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Using OSDP™ with Suprema Product

How can you find Webinar Contents?

1) Email

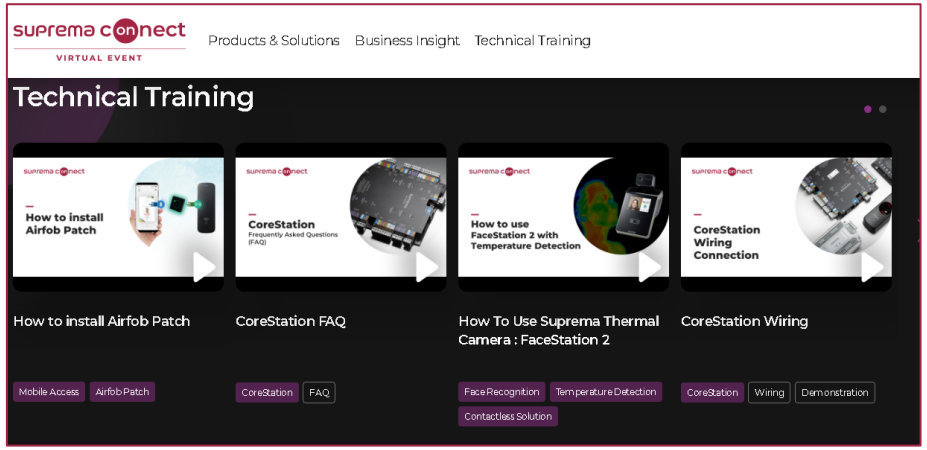
- ✓ Suprema Team will provide the presentation and the recorded video link to the registered emails.
- ✓ It will take about 7 days after reviewing the files with Q&A list.

2) Suprema Connect Website

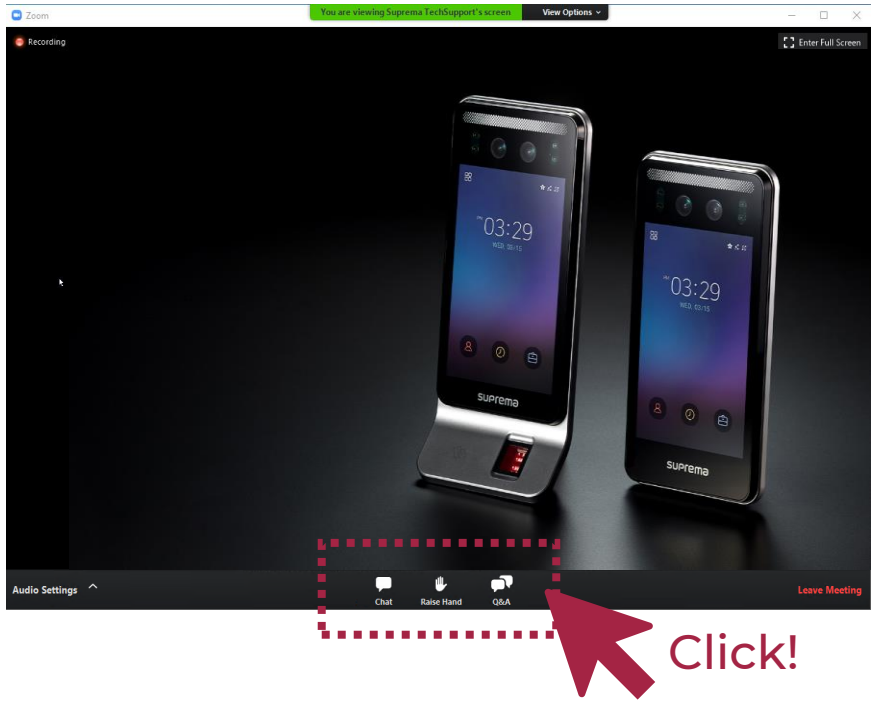
- ✓ We will post the recorded video to the site.
- ✓ https://www.supremainc.com/connect/index.asp
- ✓ Please google Suprema Connect.

3) Suprema Technical Support Site

- ✓ You can find the information with Q&A list on the website below.
- ✓ Please search Suprema Webinar in the support page, or simply google it.
- ✓ https://support.supremainc.com



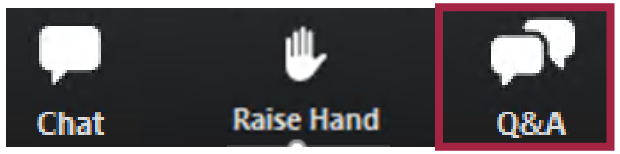
How can you ask questions during a webinar?



How to find the necessary icons

✓ Please move your mouse to the bottom of your screen, the 3 icons will appear.

[Q&A] box



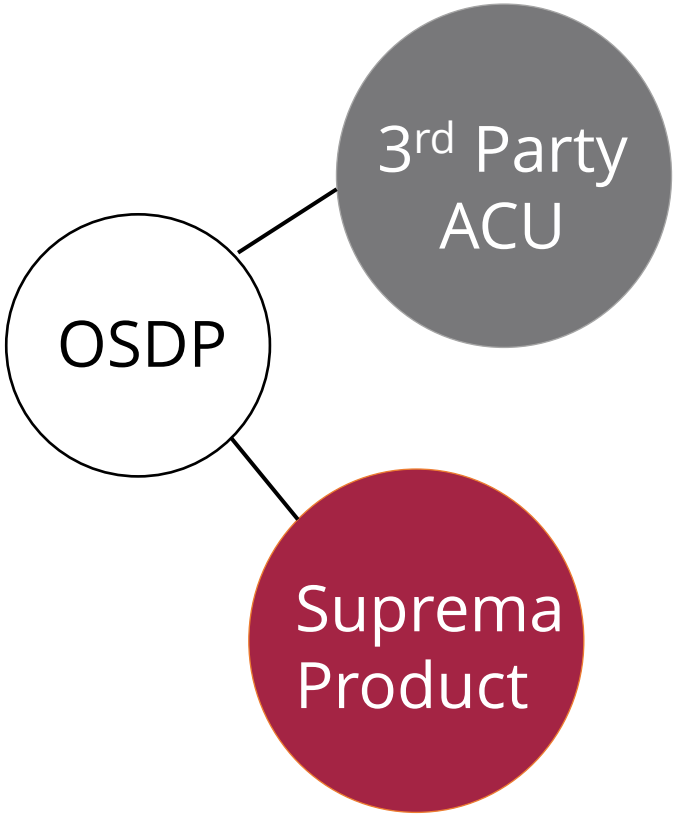
✓ During the webinar, you can leave your questions in the **Q&A box anytime**. Suprema Panels will answer in real time.

Overview

In the physical security market, there are Wiegand and OSDP methods for communication between readers and controllers from two different manufacturers.

Due to Wiegand's limit on transferable data size, one-way communication, and non-encryption communication, project requirements for OSDP use are increasing.

In this webinar, we will compare what OSDP is through Wiegand, and introduce how to use Suprema devices when OSDP use is required in the physical security market.



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Contents

How do you usually use Suprema Products as Access Control System?

1. Only Suprema Products

2. Using Suprema products with a 3rd party Wiegand Reader

3. Using Suprema products as a Wiegand Reader to connect 3rd party Access Control Unit

4. Using Suprema products as an OSDP Reader to connect 3rd party Access Control Unit

5. Not sure

Are you aware of Wiegand?

1. Yes

2. No

3. Not sure

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Are you aware of Open Supervised Device Protocol (OSDP)?

1. Yes

2. No

3. Not sure

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Are you able to explain the difference between Wiegand and Open Supervised Device Protocol(OSDP)?

1. Yes

2. No

3. Not sure

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Are you aware of Suprema Products supporting Open Supervised Device Protocol(OSDP)?

1. Yes

2. No

3. Not sure

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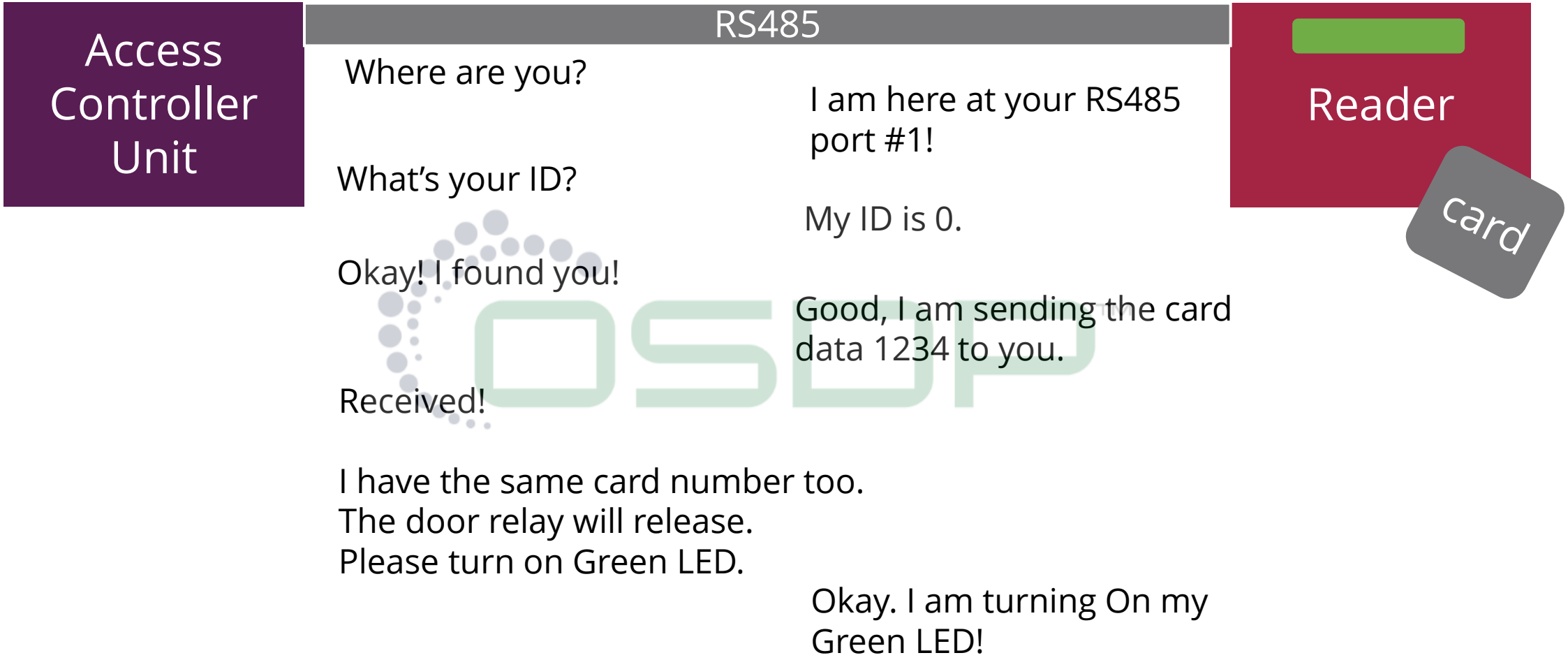
01

About OSDP

Could Access Control Panel talk with Reader?



