suprema

# suprema Xpass

## Smart IP Access Reader

TCP/IP Ready
Wiegand/RS485 Interfaces
IP65 Waterproof
Power over Ethernet

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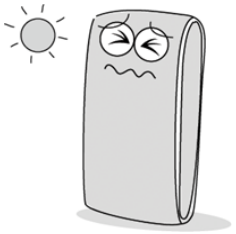
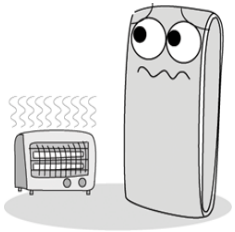
## Safety precautions



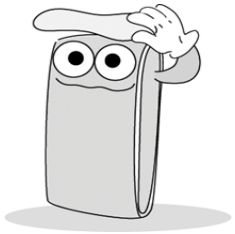
Do not install the device in a place subject to direct sun light, humidity, dust or soot.



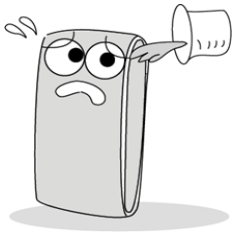
Do not place the device next to heating equipments.

Do not place a magnet near the product.

- It may cause a damage or a failure to the product.



In cleaning, do not splash water on the device but wipe it out with smooth cloth or towel.



Be careful not to let liquid like water, drinks or chemicals leak inside the device.

- It may cause a failure.

Clean the device often to remove dust on it.

**The list below is to keep user's safety and prevent any loss. Please read safety precautions carefully before use.**



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## Safety precautions

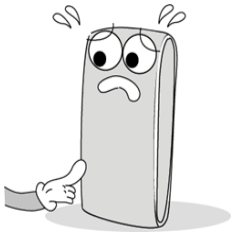
Do not drop the device.

Do not disassemble, repair or alter the device.

- The warranty does net apply to any product damage cause by an arbitrary installation or repair.

Do not let children touch the device without supervision.

Do not use the device for any other purpose than specified.



Do not damage the device.

Contact your nearest dealer in case of a trouble or problem.

**The list above is to keep user's safety and prevent any loss. Please read safety precautions carefully before use.**



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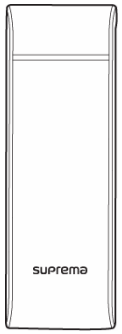
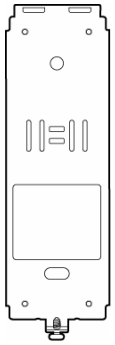
# Product components

## Basic components




Xpass



bracket

Extended Ethernet Cable

Wall mounting screws
(2 ea)

Knife Blocks
(2 ea)

Shrinkable Tubes

Software CD

**The components shown above may differ depending on the installation environment.**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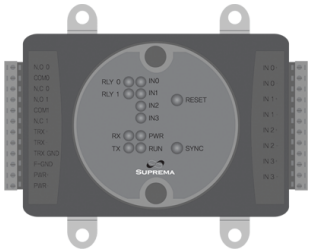
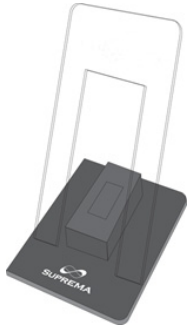
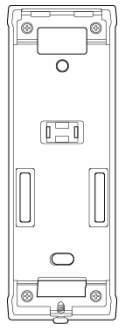
# Optional accessories



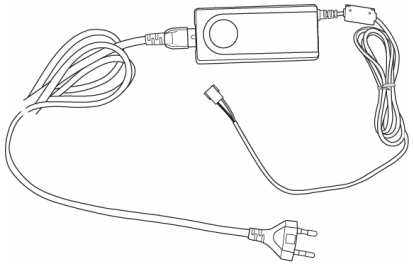

**Secure I/O**




**Plastic stand**



**Extended bracket**



**adaptor**



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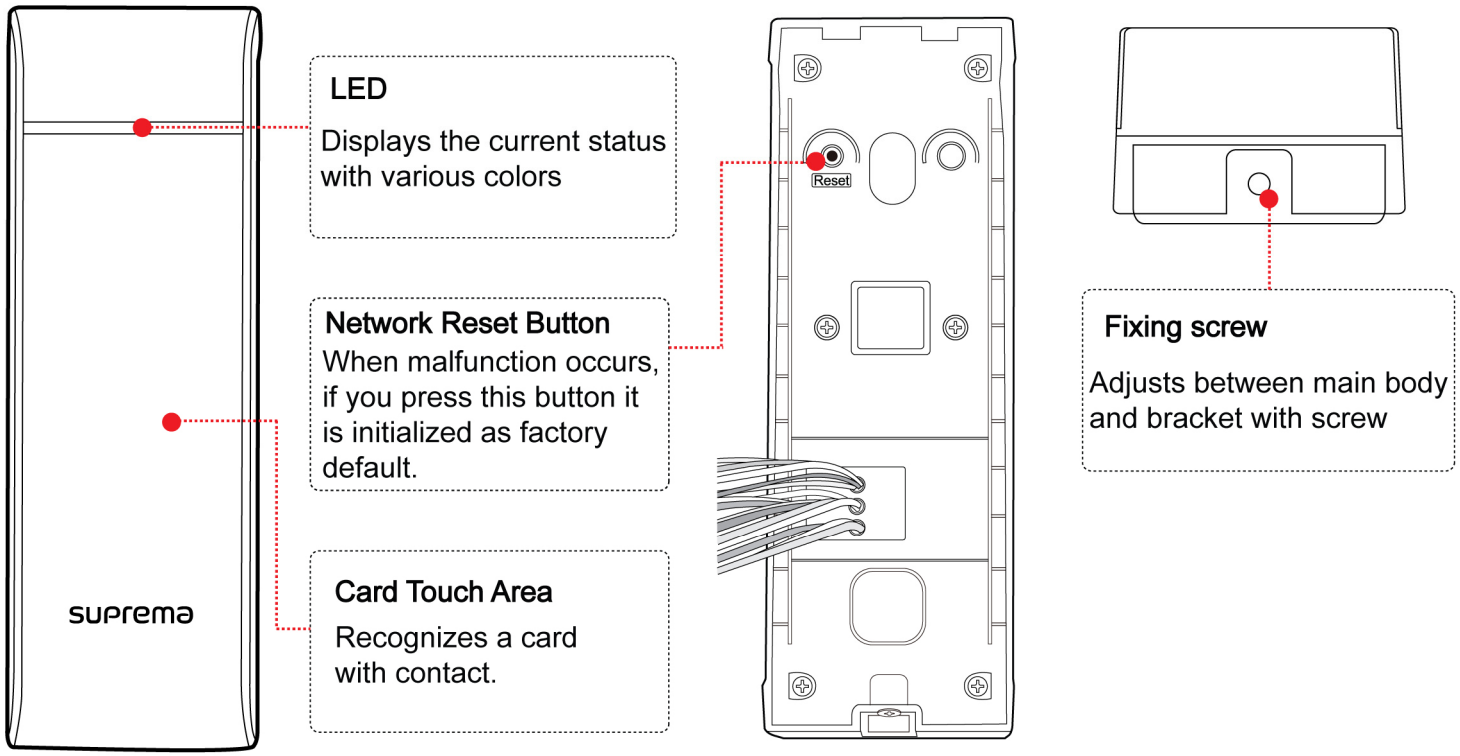
# Names of each parts





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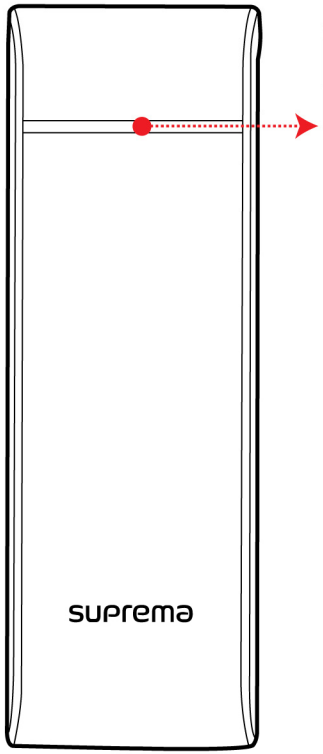
## LED status




| LED Status per Color | | |
|---|---|---|
| Color | Sound | Description |
| Green | Beep Beep Beep | Authorization Success |
| Red | Be~ep | Authorization Fail |
| Pink | Beep! | On Processing |
| Flicker Blue/Sky-Blue Color per 2sec | No sound | Normal |
| Flicker Red/Pink Color per 2sec | No sound | Locked |
| Flicker Blue/Red Color per 2se | No sound | Initialized Time due to the Internal Battery Discharge |
| Flicker Blue /Yellow Color per 2sec | No sound | IP address is not assigned when terminal is set as 'Use' in the 'DHCP' of 'TCP/IP Setting' |
| For first operation, red LED is blinking by every 2 seconds. | No sound | Failed. Please contact to your distributor or Suprema |
| For normal operation, red LED is blinking by every 2 seconds. | No sound | Security status |
| Yellow LED is blinking shortly. | No sound | Terminal is send or received a packet to get IP address when terminal is set as 'Use' in the Idle status or 'TCP/IP Setting' |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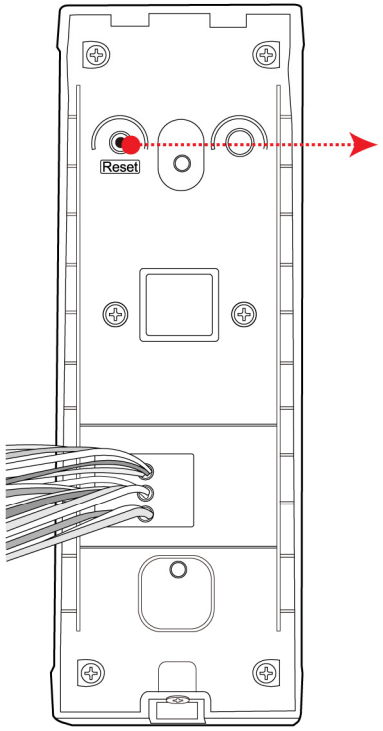
## Initialization of network setting

