

XPass D2

# INSTALLATION GUIDE

Version 1.05  
English

EN 101.00.XPD2-MDB V1.05A

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# Safety instructions

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

## Warning

Noncompliance of instructions could lead to serious injury or death.

### Installation

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

- A fire or electric shock may occur.

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

- A fire or electric shock may occur due to overheating.

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

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

**Install the product in a place with no electromagnetic interference.**

- Otherwise, a product damage or electric shock may occur.

**The user should not install or repair the product independently.**

- A fire, electric shock, or personal injury may occur.
- If the product has been damaged due to independent installation or repair of the product by the user, free A/S service will not be provided.

### Operation

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

- A fire, electric shock, or product damage may occur.

## Caution

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

### Installation

**Do not install the power supply cable in a place where people pass by.**

- Product damage or physical injury may occur.

**Do not install the product near a highly magnetic object such as a magnet, TV, (especially CRT) monitor, or speaker.**

- A product failure may occur.

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

**Keep the minimum separation distances between the devices when install multiple devices.**

- Otherwise, RF performance is affect to the other device, the devices may not operate normally.

## Operation

**Do not drop the product or apply an impact to the product.**

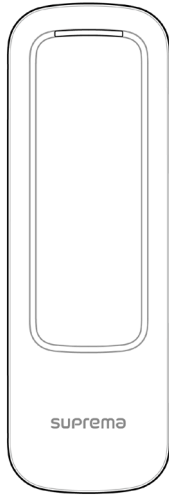
- A product failure may occur.

**When cleaning the product, wipe the product with a soft and dry cloth and no water, benzene or alcohol.**

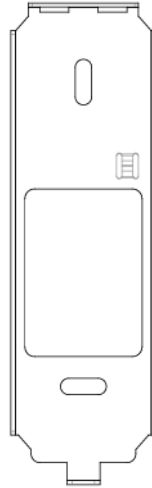
- Otherwise, a product failure may occur.

# Introduction

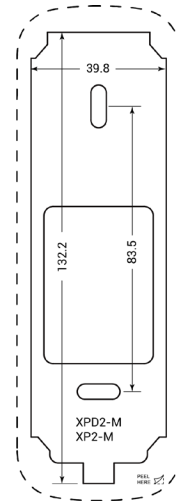
## Components



XPass D2



Wall Bracket



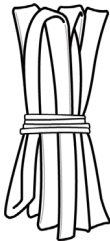
Drilling Template



Wall Fixing Screw x 2

Bracket Fixing Screw  
(Star Shaped)