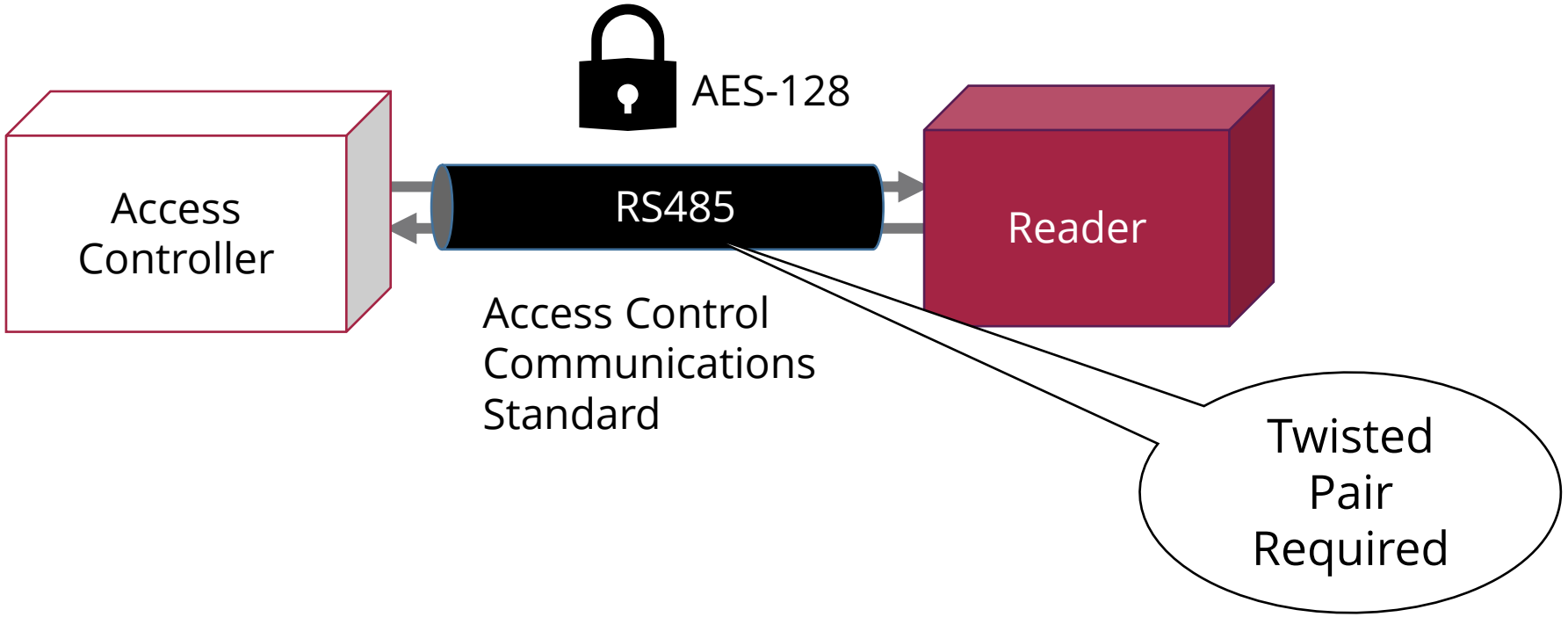
What is OSDP?

Open Supervised Device Protocol (OSDP) is an access control communications standard developed by the Security Industry Association (SIA) to improve interoperability among access control and security products.

* **Reference Page:** https://www.securityindustry.org/industry-standards/open-supervised-device-protocol/

What is OSDP?

1. Bidirectional Communication
2. Communication Protocol based on RS485 serial communications
3. Encrypted Communication as AES-128 when in secure channel mode



Is there any difference from Wiegand?

	Category	Wiegand	OSDP
Wiring	Beep & LED Control	X (Additional wiring required)	O
	Cable conductors	5 or more (+Beep/LED control inputs)	4 conductor twisted pair
	Wiring topography	Point to Point	Multi-Drop or Point-to-Point
	Length of cable	Minimum 30m Maximum 150m (Depending on the cable type)	Up to 1.2km (AWG24 Twisted Pair)
Data Size&Rate	Max Data Size	Up to 256 bytes	Up to 1024 bytes
	Rate	Fixed	Variable (from 9,600 to 115,200)
Communication	Reader and Controller	Single-way (Reader->Controller)	Two-way (Reader <-> Controller)
	Communication Encryption	X	O (Secure vs. open channel options) 128-bit AES

Why has OSDP become popular than Wiegand?

Interoperability

Access Control Panel

Reader

Efficiency

Access Control Panel

Reader

Security

AES-128

Access Control Panel

Reader

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Are you able to explain the difference between Wiegand and Open Supervised Device Protocol(OSDP)?

1. Yes

2. No

3. Not sure

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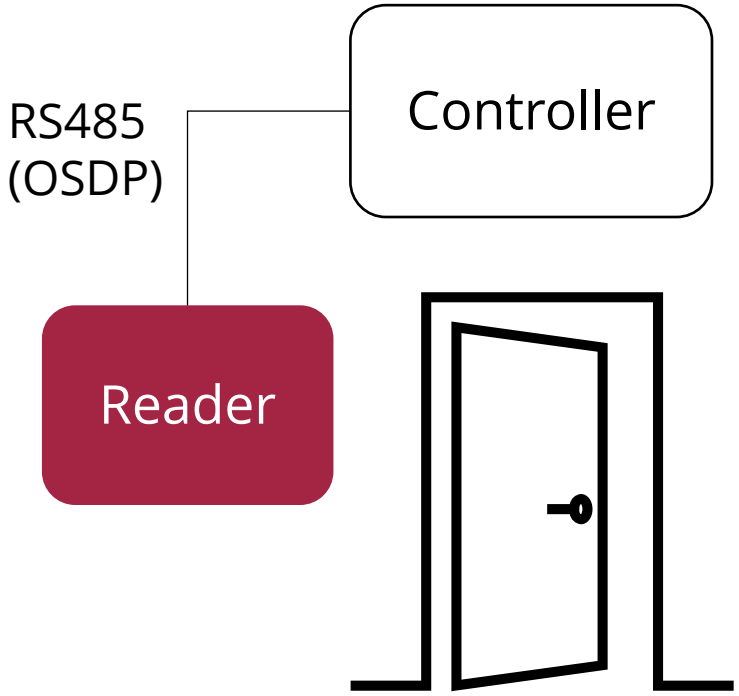
02