When you install the Xpass or forget the network setting's value of Xpass in use, can initial the network setting's value (TCP/IP address, RS-485 setting) in the switch of Xpass's back side as follows;




**Initialzing the network setting**

1. Press the Reset button in the switch of Xpass's back side for 3 second or above.

2. Connect between Xpass and Biostar Client(Ver.1.25 or higher) by using TCP/IP or RS-485.
   ·Network default setting value
   - TCP/IP Address(Fixed): 192.168.0 bps(Not Checked: Use Server)
   - RS-485 : PC Connection, 115200 bps

3. Enter th desired value of TCP/IP address or RS-485 to change setting value. And save setting value.
4. After delete the Xpass among devices list, re-connect bewteen Xpass and BioStar using the new TCP/IP address or RS-485 setting.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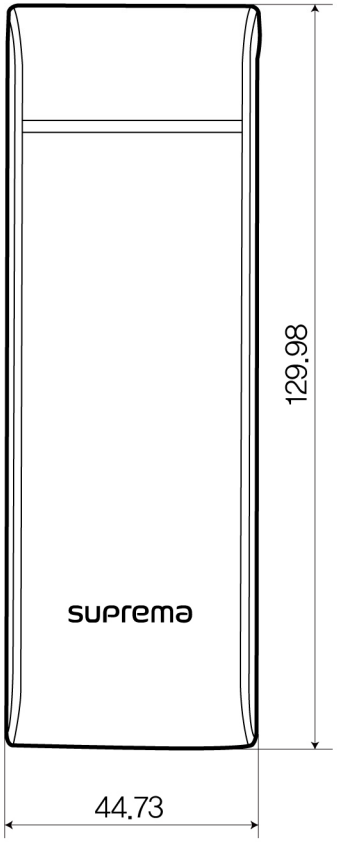
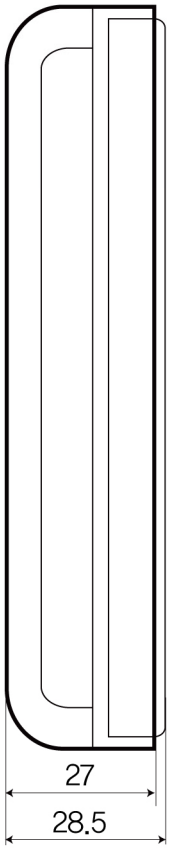
# Product Dimension

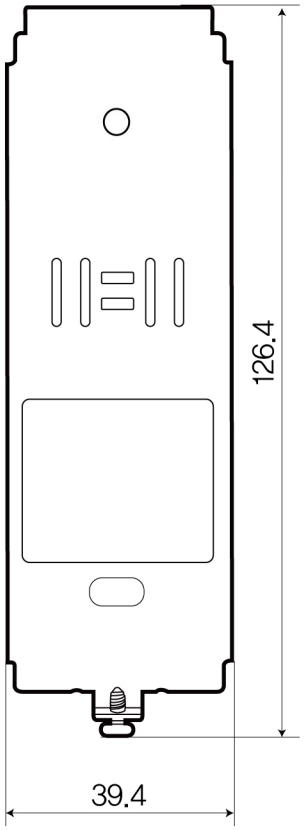
(unit : mm)



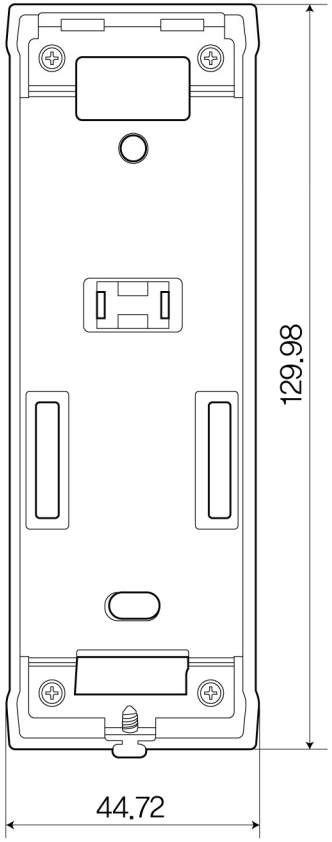

< Front View >




< Side View >




< Bracket >




< Extended bracket >



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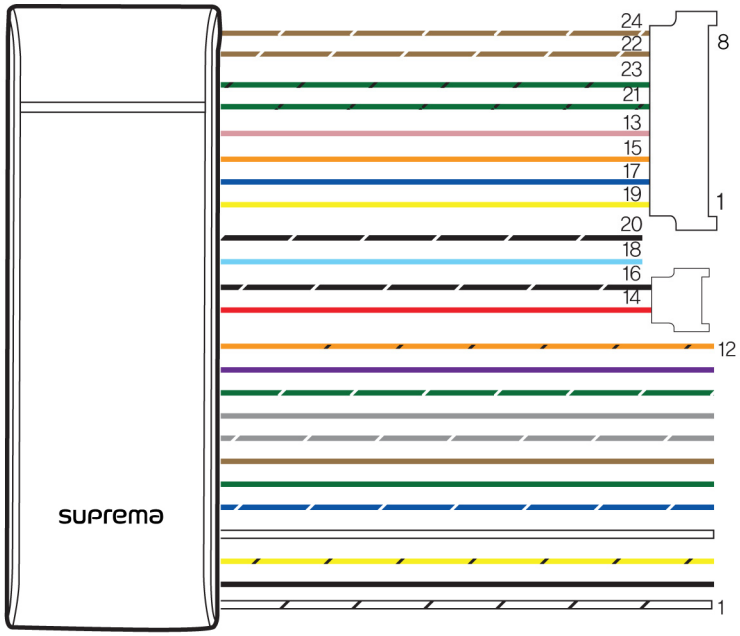
# Cables and Connectors




A Cross Section of Cable

| No | Pin Name | Full Name | Color |
|---|---|---|---|
| 1 | 485 GND | 485 GND | White (black string) |
| 2 | WGD GND | Wiegand–GND | Black |
| 3 | 485 – | 485 – | Yellow (black string) |
| 4 | WGD D1 | Wiegand–1 | White |
| 5 | 485 + | 485 + | Blue (white string) |
| 6 | WGD D0 | Wiegand–0 | Green |
| 7 | IN 1 | Input–1 | Brown |
| 8 | RLY NO | Relay Open | Gray (white string) |
| 9 | IN GND | Input–GND | Gray |
| 10 | RLY COM | Relay Com | Green (white string) |
| 11 | IN 0 | Input–0 | Purple |
| 12 | RLY NC | Relay Close | Orange (black string) |
| 13 | TX+ | TX+ (LAN) | Pink |
| 14 | PWR IN+ | Power IN+ | Red |
| 15 | TX– | TX– (LAN) | Orange |
| 16 | PWR IN– | Power IN– | Black (white string) |
| 17 | RX+ | RX+ (LAN) | Blue |
| 18 | PWR OUT+ | Power OUT+ | Light Blue |
| 19 | RX– | RX– (LAN) | Yellow |
| 20 | PWR OUT– | Power OUT– | Black (white string) |
| 21 | VB1 | VB1 | Green (black string) |
| 22 | VB2 | VB2 | Brown (white string) |
| 23 | VB1 | VB1 | Green (black string) |
| 24 | VB2 | VB2 | Brown (white string) |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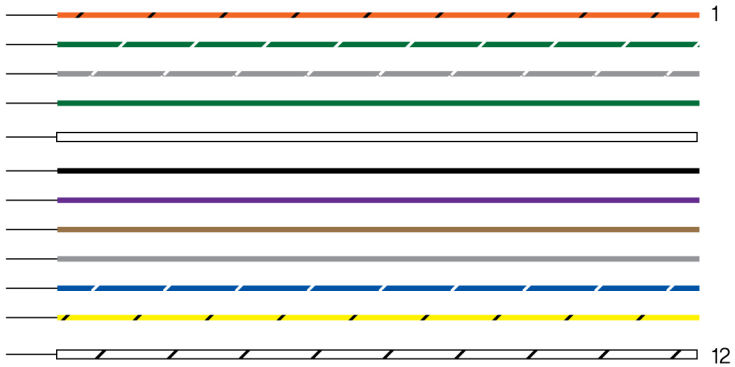
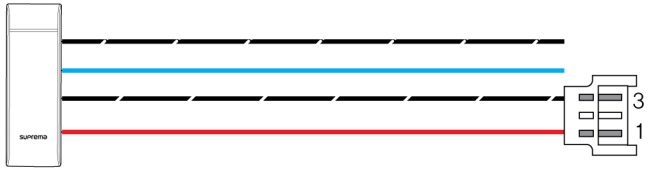
# Cables and Connectors