PVC Anchor x 2

120  $\Omega$  resistor

Shrink Tube



Quick Guide

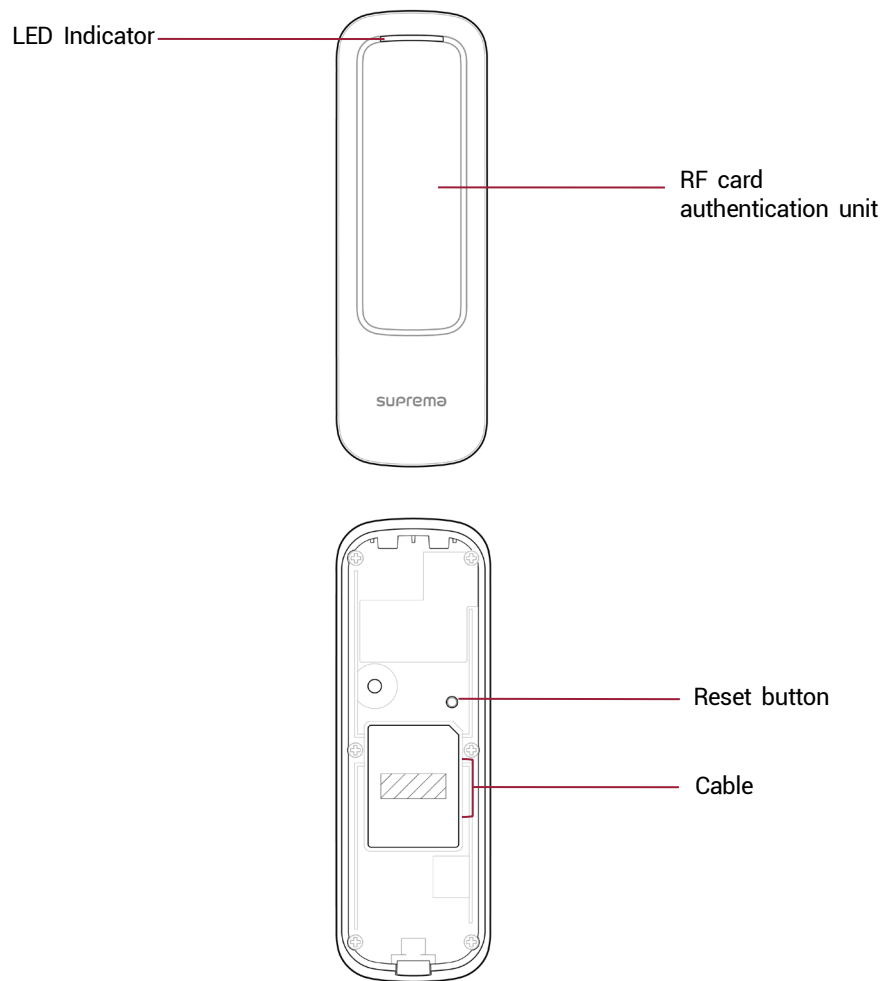


Open Source Software Guide

### NOTE

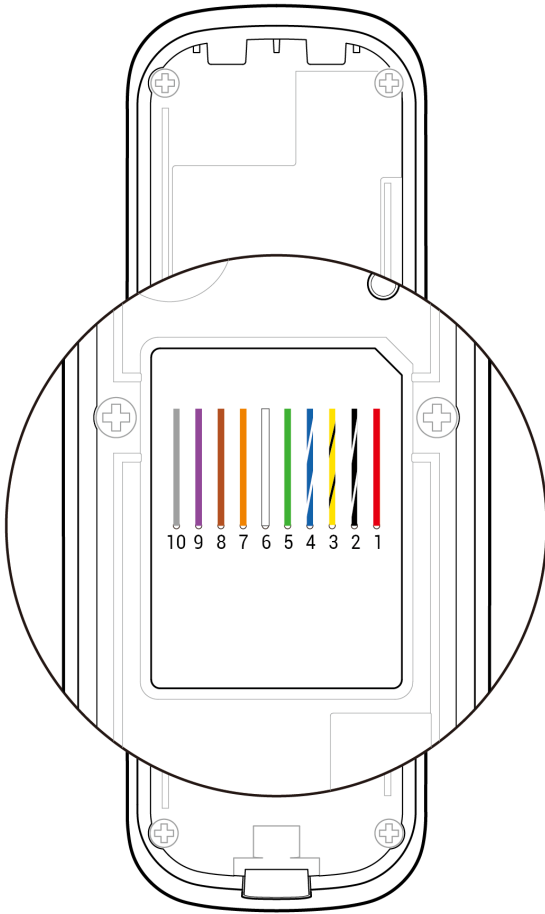
- Components may vary according to the installation environment.

## Name and function of each part



Name	Description
<b>LED Indicator</b>	<p>Indicates the operational status of the device with the color of the LED.</p> <ul style="list-style-type: none"> <li>• Green solid: Authentication success</li> <li>• Red solid: Authentication failure</li> <li>• Blue/Sky blue blinking: Normal operation</li> <li>• Blue/Green blinking: When initializing network settings</li> <li>• Green blinking: Waiting for an input</li> <li>• Green/White blinking: Connecting with the Airfob Pass (BLE) application of Suprema</li> <li>• White blinking: Connecting with the Device Manager application of Suprema</li> </ul>
<b>RF card authentication unit</b>	Reads RF cards for entering and exiting.
<b>Reset button</b>	Initialize the device.
<b>Cable</b>	<ul style="list-style-type: none"> <li>• Power cable</li> <li>• RS485 cable</li> <li>• Wiegand output cable</li> <li>• LED input cable</li> <li>• Beep Input cable</li> <li>• Tamper cable</li> </ul>

## Cables and connectors

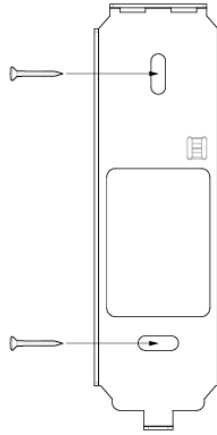


Pin	Name	Color
1	PWR +VDC	Red
2	GND	Black (White stripe)
3	485 TRXN	Yellow (Black stripe)
4	485 TRXP	Blue (White stripe)
5	WG D0	Green
6	WG D1	White
7	LED RED	Orange
8	LED GRN	Brown
9	BEEP	Purple
10	TMPR	Gray