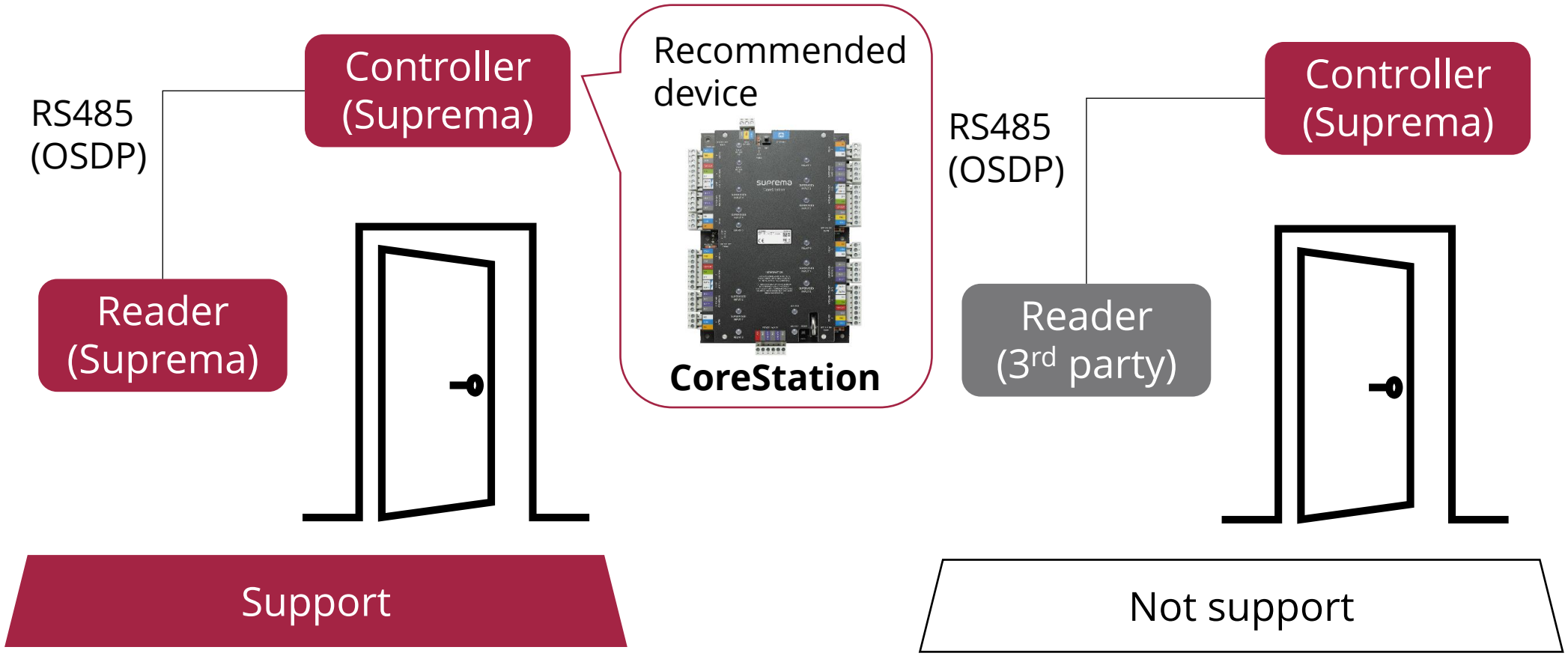
Features

Features

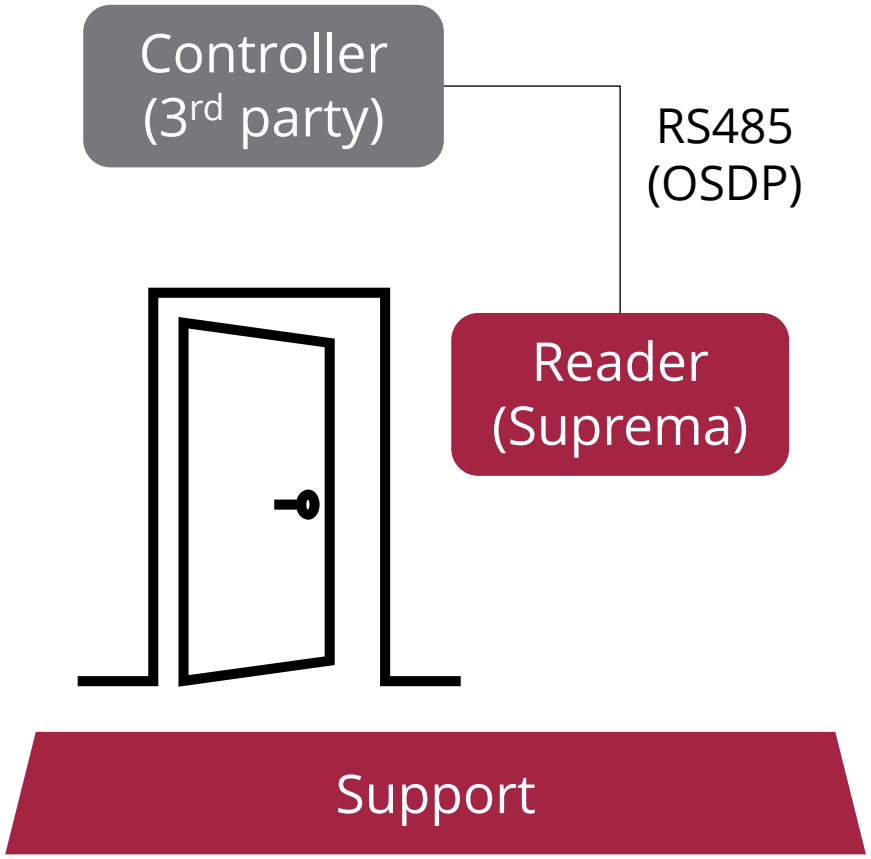


Controller	Reader	Available
Suprema Product	Suprema Product	O
Suprema Product	3rd party OSDP reader	X
3rd party ACU	Suprema Product	O

Features: Access Controller, Suprema Product

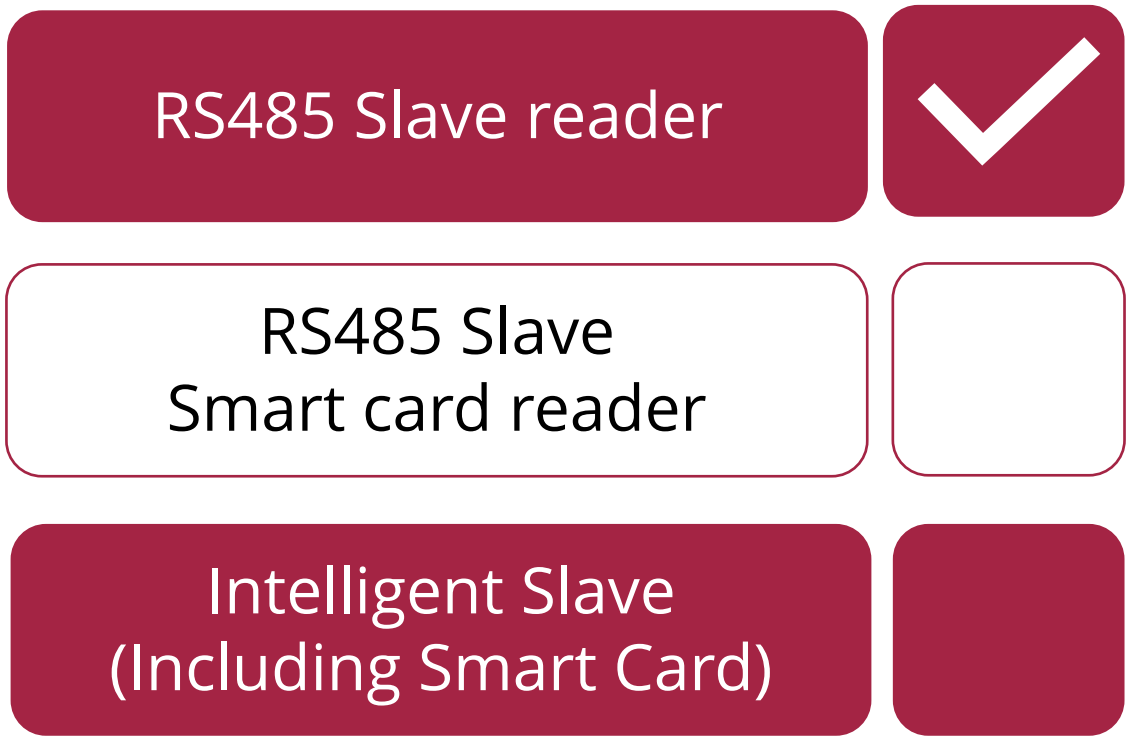


Features: Reader, Suprema Product



- RS485 Slave reader
- RS485 Slave
  Smart card reader
- Intelligent Slave
  (Including Smart Card)

Q) We are looking for an OSDP Reader for the replacement of Wiegand Card Reader.
Is there any recommendation?



Features: Reader, Suprema Product (RS485 Slave Reader)

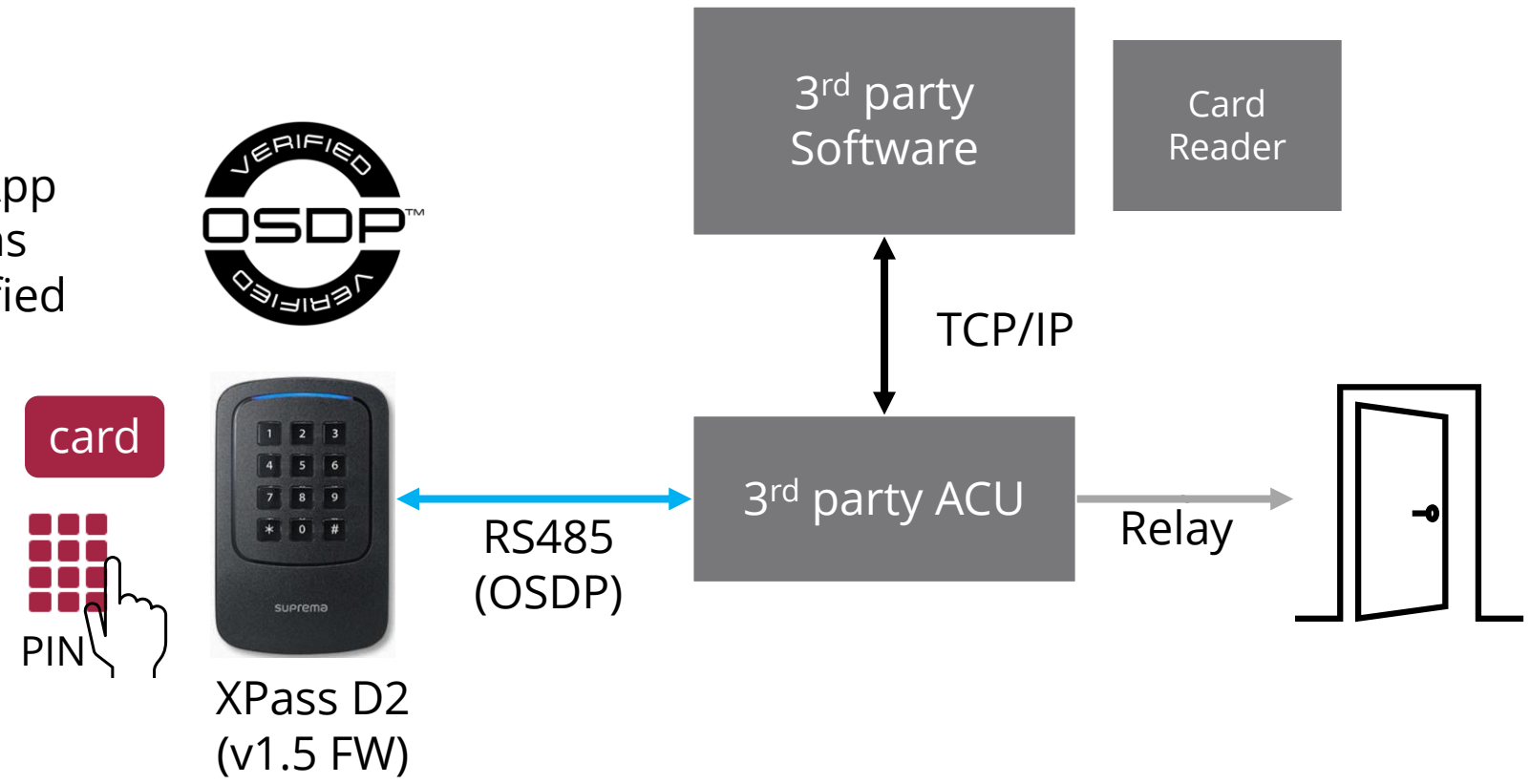
Vendor	Model	Basic	Secure	Firmware
Suprema	XPD2-GKDB	O	O	v1.5
Suprema	XPD2-GDB	O	O	v1.5
Suprema	XPD2-MDB	O	O	v1.5

•**Basic**: These devices are Wiegand replacements; they provide the supervision benefits of a bidirectional protocol, protecting them from the common person-in-the-middle attacks.
•**Secure**: These devices meet the Basic profile but can also handle encrypted messages using Secure Channel and can enter and exit Basic and Secure modes as claimed.