## Cable Specification




| Cable | | Pin Name | Color |
|---|---|---|---|
| 1 | Relay | RLY NC | Orange (black string) |
| 2 | | RLY COM | Green (white string) |
| 3 | | RLY NO | Gray (white string) |
| 4 | Wiegand | WGD D0 | Green |
| 5 | | WGD D1 | White |
| 6 | | WGD GND | Black |
| 7 | Switch | IN 0 | Purple |
| 8 | | IN 1 | Brown |
| 9 | | IN GND | Gray |
| 10 | 485 | 485+ | Blue (white string) |
| 11 | | 485- | Yellow (black string) |
| 12 | | 485 GND | White (black string) |




| Adaptor Connector | Pin Name | Color |
|---|---|---|
| | POWER OUT - | Black (white string) |
| | POWER OUT + | Light Blue |
| 3 | POWER IN - | Black (white string) |
| 1 | POWER IN + | Red |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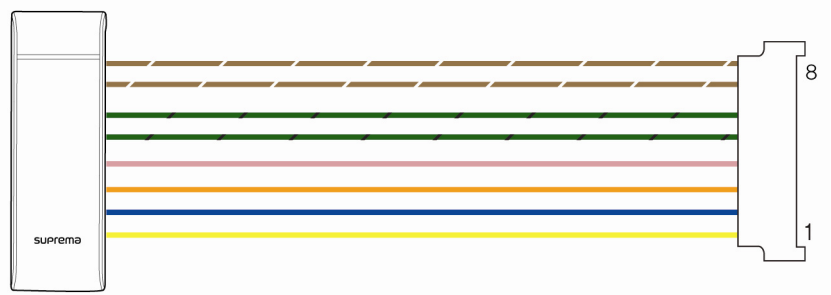
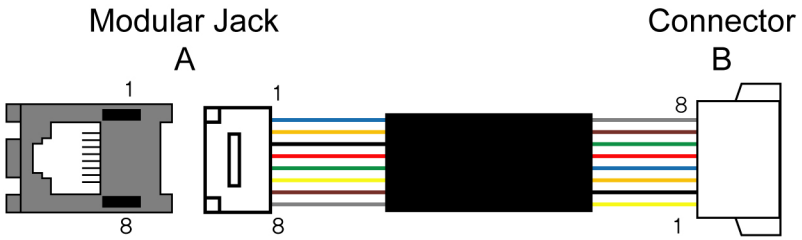
## LAN cable




| LAN Connector | | Pin Name | Color |
|---|---|---|---|
| 1 | LAN | RX- | Yellow |
| 2 | | RX+ | Blue |
| 3 | | TX- | Orange |
| 4 | | TX+ | Pink |
| 5 | | VB1 | Green (black string) |
| 6 | | VB1 | Green (black string) |
| 7 | | VB2 | Brown (white string) |
| 8 | | VB2 | Brown (white string) |

## Ethernet extension cable




| Modular Jack (A) | Connector (B) | Pin Name | Color |
|---|---|---|---|
| 1 | 4 | TX+ | Blue |
| 2 | 3 | TX- | Orange |
| 3 | 2 | RX+ | Black |
| 6 | 1 | RX- | Yellow |
| 4 | 5 | VB1 | Red |
| 5 | 6 | VB1 | Green |
| 7 | 7 | VB2 | Brown |
| 8 | 8 | VB2 | Gray |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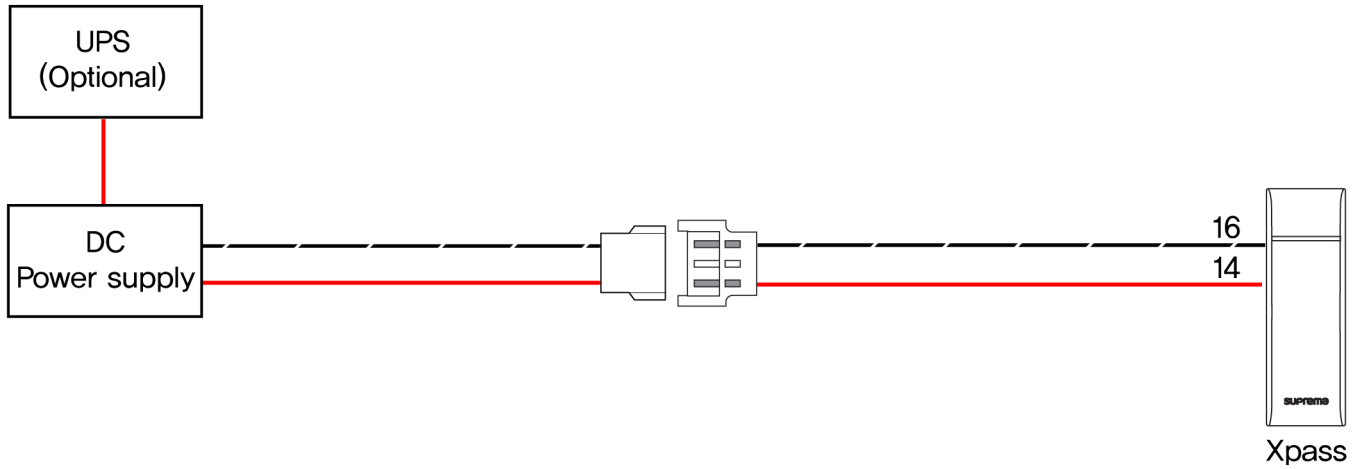
# Power Connection 1

| Pin | Pin Name | Color |
|---|---|---|
| 14 | PWR IN+ | Red |
| 16 | PWR IN- | Black (white string) |




## Recommended power supply

**12V ± 10%, at least 500mA.**
**Comply with standard IEC/EN 60950-1.**
**To share the power with other devices, use a power supply with higher current ratings.**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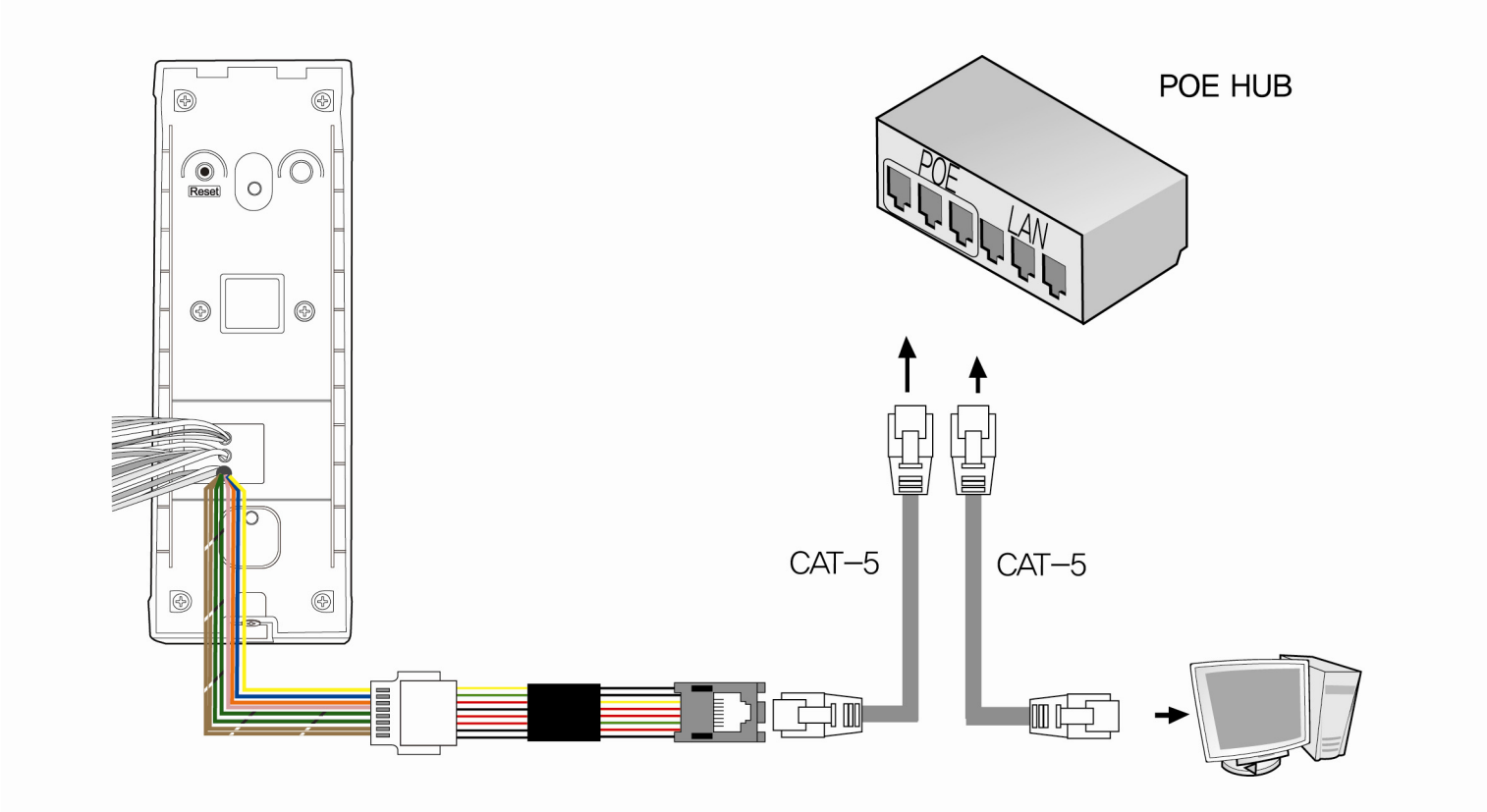
# Power Connection 2