# Installation

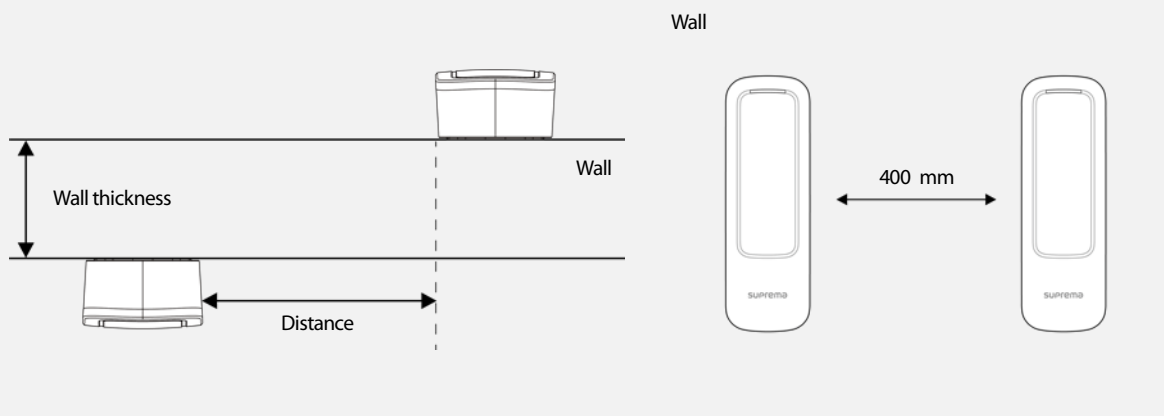
## Fixing the bracket and the product

- 1 Determine the correct position to install the bracket using the provided drilling template. Fix the bracket firmly using fixing screws through the bracket to the position where XPass D2 will be installed.



### NOTE

- If installing XPass D2 on a concrete wall, drill holes, insert PVC anchors, and fix them with fixing screws.
- To avoid RF interference, a minimum separation distance must be maintained.

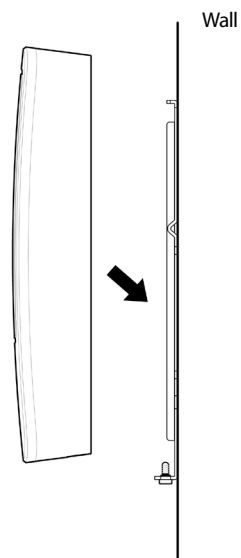


Wall thickness	Distance
100 mm	360 mm
120 mm	360 mm
150 mm	300 mm

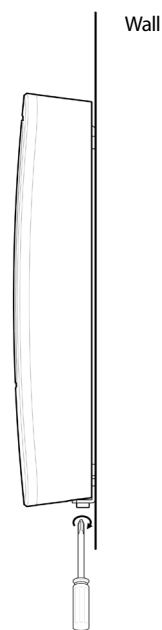
- When using Suprema Mobile Access, install a minimum distance of 1 m between devices to avoid BLE interference.



- 2** Install XPass D2 onto the fixed bracket.



- 3** Assemble XPass D2 with the bracket by rotating the product fixing screw.



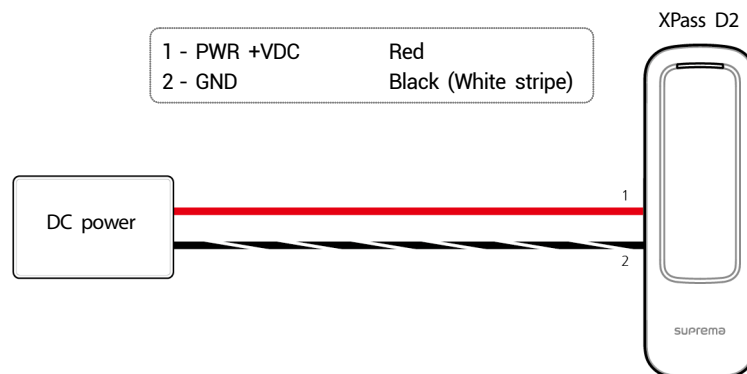
**NOTE**

- When assembling the product with the bracket, you can use the included bracket fixing screw (Star Shaped) instead of the product fixing screw for enhanced security.

## Cable connection

XPass D2 can be used as an RFID card reader by connecting to a master device or a CoreStation.