* **Reference Page:** https://www.securityindustry.org/industry-standards/open-supervised-device-protocol/sia-osdp-verified/sia-osdp-verified-products

Features: Reader, Suprema Product (RS485 Slave Reader)

Advantage
- Device Manager App
- HW Options
- OSDP Verified

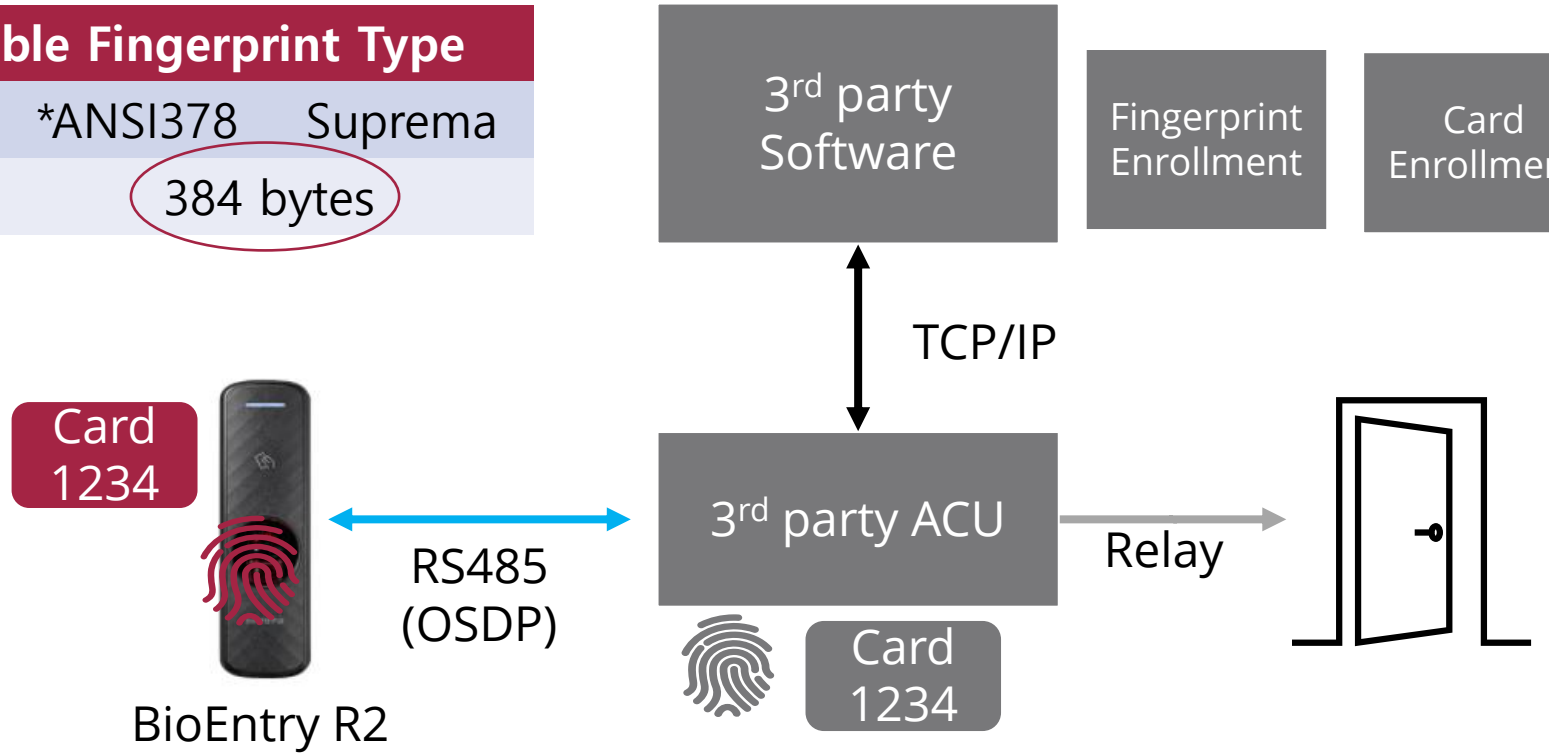


Q) We have the access control system with user fingerprint information. Could we use Suprema Fingerprint Products as an OSDP reader?

Features: Reader, Suprema Product (RS485 Slave Reader)

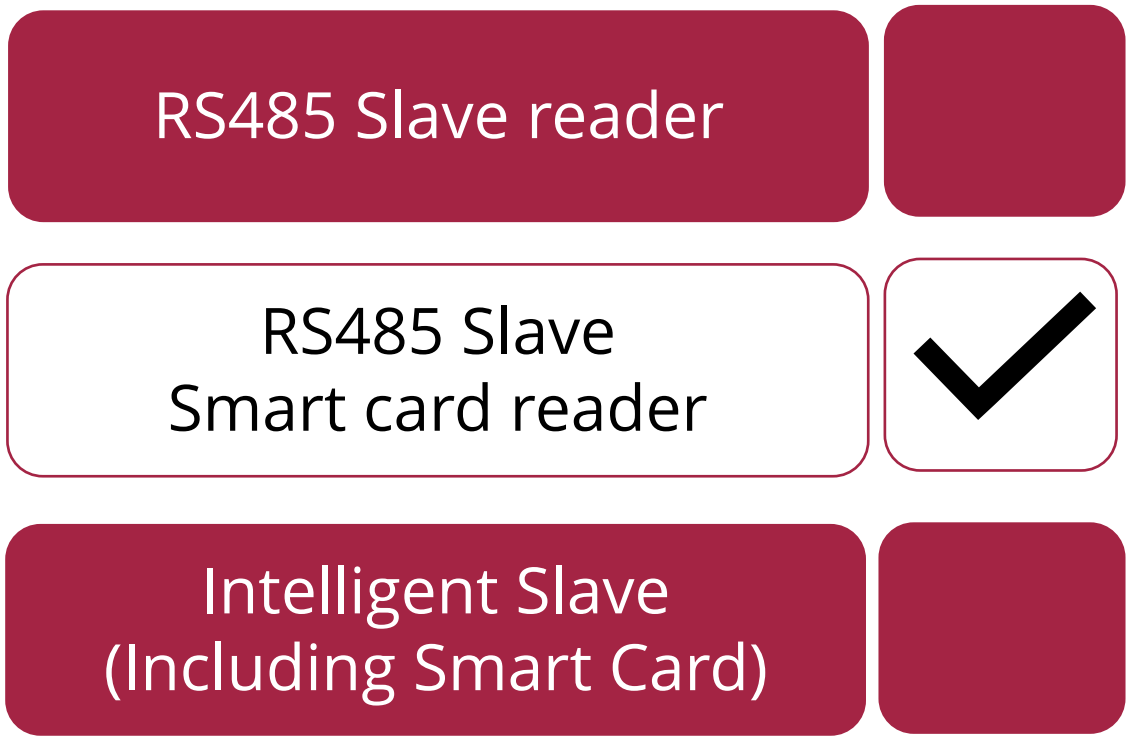
Card+Fingerprint
(1:1 Matching)

Compatible Fingerprint Type		
Format	*ANSI378	Suprema
Size	384 bytes	



*ANSI378: Fingerprint Template Standard developed by the **A**merican **N**ational **S**tandards **I**nstitute

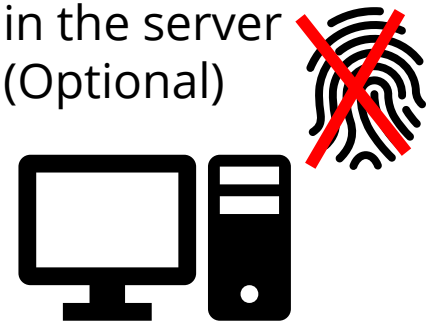
Q) We want to store the biometric information on a smart card. Can we use Suprema product as an OSDP device?



Note: BioStar 2 Smart Card

- ✓**Access On Card(=Template On Card)**
  - ✓ Matches card secure ID with template in the card
  - ✓ Secure ID is the User ID
  - ✓ Needs to be re-written when access group changes or user expires

No Biometric Data
in the server
(Optional)



