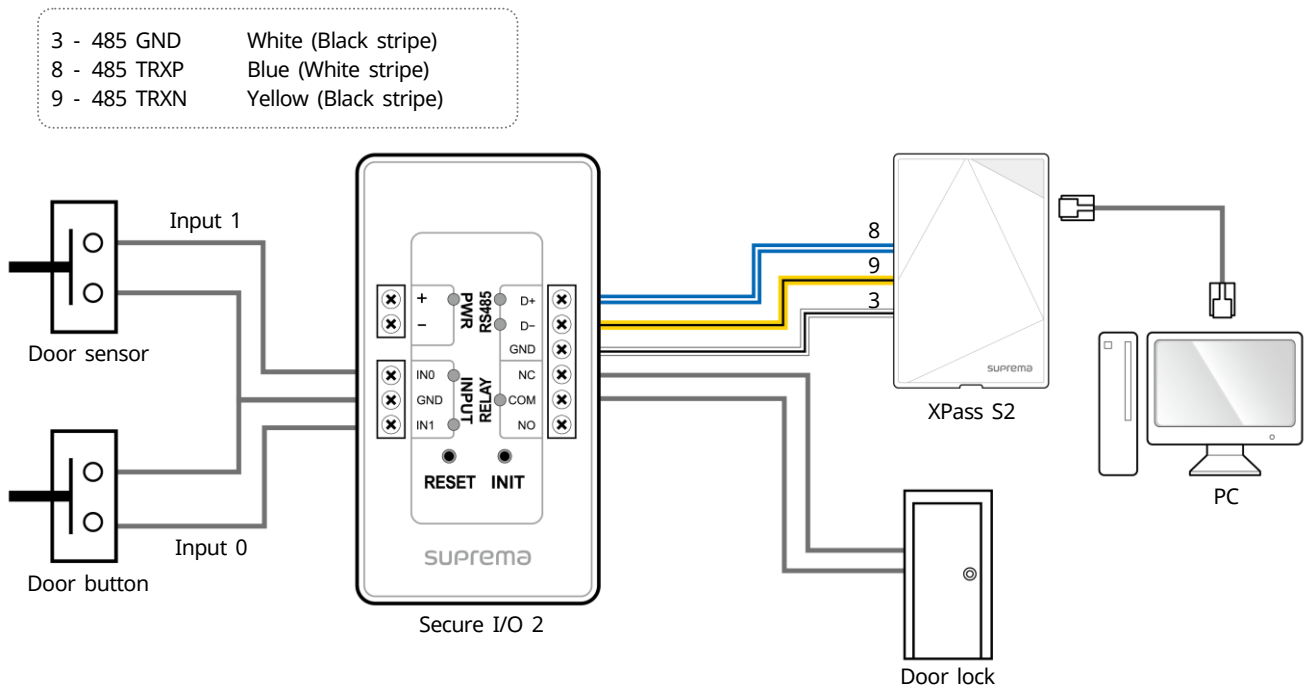
- 2 - TTL GND      Gray
- 6 - TTL IN0      Purple
- 7 - TTL IN1      Brown
- 16 - RLY COM    Green (White stripe)
- 17 - RLY NC     Orange (White stripe)