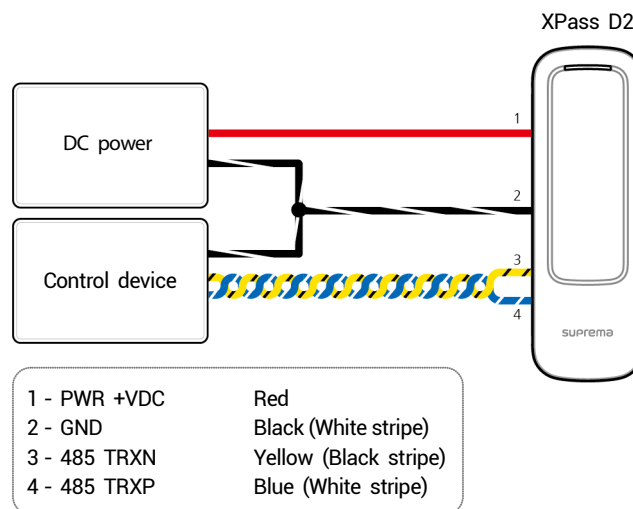
### Power supply connection



#### NOTE

- Use a power supply adaptor of DC 12 V ( $\pm 10\%$ ) with a minimum of 1,500 mA which has obtained the approval of IEC/EN 60950-1. If you wish to connect and use another device to the power supply adaptor, you should use an adaptor with a current capacity which is the same or larger than the total power consumption required for the terminal and another device.

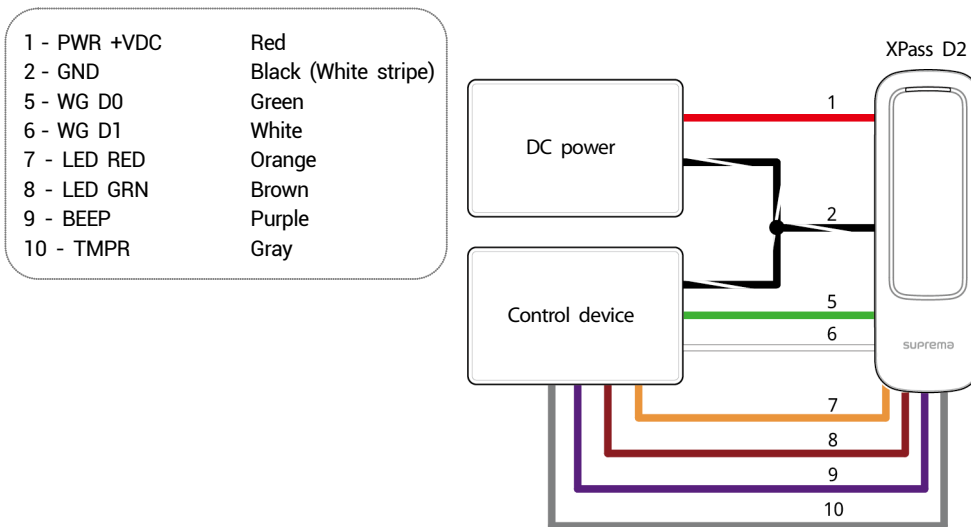
### RS-485 connection



#### NOTE

- Use an AWG24 twisted pair with a maximum length of 1.2 km for the RS-485 cable.
- If connecting with a RS-485 daisy chain, connect the termination resistor (120  $\Omega$ ) to both ends of the daisy chain connection. If connected to the middle line, the signal level becomes smaller and the communication performance will deteriorate. Make sure to connect it to both ends of the daisy chain connection.

## Wiegand and other cable connections



## Restoring the Factory Defaults

This will reset all settings stored on the device.

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

## Resetting the baud rate of RS-485

- 1 Turn the power on.
- 2 Press and hold the reset button for more than 2 seconds. When the device change to setup mode, the green LED is blinking.
- 3 Depending on the number of times the reset button was pressed, the baud rate changes. You can recognize the baud rate according to the LED color.

The number of times	Baud Rate	LED Color
1	9600	Cyan
2	19200	Blue
3	38400	Magenta
4	57600	White
5	115200	Red

- 4 The LED blinks for 5 seconds with the color set as the above. The baud rate is set once you hear a beep sound.

### NOTE

- If you do not press the reset button after changing to the setup mode, the baud rate is set to 115200.