## Recommended power supply

**Please use the distance of LAN cable within 100m in case of POE power.**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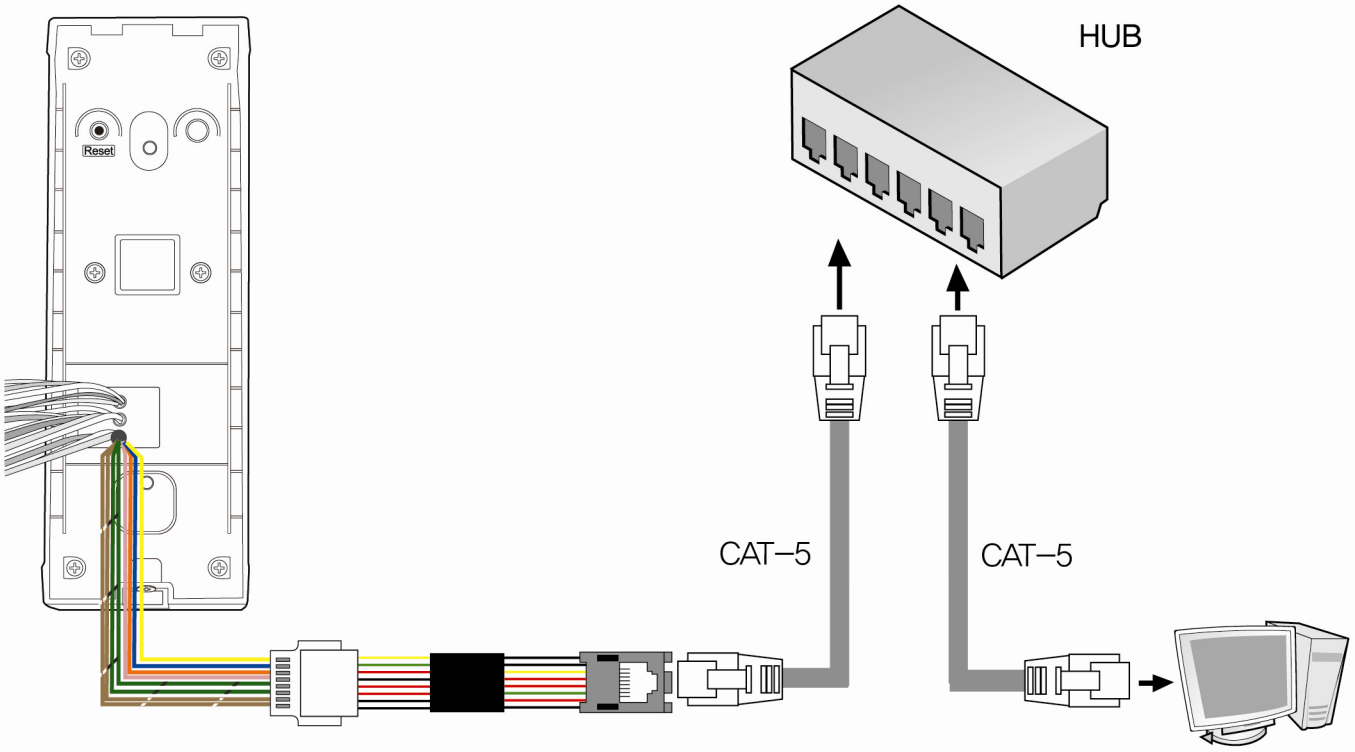
## LAN Connection





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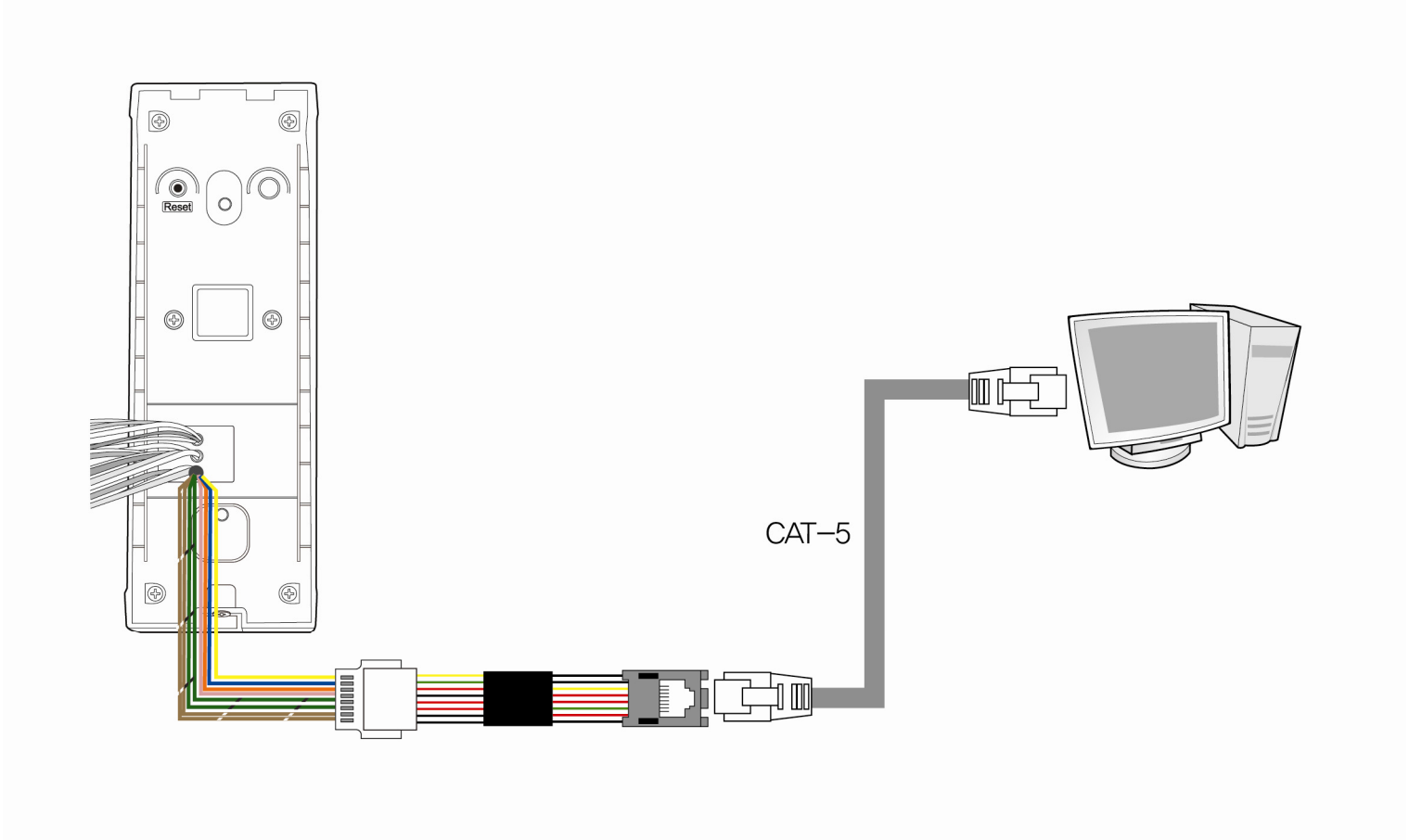
## LAN Connection (Direct connection with PC)





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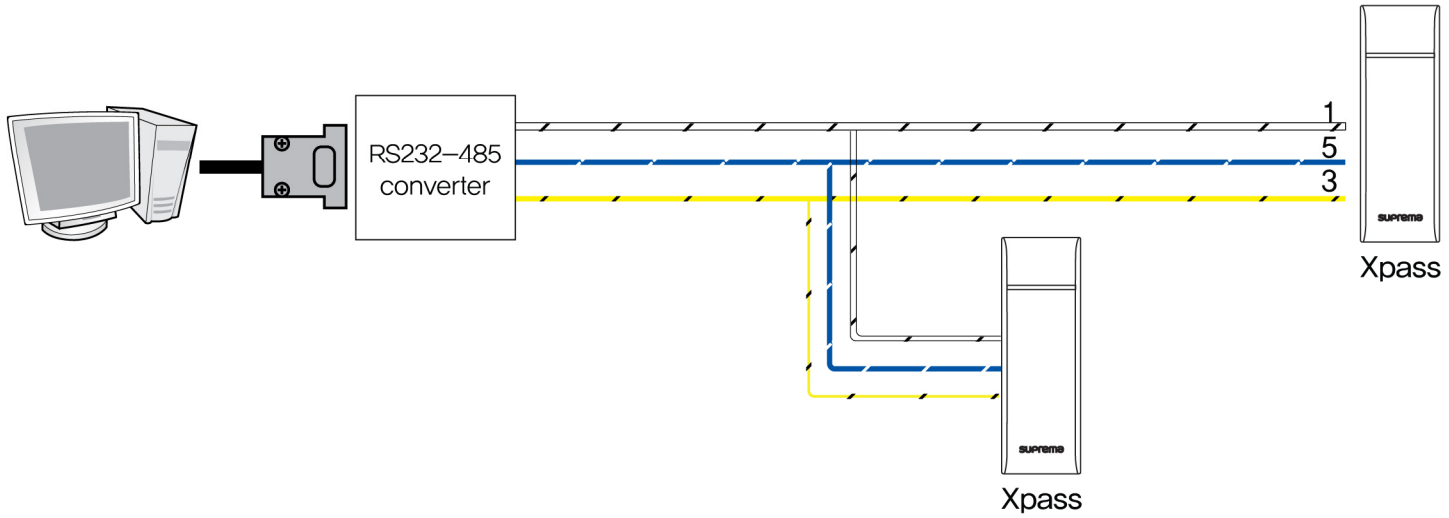
# RS485 Connection for Host Communication

| Pin | Pin Name | Color |
|---|---|---|
| 1 | 485 GND | White (black string) |
| 3 | 485 - | Yellow (black string) |
| 5 | 485 + | Blue (white string) |