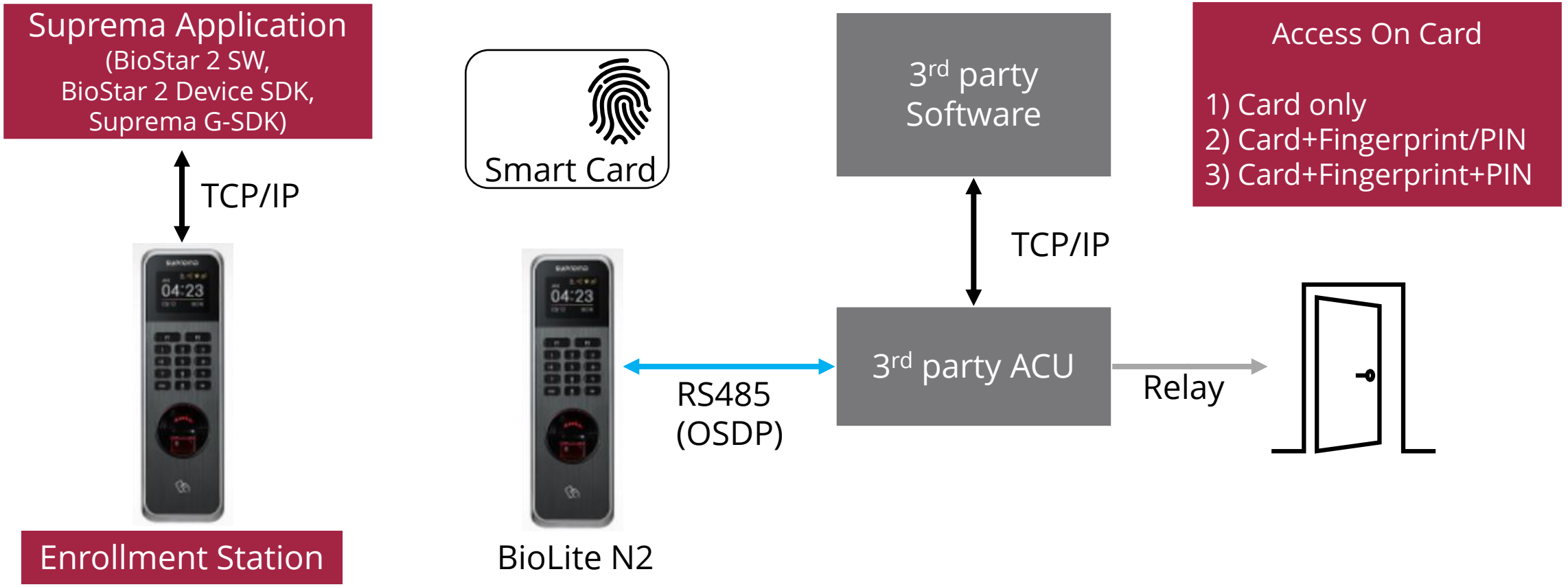
No Biometric Data
in the device

Biometric data in card memory

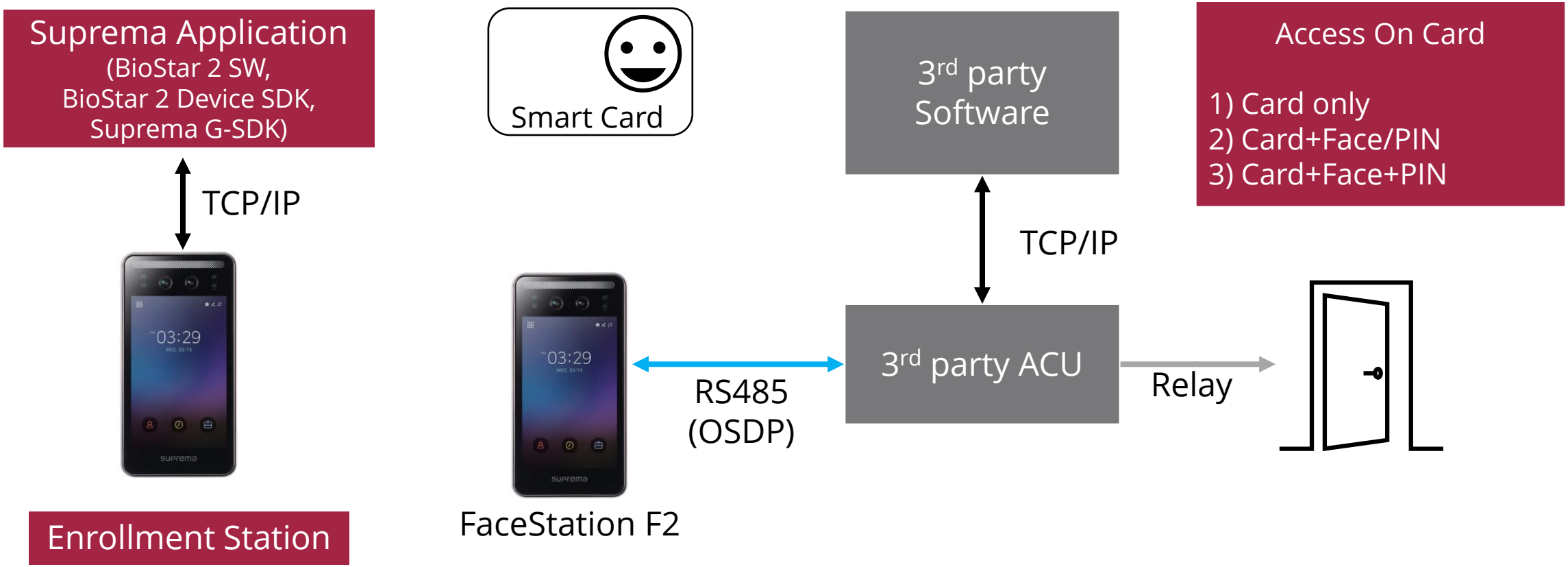
Stored data on Smart Card:
Biometric, User ID, Secure ID(=User ID), Password, Access Group

Available devices:
Fingerprint Readers, RFID Readers, FaceStation F2

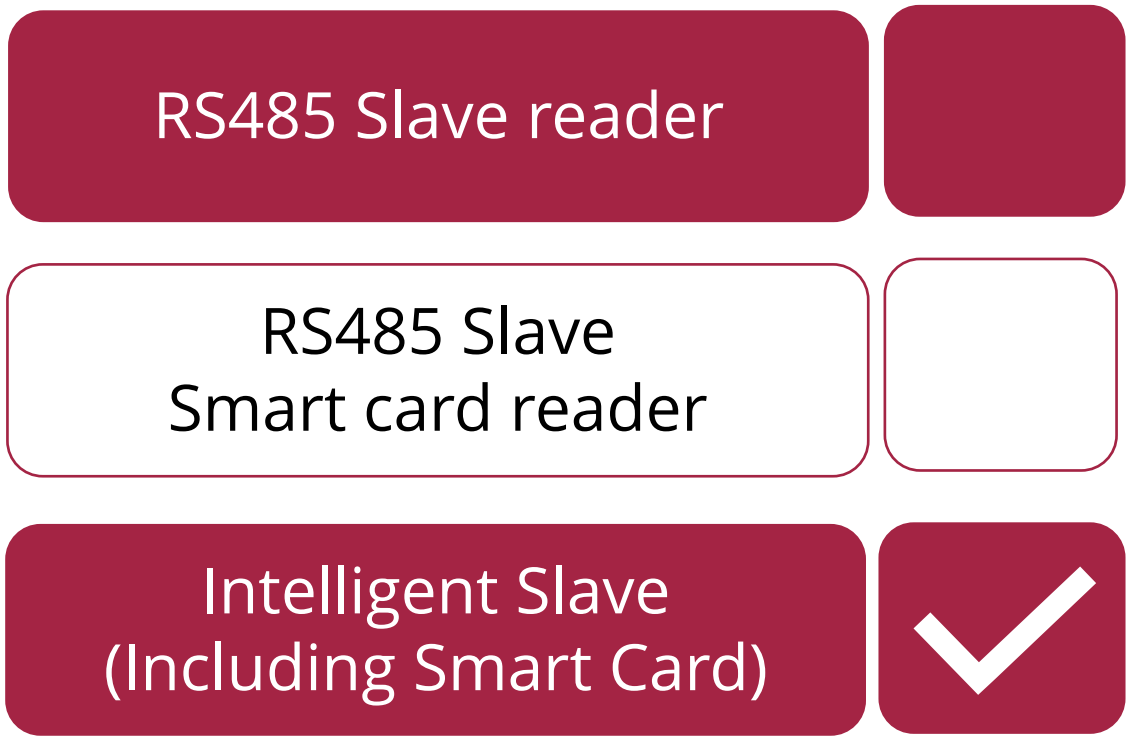
Features: Reader, Suprema Product (RS485 Slave Smart Card Reader)



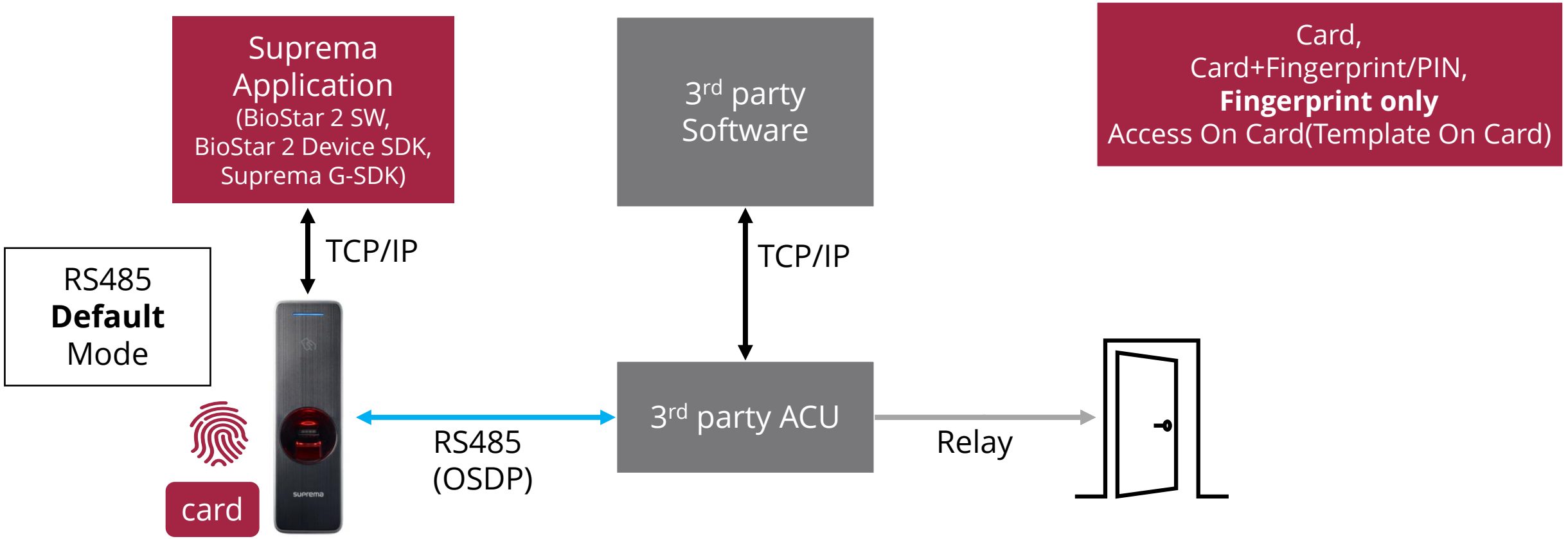
Features: Reader, Suprema Product (RS485 Slave Smart Card Reader)



Q) Can we manage user information to Suprema Access Control System and just send out the card ID or User ID via OSDP?



Features: Reader, Suprema Product (Intelligent Slave Reader)



Limited devices

Features: Reader, Suprema Product (Intelligent Slave Reader)

Device Model	Firmware Version	Release Date
BioEntry W2	v1.6.3 or later	April 30, 2021
BioEntry P2	v1.4.1 or later	May/June
BioStation L2	v1.6.1 or later	May 3, 2021
XPass 2	v1.2.3 or later	May/June

BioStar 2: v2.8.10 or higher
BioStar 2 Device SDK v2.7.x : June 2021
Suprema G-SDK v1.4 : TBD

Features (Summary)

OSDP Reader (based on OSDP v2.1.7)			
User Information Storage	ACU holds the user information	Smart Card holds the BioStar 2 method user information	- Suprema device and BioStar 2 Server hold the user information - Smart Card holds the BioStar 2 method user information
RS485 Mode	RS485 Slave	RS485 Slave	RS485 Default
Method	1:1 verification on the scanned template/downloaded template from ACU	1:1 verification on the access on card	1:1, 1:N Device Matching, 1:1, 1:N **Server Matching** 1:1 verification on the access on card
Operation	Card, PIN, Card+Fingerprint(ANSI378 /Suprema format)	Access On Card+Fingerprint/PIN Access on Card+Face/PIN (FaceStation F2 only)	Various Operation mode - Device Operation mode - Private Authentication Mode
Suprema Mobile Access	Not available	Not available	Support (NFC, BLE)
Exception Code Support	Not support	Not support	Support
Available devices	Fingerprint Devices, RFID Card Devices, XPass D2 (v1.5.0)	All except FaceStation 2	BioEntry W2 v1.6.3, BioEntry P2 v1.4.1 BioStation L2 v1.6.1, XPass 2 v1.2.3

Q) All Suprema devices can be an OSDP Reader to all 3rd party ACU which support OSDP?

