

# BioEntry P2

## 설치 가이드

버전 1.08

한국어

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# 안전을 위한 주의사항

사용자의 위험이나 재산상의 손해를 막기 위해 제품을 사용하기 전에 이 설명서를 반드시 읽고 제품을 안전하고 올바르게 사용하세요. 이 설명서에서 말하는 제품이란 본체와 함께 제공되는 모든 구성품을 포함합니다.

## 기호



**경고:** 제품을 사용할 때 위반할 경우 심각한 상해나 사망에 이를 수 있는 경고 사항을 표기할 때 사용합니다.



**주의:** 제품을 사용할 때 위반할 경우 경미한 상해나 제품 손상이 발생할 수 있는 주의 사항을 표기할 때 사용합니다.



**알아두기:** 제품을 사용할 때 참고 사항이나 추가 정보를 제공할 때 사용합니다.



## 경고

### 설치

**고용량의 전원 공급 장치 사용 시 오배선에 각별히 주의하세요.**

- 오배선 시 심각한 화재, 감전, 제품 손상이 발생할 수 있습니다.

**사용자가 임의로 제품을 설치하거나 수리하지 마세요.**

- 화재, 감전, 부상의 원인이 됩니다.
- 사용자의 임의 설치나 수리로 인해 제품이 손상된 경우 무상 수리 서비스가 제공되지 않습니다.

**제품을 직사광선에 노출된 장소, 습기, 먼지나 그을음이 많은 장소, 가스가 켤 가능성이 있는 장소에 설치하지 마세요.**

- 화재 또는 감전의 원인이 됩니다.

**제품을 전열기 등으로 인해 열이 발생하는 장소에 설치하지 마세요.**

- 과열로 인한 화재 또는 감전의 원인이 됩니다.

**물기가 있는 곳에 설치하지 마세요.**

- 습기로 인한 감전 또는 제품 손상의 원인이 됩니다.

**전자파 장애가 있는 곳에 설치하지 마세요.**

- 감전 또는 제품 손상의 원인이 됩니다.

### 사용

**제품 내부에 물, 음료수, 약품 등의 액체가 들어가지 않도록 주의하세요.**

- 화재, 감전, 제품 손상의 원인이 됩니다.

**손상된 전원 어댑터나 플러그, 헐거운 콘센트는 사용하지 마세요.**

- 접촉이 불안정할 경우 화재 또는 감전의 원인이 됩니다.

**전원 코드를無理하게 구부리거나 망가뜨리지 마세요.**

- 화재 또는 감전의 원인이 됩니다.



## 주의

### 설치

제품을 설치하기 전에 이 설명서를 반드시 읽고 제품을 안전하고 올바르게 설치하세요.

전원 케이블과 케이블을 배선할 때에는 반드시 연결하려는 모든 장치의 전원을 끈 상태에서 배선 및 연결하세요.

- 장치가 오작동할 수 있습니다.

제품에 전원을 연결하기 전에 다시 한번 설명서를 확인하여 배선이 올바르게 되었는지 확인한 후 전원을 연결하세요.

제품을 직사광선이나 자외선에 직접 노출된 장소에 설치하지 마세요.

- 제품 손상, 오작동 및 변색, 변형의 원인이 됩니다.

전원 케이블 등을 통행 장소에 방치하지 마세요.

- 신체 상해 또는 제품 손상의 원인이 됩니다.

자석, TV, (CRT) 모니터, 스피커 등 자성이 강한 물체 주변에 설치하지 마세요.

- 고장의 원인이 됩니다.

여러 대의 장치를 설치할 경우 최소 이격 거리를 확인하세요.

- 다른 장치의 RF 및 BLE 성능에 영향을 주어 장치가 오작동할 수 있습니다.

전원 어댑터는 IEC/EN 62368-1 승인을 받은 제품으로 단말기의 소모 전력 이상의 제품을 사용하세요. 슈프리마에서 판매하는 전원 어댑터를 사용할 것을 권장합니다.

- 적합한 전원을 사용하지 않을 경우 장치가 오작동할 수 있습니다.
- 최대 소모전류 규격은 제품 사양의 전원을 참고하세요.

제품과 Secure I/O 2, 전기정(전기식 잠금 장치)은 반드시 개별 전원을 사용하세요.

- 장치가 오작동할 수 있습니다.



## 주의

### 사용

**제품을 떨어뜨리거나 충격을 주지 마세요.**

- 고장의 원인이 됩니다.

**제품의 펌웨어 업그레이드 진행 중 전원 공급이 중단되지 않도록 주의하세요.**

- 고장의 원인이 됩니다.

**암호를 타인이 알지 못하도록 관리하고, 주기적으로 변경하세요.**

- 불법 침입의 원인이 됩니다.

**제품의 버튼(터치패드)을 무리하게 누르거나 날카로운 도구를 사용해 누르지 마세요.**

- 고장의 원인이 됩니다.

**제품을 -20 °C ~ 50 °C 이내에서 사용하고 너무 낮거나 높은 온도에서 보관하지 마세요.**

- 고장의 원인이 됩니다.

**제품을 청소할 때 주의하세요.**

- 제품을 표면을 깨끗한 마른 천으로 부드럽게 닦으세요.
- 제품을 소독해야 할 경우 마른 천에 소독용 알코올을 적당량 묻힌 뒤 제품 표면을 부드럽게 닦으세요. 이소프로필 알코올이 70~75% 함유된 소독용 알코올과 깨끗하고 보풀이 없는 부드러운 천을 사용하세요.
- 소독제를 제품에 직접 분사하지 마세요.