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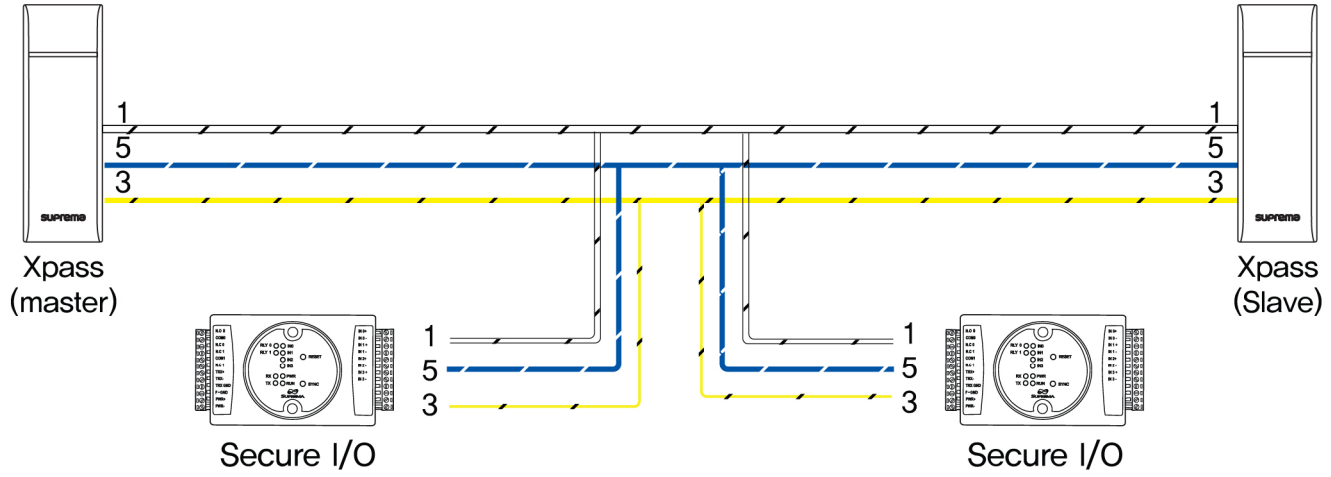
# RS485 Connection for Secure I/O

| Pin | Pin Name | Color |
|---|---|---|
| 1 | 485 GND | White (black string) |
| 3 | 485 - | Yellow (black string) |
| 5 | 485 + | Blue (white string) |




## Max number of devices

**Maximum eight(8) devices (including Master) interworks in an RS485 loop.**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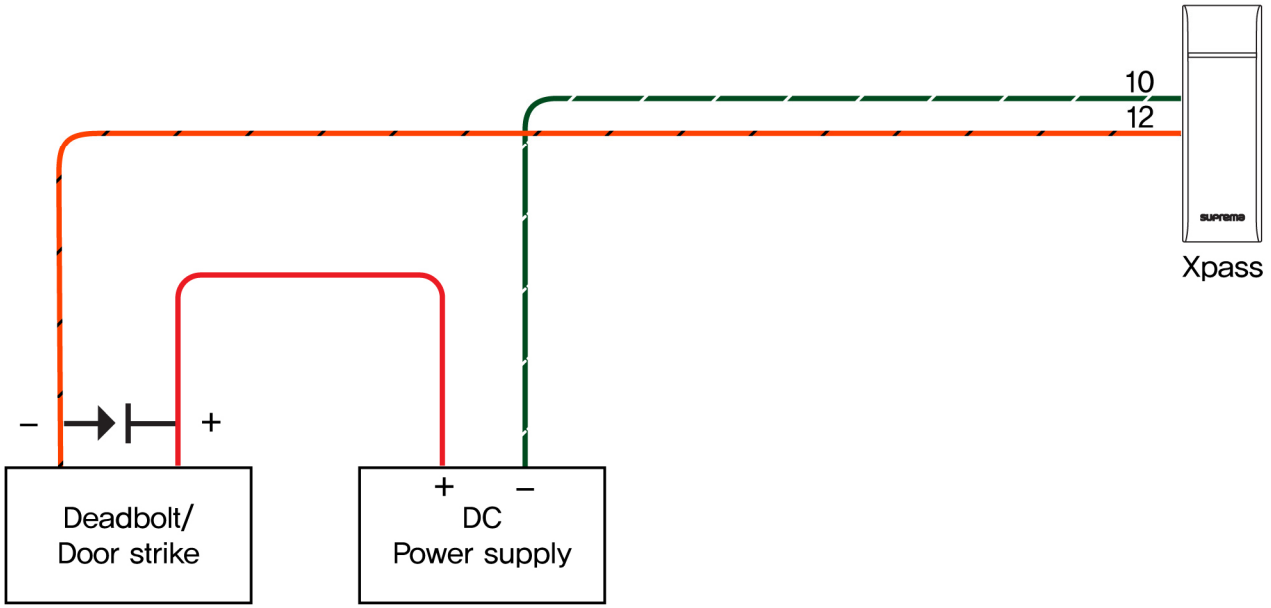
# Relay Connection – Fail safe lock

| Pin | Pin Name | Color |
|---|---|---|
| 10 | RLY COM | Green (white string) |
| 12 | RLY NC | Orange (black string) |





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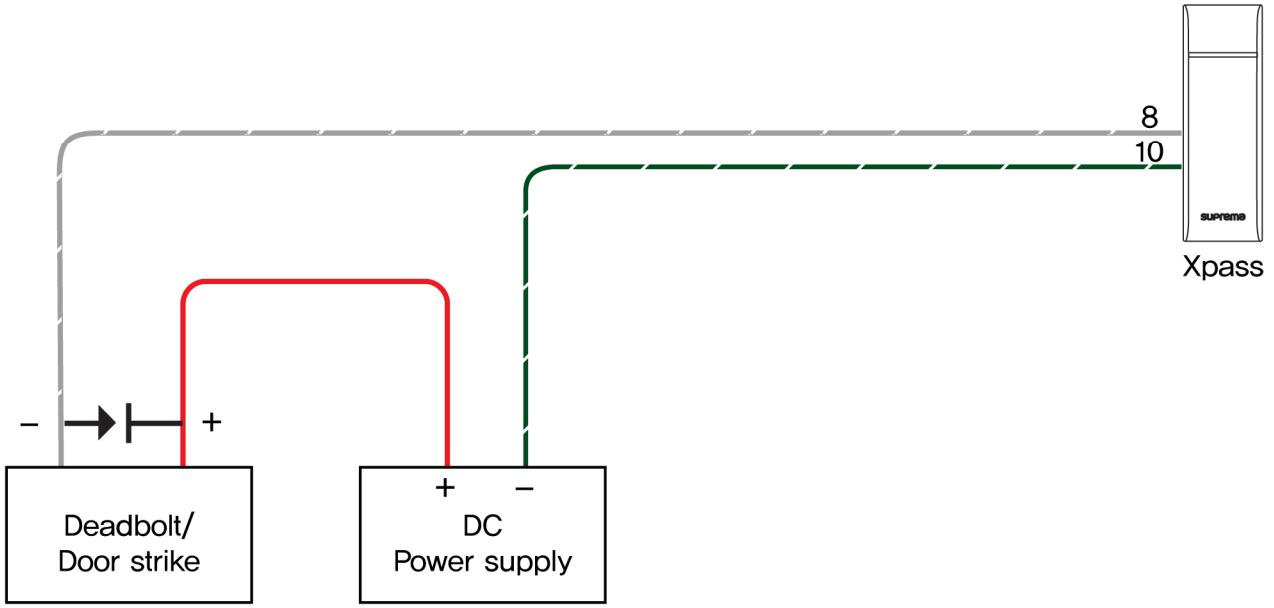
# Relay Connection – Fail secure lock

| Pin | Pin Name | Color |
|---|---|---|
| 8 | RLY NO | Gray (white string) |
| 10 | RLY COM | Green (white string) |





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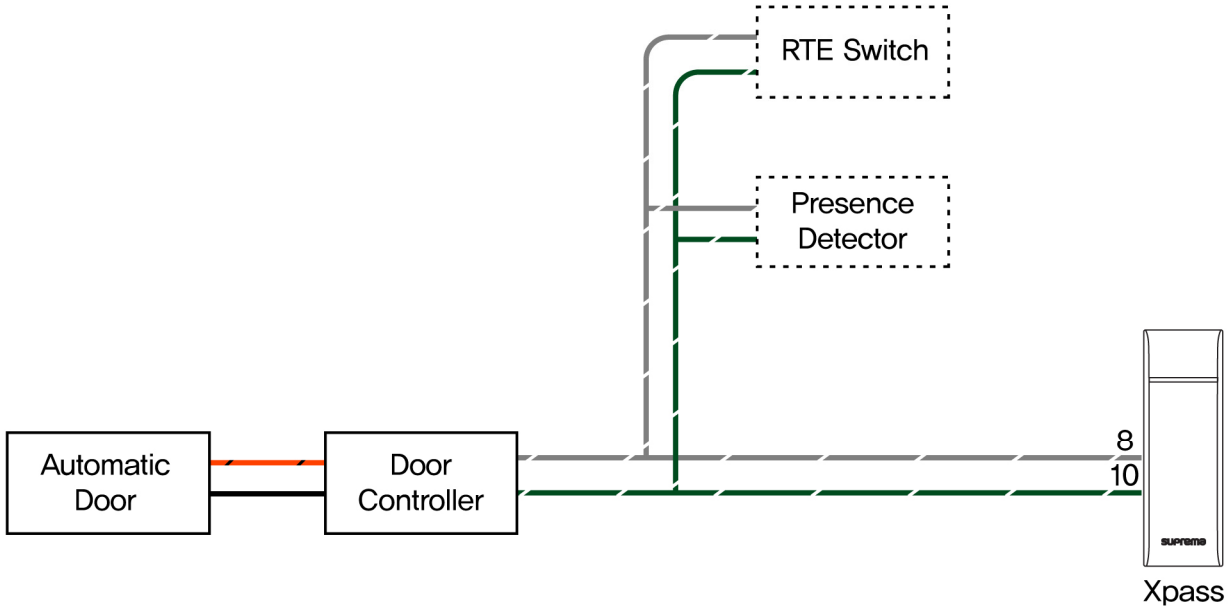
# Relay Connection - Automatic door

| Pin | Pin Name | Color |
|---|---|---|
| 8 | RLY NO | Gray (white string) |
| 10 | RLY COM | Green (white string) |