As an OSDP device, it is possible to connect to the ACU and transfer card data.

However, we recommend having a consultation. Certain ACU manufacturers use only OSDP-related commands, while other ACU manufacturers may additionally implement and use OSDP manufacturer commands in addition to the OSDP standard commands.
This means that the manufacturer's own response/request command has been added for operation between the access controller and the reader.

For this reason, it is suggested to discuss the access control manufacture and suprema team sufficiently in advance. For example, in an exception code, a specific ACU manufacturer may also search for devices that support the exception code in Wiegand format.

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03

How To Use

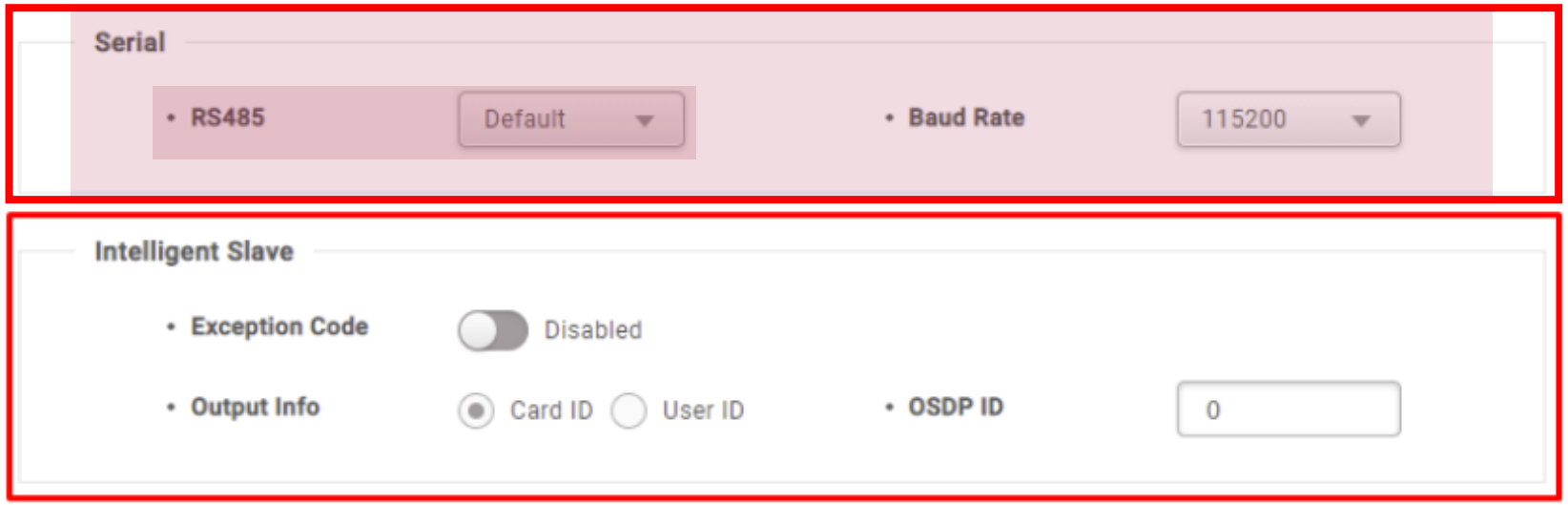
Device Configuration

1. Set RS485 mode and baud rate

	IP based Suprema Product	XPass D2,	BioEntry R2, XPass D2
Application	BioStar 2, BioStar 2 SDK, Suprema G-SDK	Device Manager Mobile App	Device Rest Button
RS485 mode	Slave, Default (Intelligent slave)	-	-
Baud rate	9600	9600	9600
OSDP ID (Default ID: 0)	Set the ID from 3rd party ACU system		
	Set the ID if the FW supports Intelligent Slave	Set the ID with a mobile app(D2 only)	-
Exception Code	Set if the FW supports Intelligent Slave		

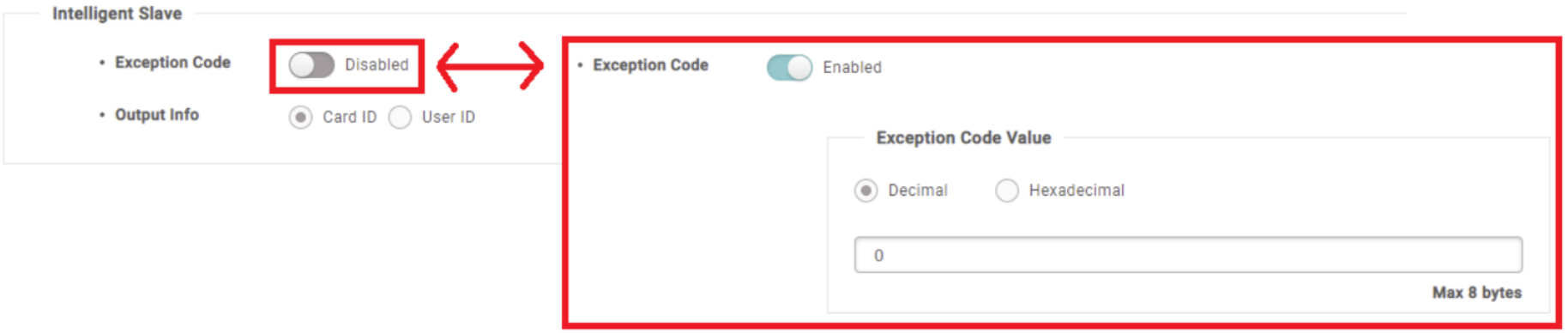
Device Configuration

1. Set RS485 mode and baud rate
   - ✓ BioStar2



Device Configuration

1. Set RS485 mode and baud rate
   - ✓ BioStar2



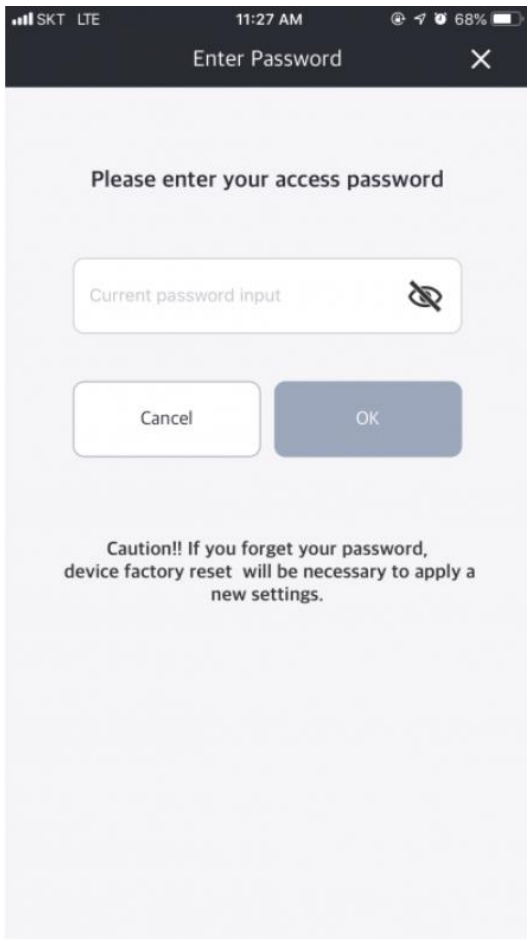
Suprema device can send to aggregate accurate logs in exceptional situations such as authentication failures or the no card of the verified user information. Depending on the system requirement of 3rd party ACU, you can enable this option and set it in decimal or hexadecimal. You can enter decimal numbers from 0 to 18446744073709551615, and you can enter hexadecimal numbers from 0 to FFFFFFFFFFFFFFFF or hexadecimal characters. (up to 8 bytes)

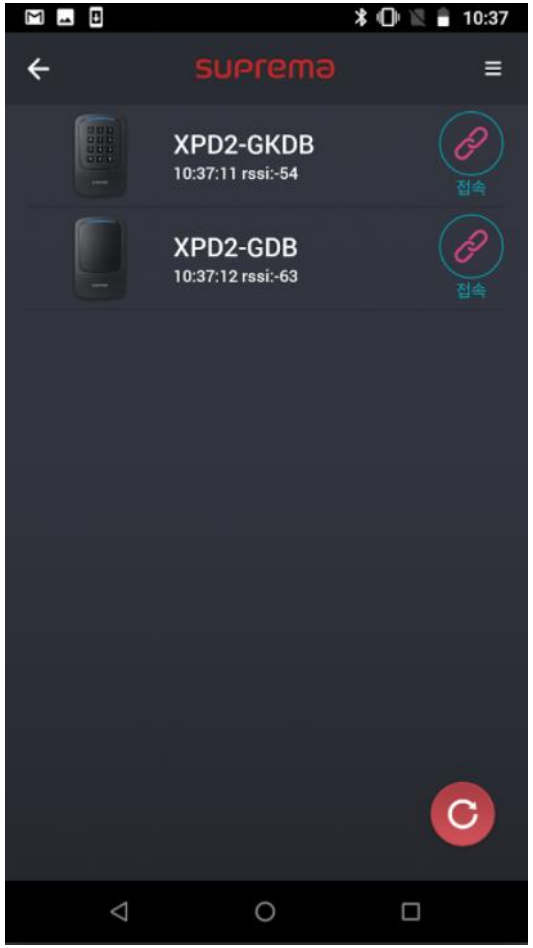
Device Configuration

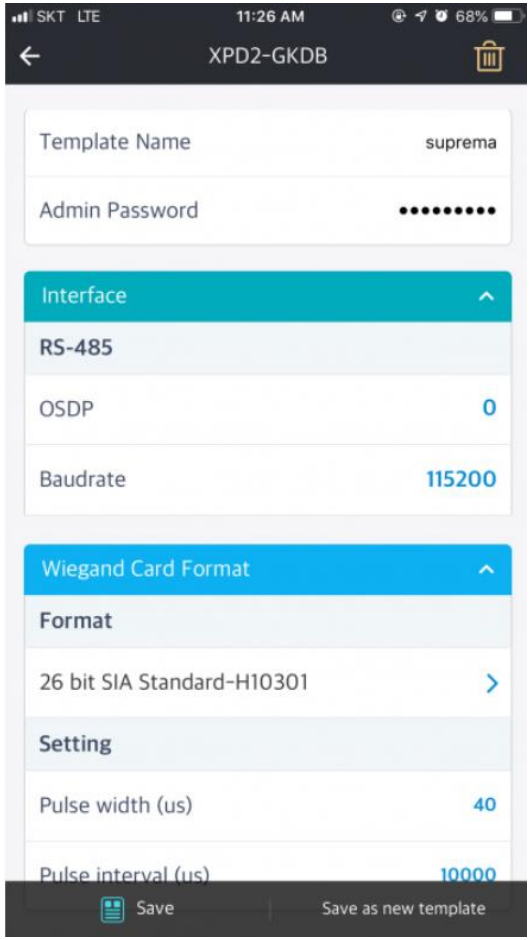
1. Set RS485 mode and baud rate
   - ✓ BioStar2
   - ✓ Suprema Device Manager App