## Product specifications

Category	Feature	Specification
		XPD2-MDB
Credential	LF card option	EM
	HF card option	MIFARE, MIFARE Plus, DESFire EV1/EV2*, FeliCa
	NFC card	Supported
	BLE card	Supported
	RF read range *	MIFARE/DESFire/EM : 50 mm, FeliCa: 30 mm
General	CPU	80 MHz
	Memory	512 KB Flash + 160 KB RAM
	LED	Multi-color
	Sound	Multi-tone Buzzer
	Operating temperature	-35 °C - 65 °C
	Storage temperature	-40 °C - 70 °C
	Operating humidity	0% - 95 %, non-condensing
	Storage humidity	0% - 95 %, non-condensing
	Dimension (W x H x D)	48 mm x 144.7 mm x 27 mm
	Weight	Device: 117 g Bracket: 30 g (Including washer and bolt)
	IP rating	IP65, IP67
	IK rating	IK08
	Certificates	CE, FCC, KC, RoHS, REACH, WEEE, SIG
	Interface	RS-485
Wiegand		1ch
LED		2ch
Beep		1ch
Tamper		Supported
Electrical	Power	Voltage: DC 12 V, Current: Max. 400 mA * Use 12 VDC, 1.5A power supply.
	LED, Beep input V <sub>IH</sub>	Min. 3 V Max. 5 V
	LED, Beep input V <sub>IL</sub>	Max. 1 V
	LED, Beep Pull-up resistance	4.7k $\Omega$ (The input ports are pulled up with 4.7k $\Omega$ .)
	Wiegand output V <sub>OH</sub>	Min. 4.8 V
	Wiegand output V <sub>OL</sub>	Max. 0.2 V
Wiegand output Pull-up resistance	Internally pulled up with 1 k $\Omega$	

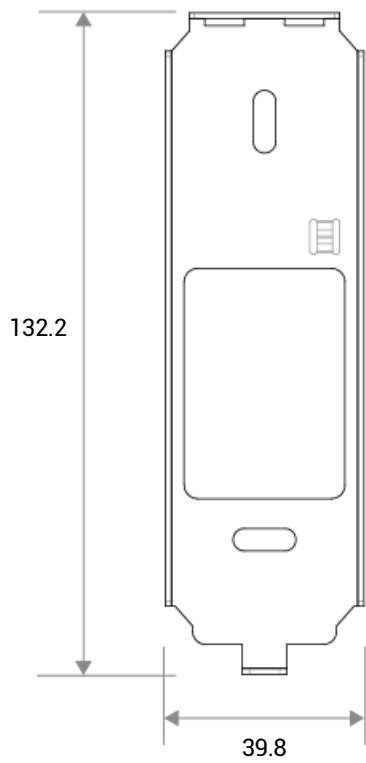
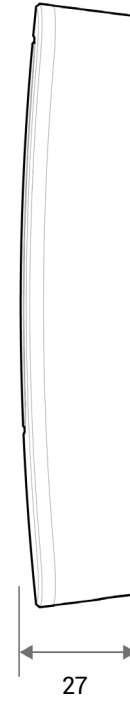
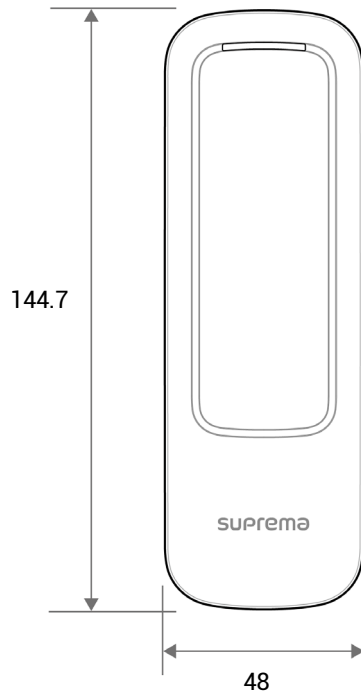
\* RF read range will vary depending on the installation environment.

\* DESFire EV2 cards are supported by having backward compatibility of DESFire EV1 cards. CSN and smart card functions are compatible with XPass D2.

## Dimensions

(Unit: mm)

\* The tolerance is  $\pm 0.3\text{mm}$ .



## FCC compliance information

THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES.

Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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

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

## EU Declaration of Conformity (CE)

This product is CE marked according to the provisions of the 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.

- Bluetooth Transmit Power: -5.96dBm
- Bluetooth Frequency: 2402~2480 MHz
- NFC Frequency: 13.56 MHz
- RFID Frequency: 13.56 MHz + 125 kHz

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

Suprema Inc.

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# Appendices

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The logo for Suprema, featuring the word "suprema" in a bold, lowercase, sans-serif font. Below it, the words "SECURITY & BIOMETRICS" are written in a smaller, uppercase, sans-serif font. The entire logo is contained within a dark red rectangular box.

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**Suprema Inc.**

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