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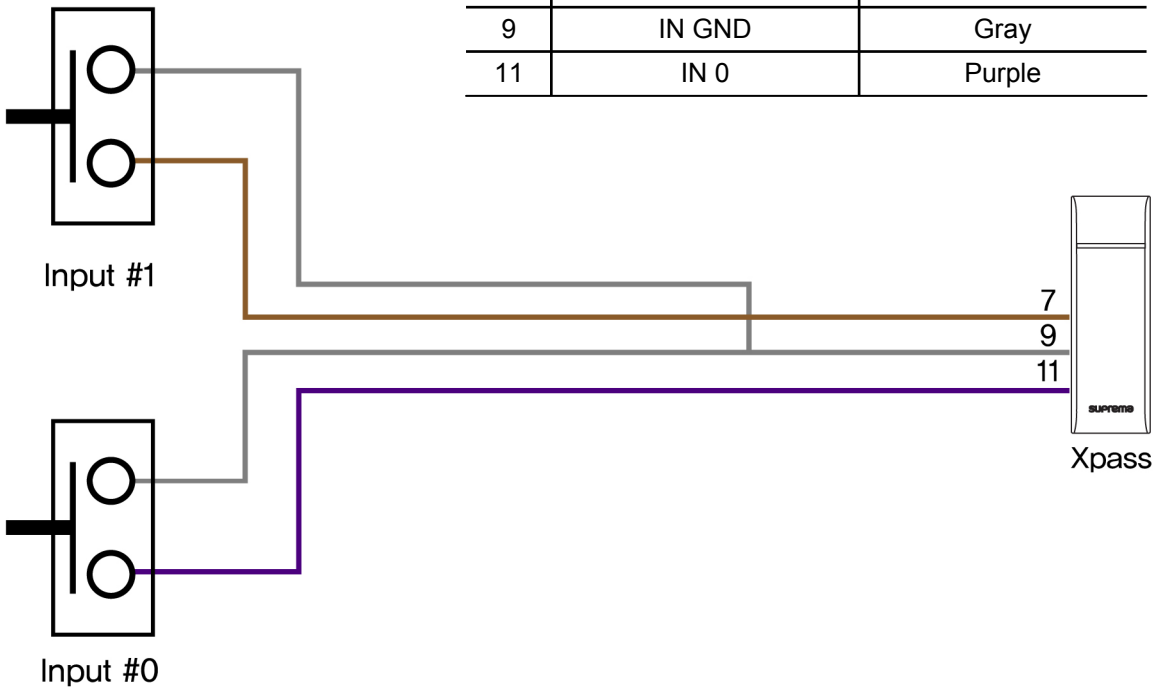
# Digital Input Connection (Alarm, Emergency S/W)

| Pin | Pin Name | Color |
|---|---|---|
| 7 | IN 1 | Brown |
| 9 | IN GND | Gray |
| 11 | IN 0 | Purple |





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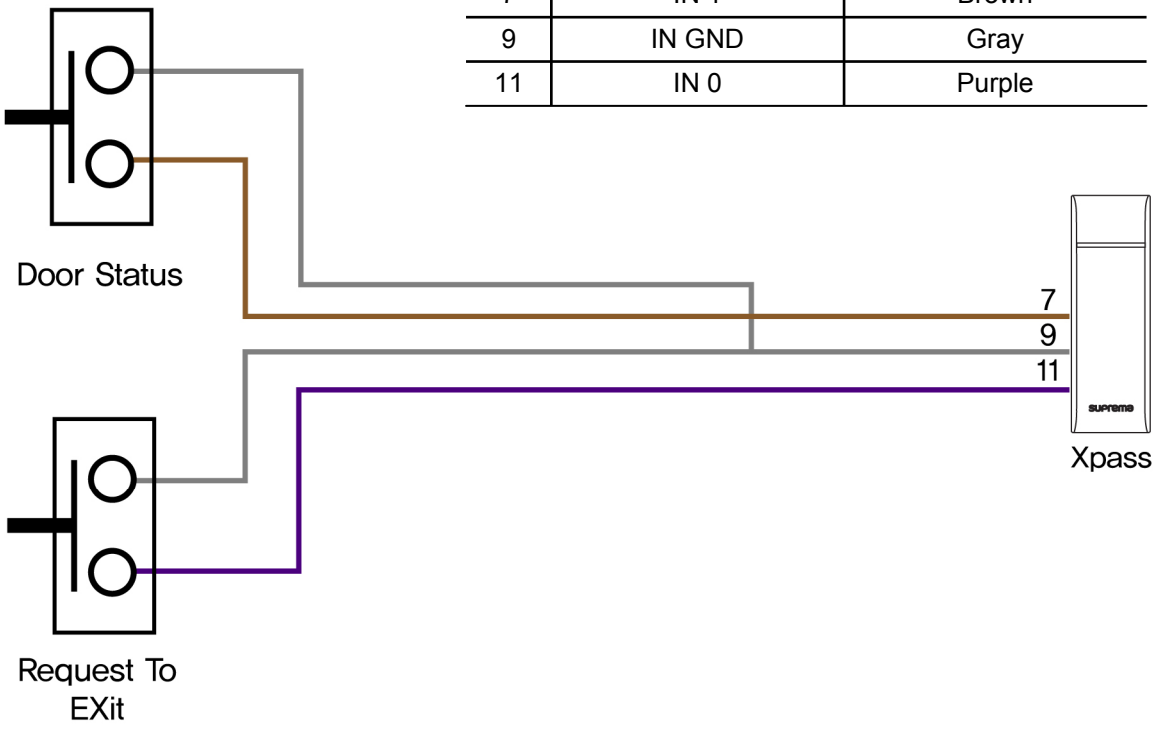
# Digital Input Connection (RTE, Door sensor)

| Pin | Pin Name | Color |
|---|---|---|
| 7 | IN 1 | Brown |
| 9 | IN GND | Gray |
| 11 | IN 0 | Purple |





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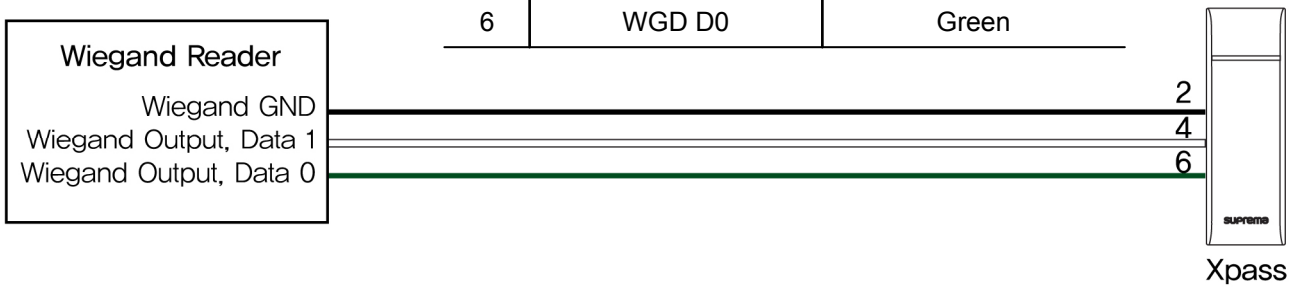
# Wiegand Input/Output

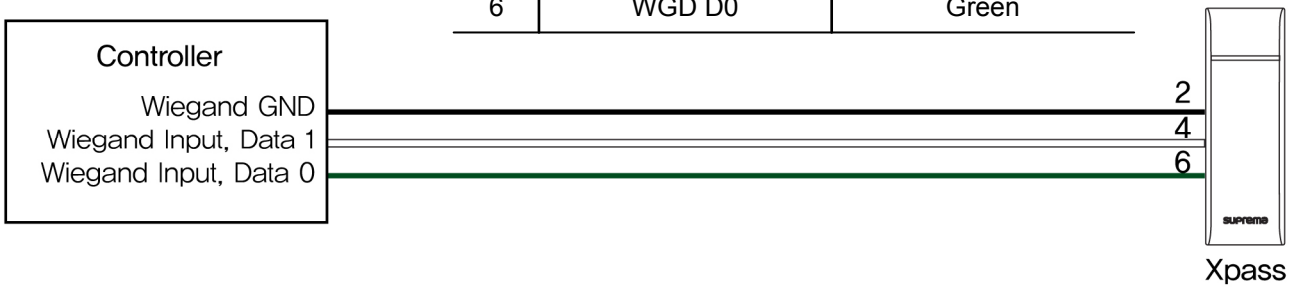
## Wiegand Input

| Pin | Pin Name | Color |
|---|---|---|
| 2 | WGD GND | Black |
| 4 | WGD D1 | White |
| 6 | WGD D0 | Green |




## Wiegand Output

| Pin | Pin Name | Color |
|---|---|---|
| 2 | WGD GND | Black |
| 4 | WGD D1 | White |
| 6 | WGD D0 | Green |