Device Configuration

1. Set RS485 mode and baud rate
   - ✓ BioStar2
   - ✓ Suprema Device Manager App

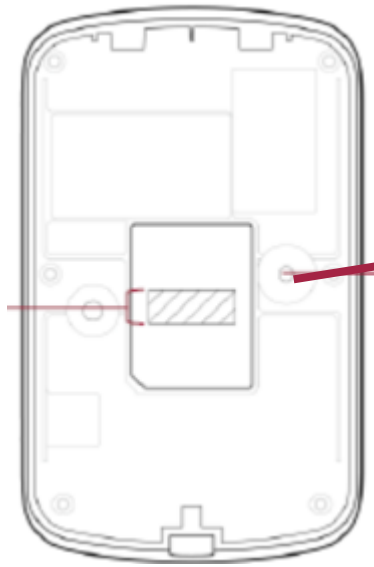




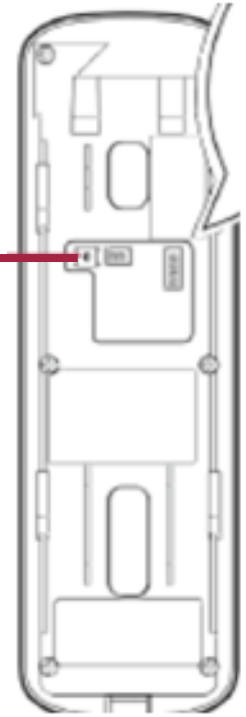


Device Configuration

1. Set RS485 mode and baud rate
   - ✓ BioStar2
   - ✓ Suprema Device Manager App
   - ✓ Device Reset Button



Reset Button



XPass D2

BioEntry R2

Device Configuration

1. Set RS485 mode and baud rate
   - ✓ BioStar2
   - ✓ Suprema Device Manager App
   - ✓ Device Reset Button

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.

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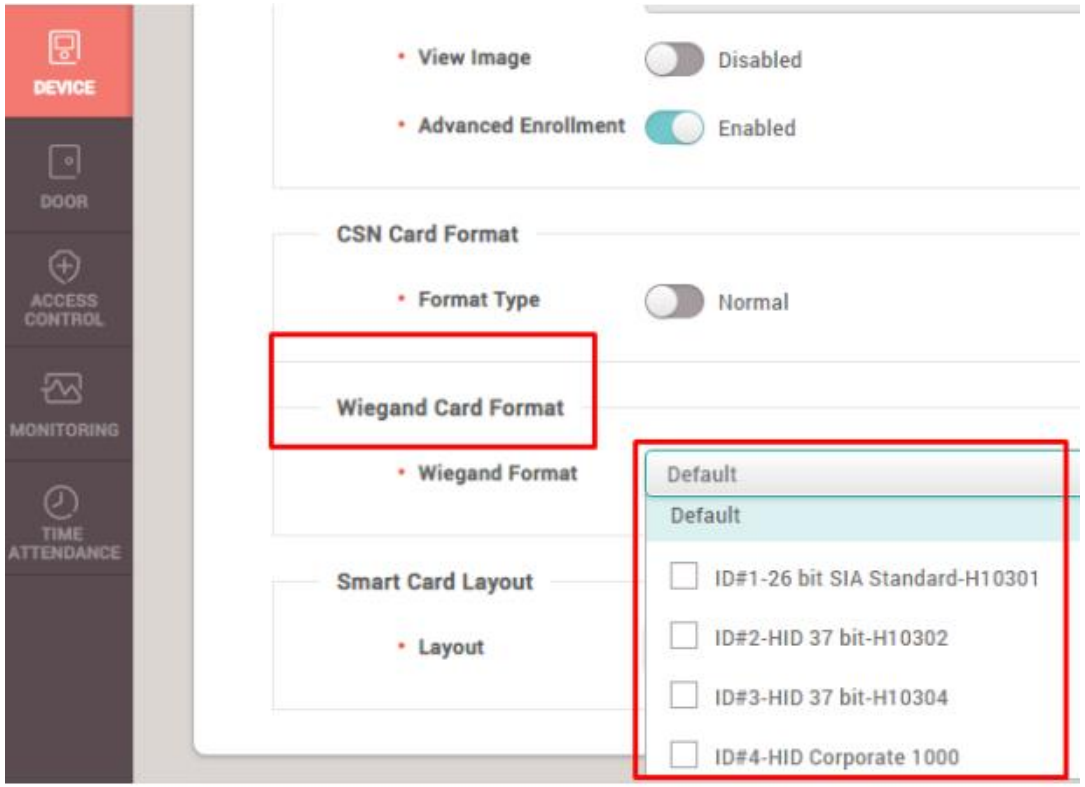
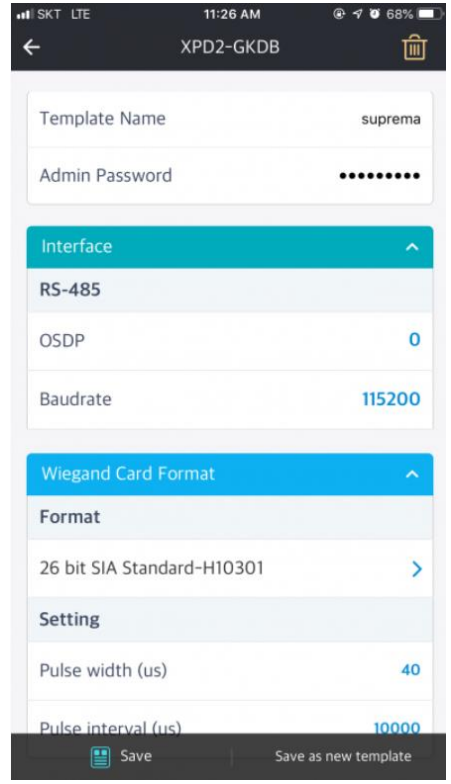
Device Configuration