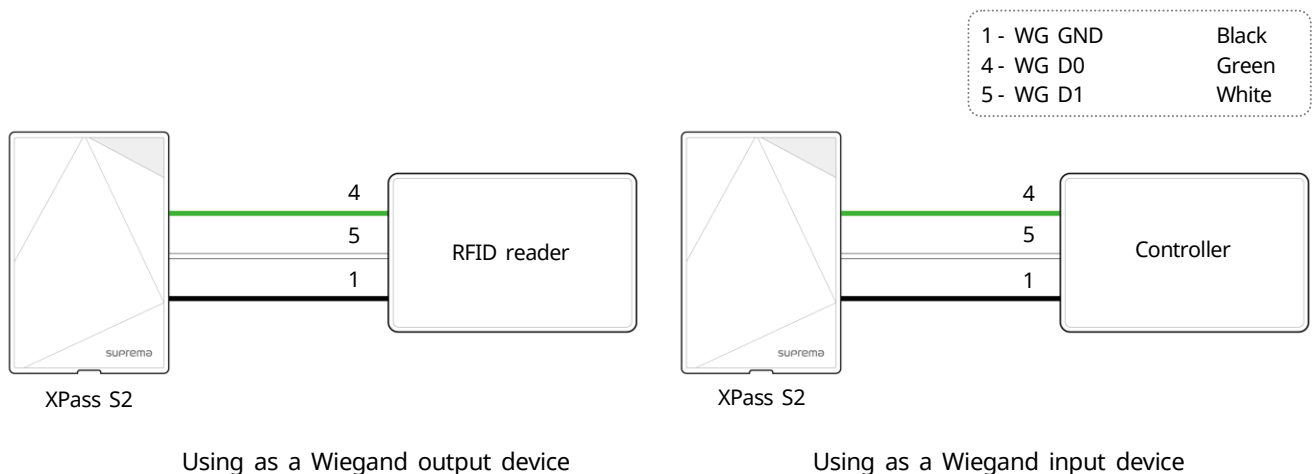
## Connecting to Secure I/O 2

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).



## Connecting as a Wiegand device



Using as a Wiegand output device

Using as a Wiegand input device

## Resetting Network Settings

- 1 Turn the power on.
- 2 Press and hold the reset button until you hear the buzzer.
- 3 Connect the device with default values.
  - TCP/IP address: DHCP address assignment (If DHCP address assignment is failed, 169.254.0.1 will be set.)
  - Server mode: Disabled
  - RS-485: Default, 115200 bps
- 4 Change the TCP/IP address or RS-485 information.
- 5 Turn the power off later on and then check the network setting is properly.

## Restoring the Factory Defaults

This will delete all data and root certificate on the device and reset the settings.

- 1 Turn the power on.
- 2 Press the reset button three times quickly.
- 3 When the yellow LED is blinking, press the reset button again.

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**NOTE**

- If there is no root certificate on the device, you cannot restore the factory defaults.
-

# Product Specifications

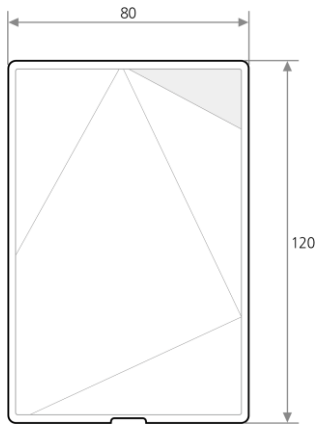
## Product Specifications

Category	Feature	Specification
Main	IP Rating	IP65
	RF Card	XPS2M: 13.56MHz MIFARE, MIFARE Plus, DESFire/EV1 (CSN), FeliCa, ISO14443A, ISO15693
	Multi-Controller	Yes
Capacity	Max. User (1:1)	50,000
	Max. User (1:N)	50,000
	Max. Text Log	100,000
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 + 16MB Flash
	LED	Multi-Color
	Sound	16-bit Hi-Fi
	Operating Temp.	-35°C ~ 65°C
	Tamper	Yes
	Power	12VDC
	Dimensions (W x H x D m)	80 x 120 x 11.4
	Certification	CE, FCC, KC, RoHS, REACH

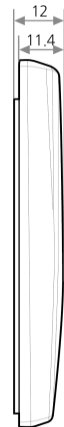


## Dimensions

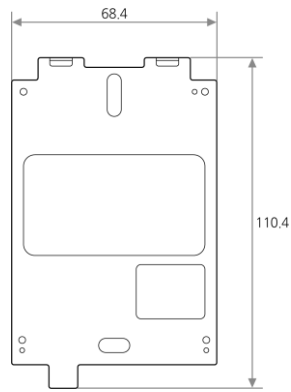
(Unit: mm)



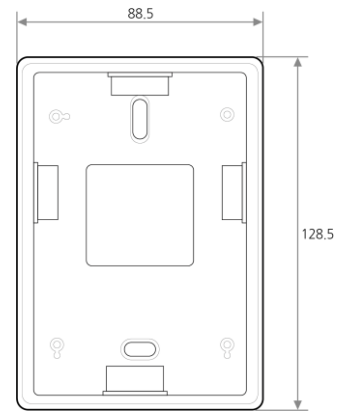
Front view



Side view



Main bracket



Extension 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

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