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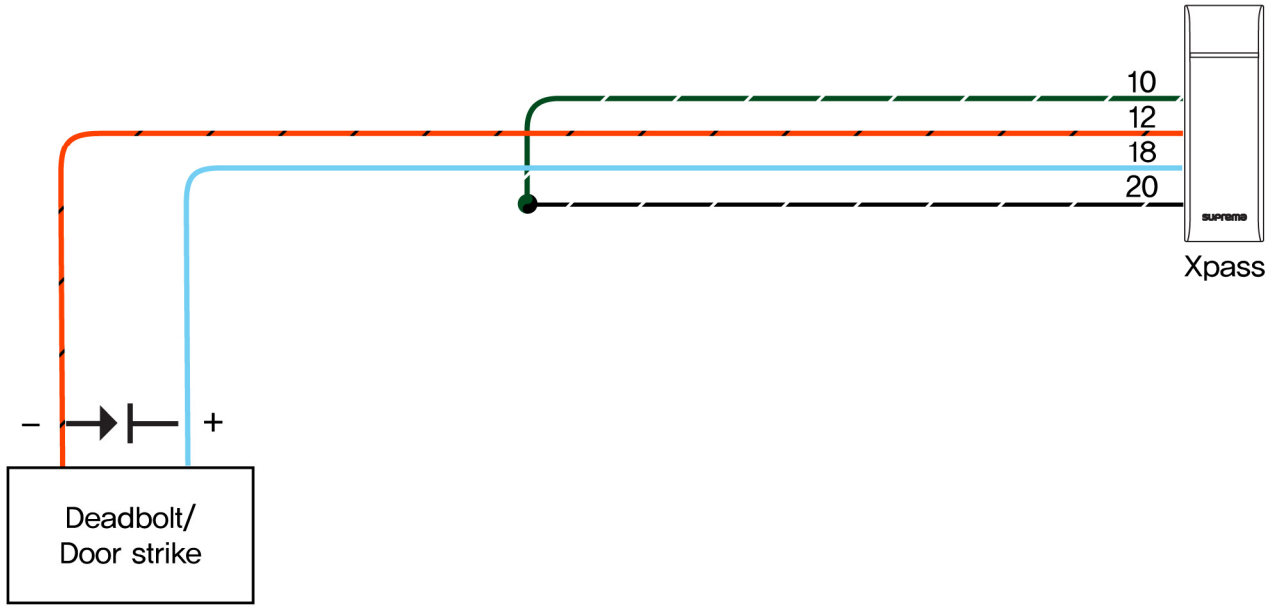
## Output

| Pin | Pin Name | Color |
|---|---|---|
| 10 | RLY COM | Green (white string) |
| 12 | RLY NC | Orange (black string) |
| 18 | PWR OUT + | Light Blue |
| 20 | PWR OUT - | Black (white string) |




**Caution : Max. 700mA is supplied using adapter for the external output.**
**Be careful to satisfy the power capacity in use.**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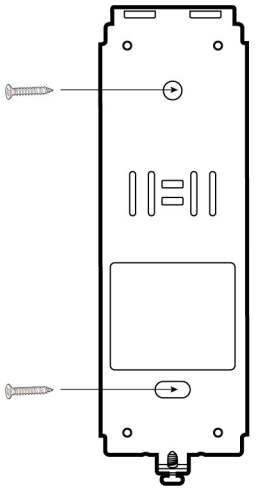
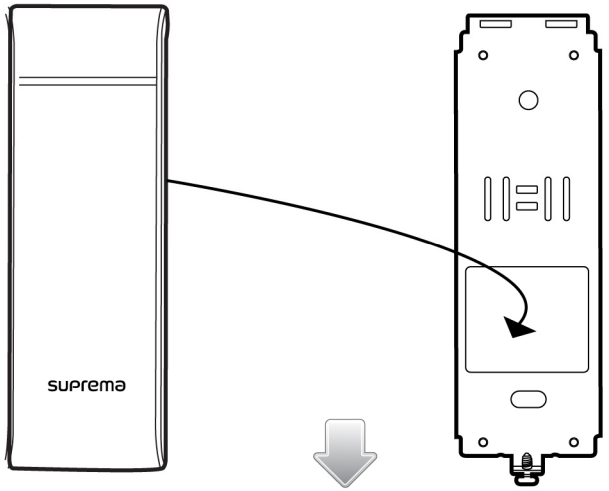
# Installation of Wall-mount Bracket

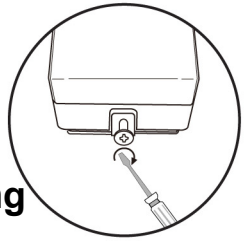
- Fix wall mount bracket on a wall using wall mounting screws



- Hook Xpass on the wall mount bracket




- Fix Xpass and wall mounting bracket using a wall mounting screw.

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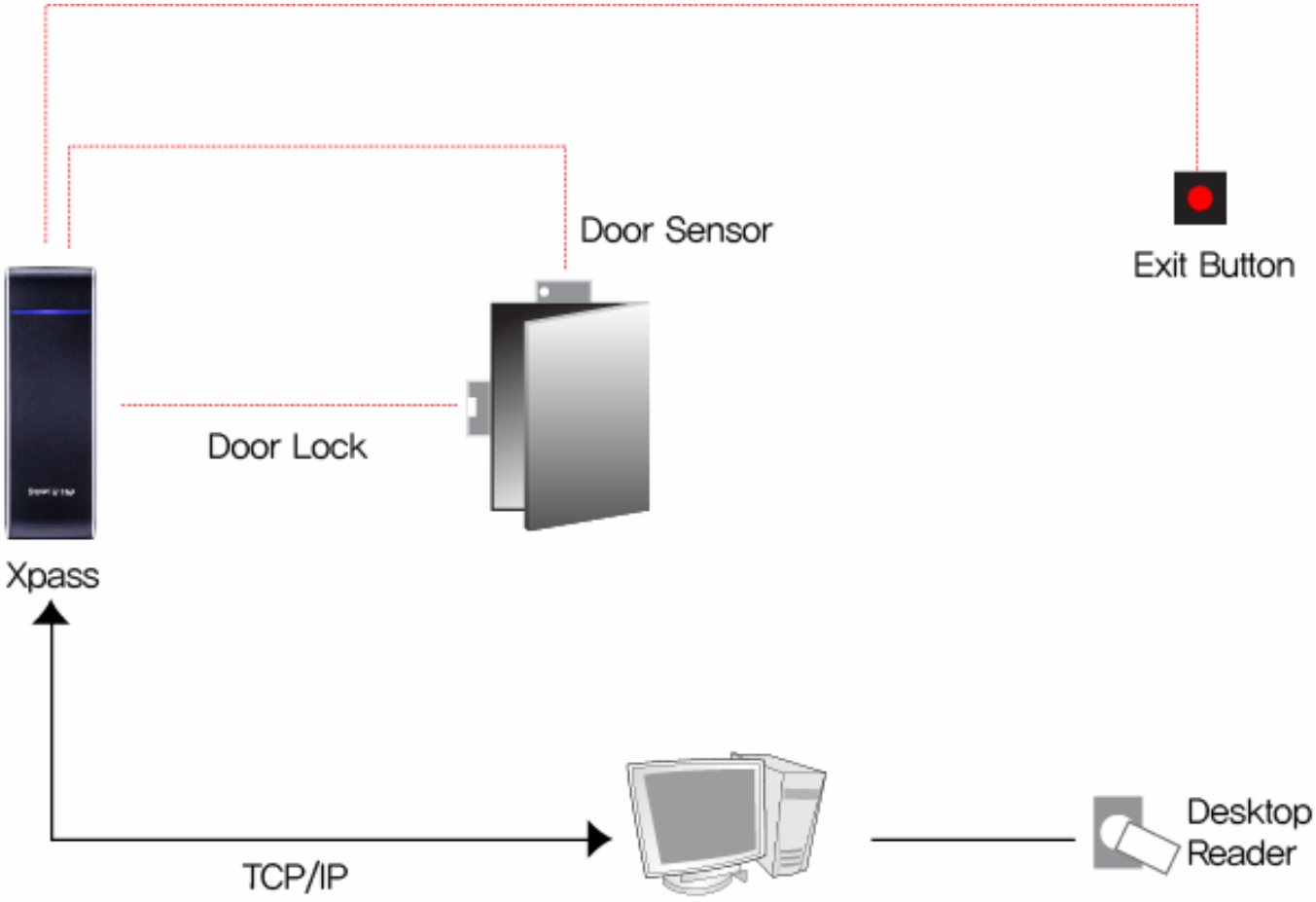
## Installation Reference 1 - Stand alone