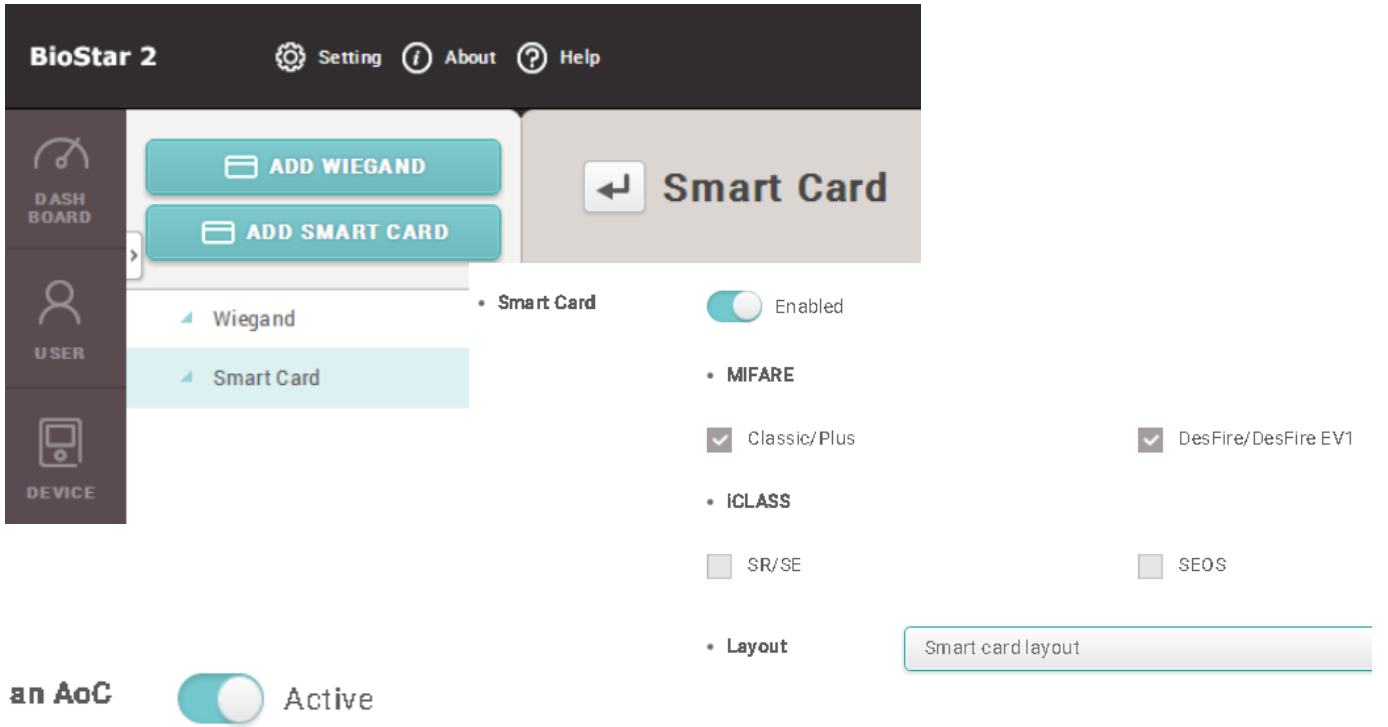
2. Card Setting
   - ✓ Wiegand Format





Device Configuration

2. Card Setting
   - ✓ Wiegand Format
   - ✓ Smart Card Layout

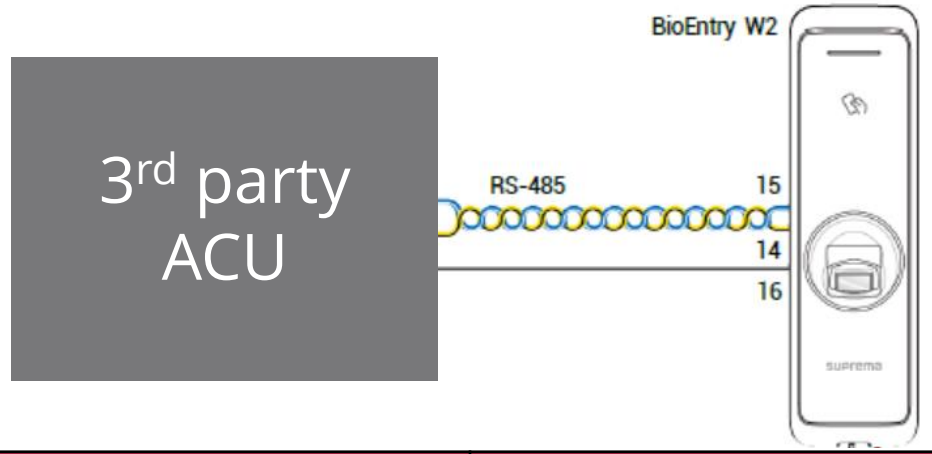


Delete personal & credential data when issuing an AoC Active

To delete the user fingerprint template information from BioStar 2 DB after writing Access On Card, enable [Delete personal & credential data when issuing an AoC].

Device Configuration → RS485 Wiring

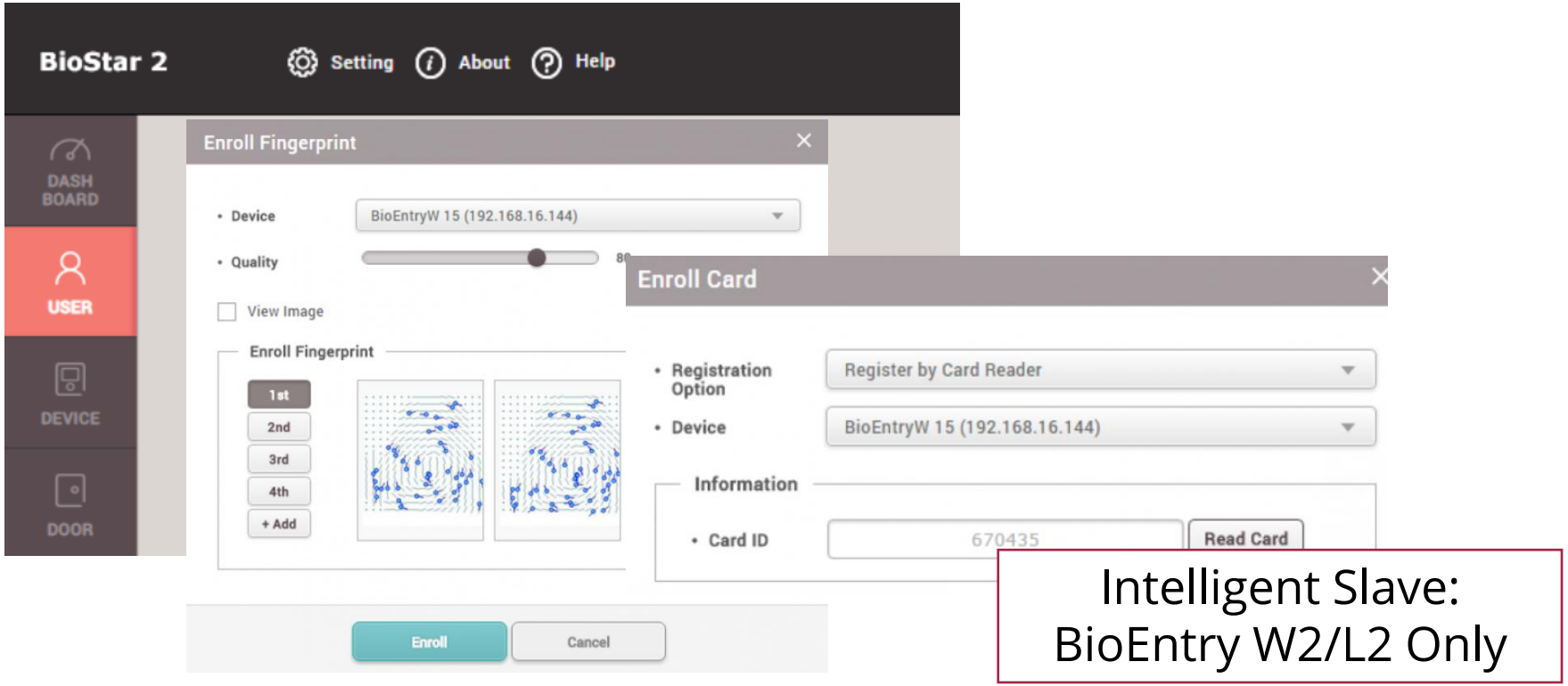
3. Wiring



Reader Port of ACU	RS485 Connection (Suprema Device)
D1 (CLK)	485 TRXN (Blue/White stripe)
D0 (DAT)	485 TRXP (Yellow/Black stripe)
GND	485 GND (White/Black stripe)

Device Configuration → RS485 Wiring → **User Management (Intelligent Slave Only)**

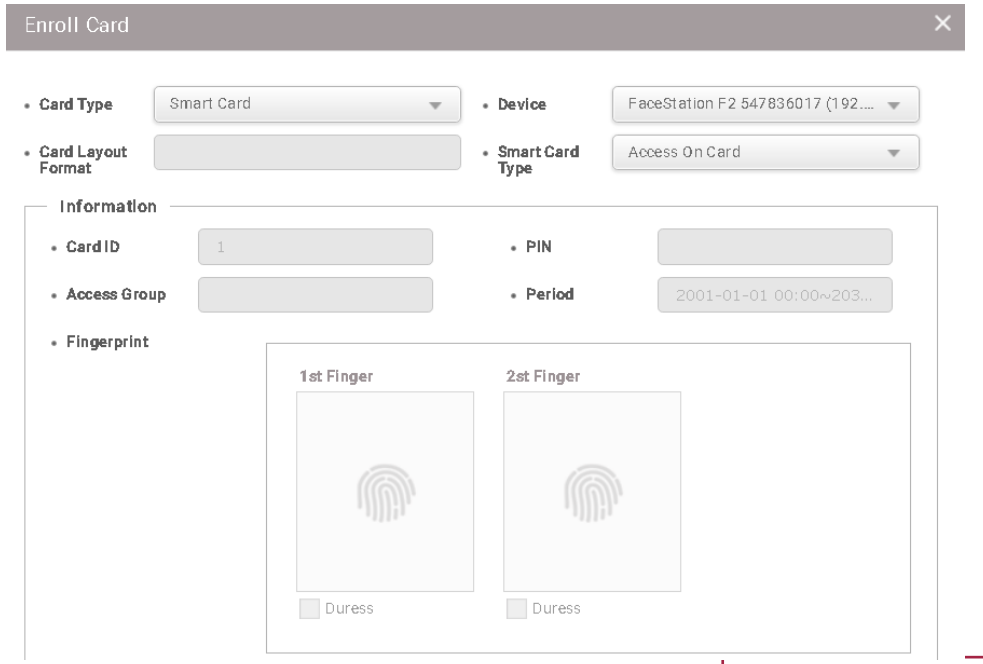
4. User Configuration (Intelligent Slave Only)
   - ✓ Register Card/Finger



Intelligent Slave: BioEntry W2/L2 Only

Device Configuration → RS485 Wiring → User Management (Intelligent Slave Only)

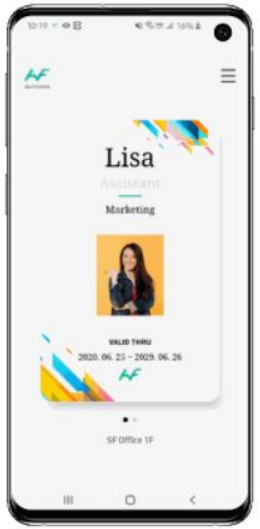
4. User Configuration (Intelligent Slave Only)
   - ✓ Register Card/Finger
   - ✓ Issue Access On Card



Intelligent Slave: BioEntry W2/L2 Only

Device Configuration → RS485 Wiring → **User Management (Intelligent Slave Only)**

4. User Configuration (Intelligent Slave Only)
   - ✓ Register Card/Finger
   - ✓ Issue Access On Card
   - ✓ Suprema Mobile Access



Intelligent Slave: BioEntry W2 Only

https://support.supremainc.com/en/support/solutions/articles/24000055432--biostar-2-how-to-use-suprema-mobile-access

5. Test

Common
- ✓ Please make sure if the 3rd party ACU's software added the suprema device as an OSDP reader on the ACU.
- ✓ Please make sure if user information is stored into the 3rd party ACU's software.

Slave
- ✓ Scan card
- ✓ Scan fingerprint if the yellow LED is flicking

Intelligent Slave
- ✓ Scan the registered card or fingerprint to W2 device.
- ✓ If there is user authentication success, the Card ID or User ID will be sent from Suprema device to ACU

FAQ

Q) Can I store the user information to the device and send the card ID or user ID after the device matches the user information?
Yes, that is the Intelligent Slave feature which we released recently. Currently, BioEntry W2, BioStation L2, BioEntry P2, and XPass 2 support. (Please note that P2 and L2 do not support Suprema Mobile Access.)

Q) Can FaceStation 2 or FaceStation F2 support Intelligent Slave?
A) No, the development schedule is not fixed.

Q) Do you have any experience connecting Suprema devices to 3rd party ACU through OSDP?
A) Yes, we do. Please contact the Suprema sales team for more details.

Q) What does it mean OSDP Verified for XPass D2?
A) It has been certified by SIA. This reader can be replaceable of Wiegand reader as an OSDP reader with secure communication.

Q&A

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Thank you.