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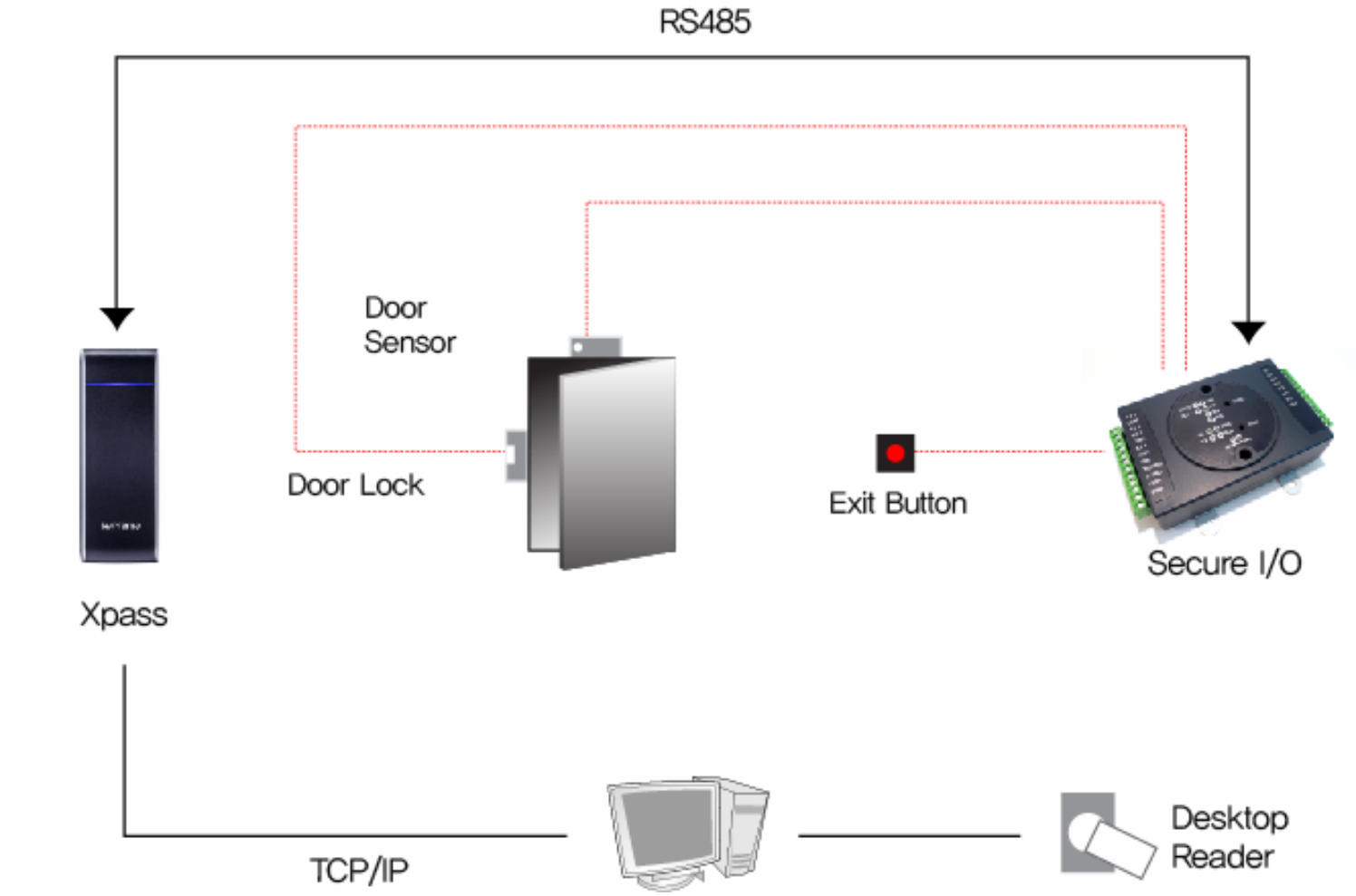
## Installation Reference 2 – Standalone (Secure)





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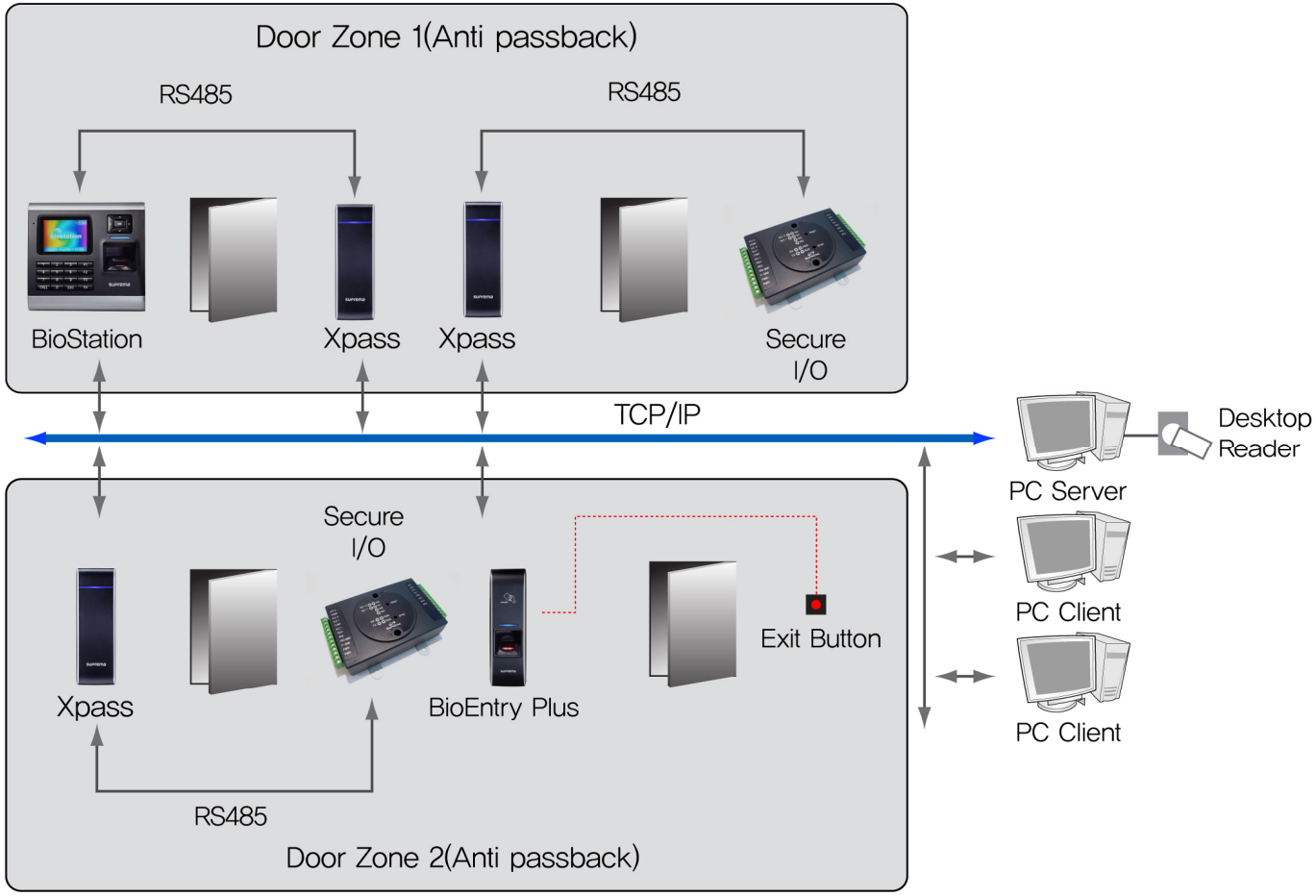
# Installation Reference 3 – Network





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# Specification

| | |
|---|---|
| **CPU** | 32 bit Micro-processor |
| **Memory** | 8MB FLASH + 16MB SDRAM |
| **RF Card** | 13.56 MHz Mifare (XPM)<br>125 KHz EM Prox (XPE)<br>125 KHz HID Prox (XPH) |
| **User Capacity** | 40000 user |
| **Log Capacity** | 50000 log |
| **Network interfaces** | TCP/IP, RS485 |
| **IP Rate** | IP 65 class |
| **Sound** | Multi-tone buzzer |
| **LED** | Multi-color LED |
| **RTC** | Lithium-ion rechargeable batteries |
| **I/O** | Relay x 1<br>Tamper x 1<br>Switch input x 2<br>Wiegand x 1 |
| **Power** | 12Vdc, POE |
| **Operating Temperature** | -20 ~ 50° C |
| **Size** | 45 x 130 x 27mm (W x H x D ) |
| **Certificates** | CE, FCC, KCC, IP65 |

## Caution for RTC Battery

**It may be occurred the risk of explosion for improper replacement of battery.**
**Please use the specified battery according to proper instruction.**


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# Electrical Specification

| | Min. | Typ. | Max. | Notes |
|---|---|---|---|---|
| **Power** | | | | |
| Voltage (V) | 10.8 | 12 | 13.2 | Use regulated DC power adaptor only |
| Current (mA) | - | | 140 | |
| **Switch Input** | | | | |
| VIH (V) | - | TBD | - | |
| VIL (V) | - | TBD | | |
| Pull-up resistance (Ω) | - | 4.7k | - | The input ports are pulled up with 4.7k resistors |
| **TTL/Wiegand Output** | | | | |
| VOH (V) | - | 5 | - | |
| VOL (V) | - | 0.8 | - | |
| Pull-up resistance (Ω) | - | 4.7k | - | The outputs ports are open drain type, pulled up with 4.7k resistors internally |
| **Relay** | | | | |
| Switching capacity (A) | - | - | 1<br>0.3 | 30V DC<br>125V AC |
| Switching power (resistive) | - | - | 30W<br>37.5V<br>A | DC<br>AC |
| Switching voltage (V) | - | - | 110<br>125 | DC<br>AC |


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# FCC Rules

**Caution**

Changes or modifications not expressly approved by the manufacturer responsible for compliance could void the user's authority to operate the equipment.

**Warning**

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 interface, and (2) this device must accept any interface received, including interference that may cause undesired operation.

**Information to User**

This equipment has been tested and found to comply with the limit of 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, user 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 the following measures:

1. Reorient / Relocate the receiving antenna.
2. Increase the separation between the equipment and receiver.
3. Connect the equipment into an outlet on a circuit difference from that to which the receiver is connected.
4. Consult the dealer or an experienced radio/TV technician for help


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Functions and specifications of the product are subject to changes without notice due to quality enhancement or function update. For any inquiry on the product, please contact Suprema Inc.