**제품을 원래 용도 이외 다른 용도로 사용하지 마세요.**

- 고장의 원인이 됩니다.

### RTC 배터리

승인되지 않거나 잘못된 종류의 배터리로 교체하면 폭발의 위험이 있습니다. 배터리는 거주 지역 또는 국제 폐기물 규정에 따라 폐기하세요.

# 시작하기

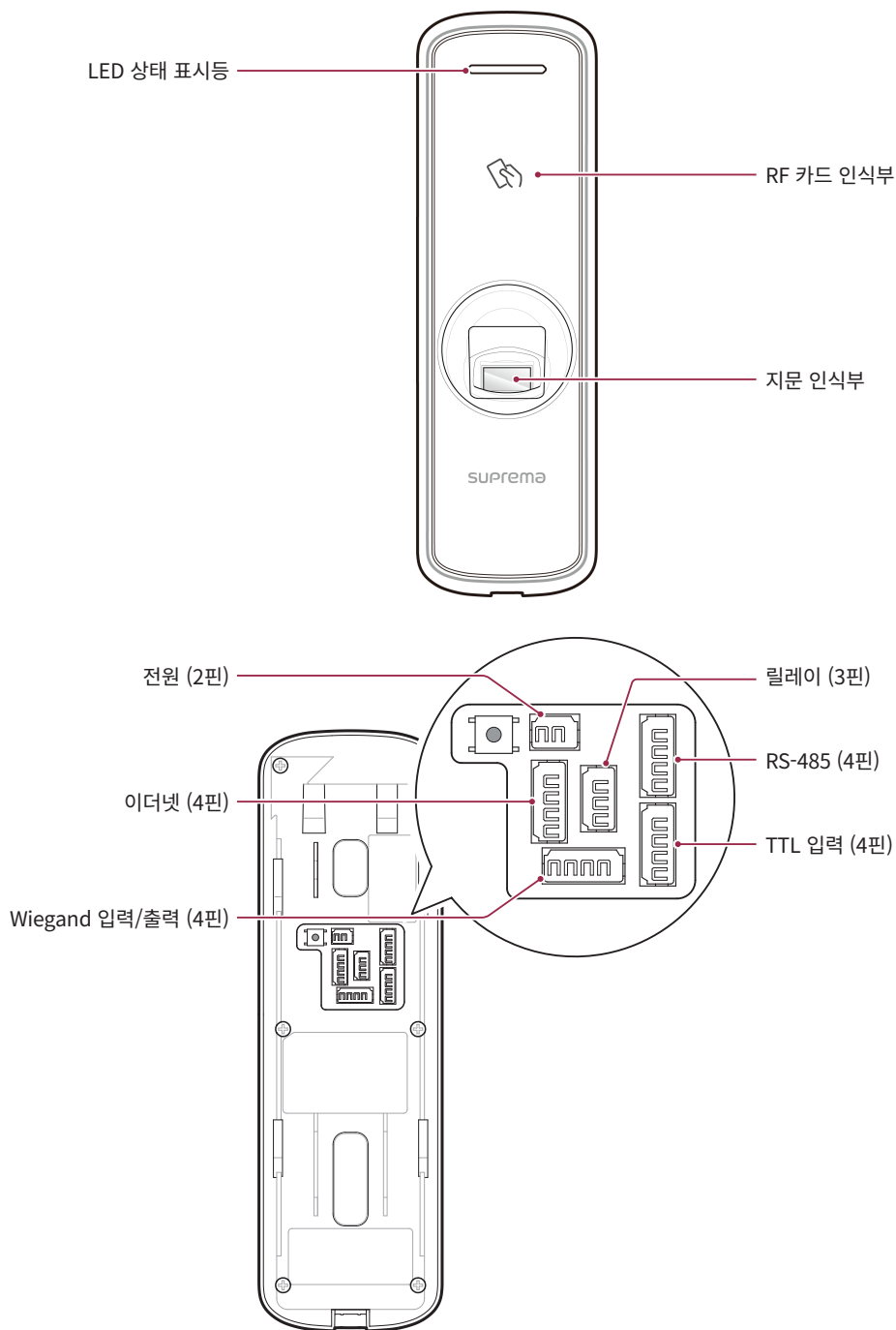
## 구성품

|   |   |  |   |
|---|---|--|---|
|    |    |   |   |
| <p><b>BioEntry P2</b></p>   | <p><b>벽걸이용 브래킷</b></p>  | <p><b>드릴링 템플릿</b></p>  |   |
|   |    |    |   |
| <p><b>연결 케이블</b></p>  | <p><b>다이오드</b></p>  | <p><b>120 Ω 저항</b></p>   | <p><b>PVC 앵커 x2</b></p>   |
|  |  |  |  |
| <p><b>고정용 나사 x2</b></p>   | <p><b>브래킷 고정용 나사<br/>(별 모양)</b></p>   | <p><b>퀵 가이드</b></p>  | <p><b>오픈소스라이선스 가이드</b></p>  |



구성품은 설치 환경에 따라 달라질 수 있습니다.

## 각 부분의 명칭 및 기능



| 명칭         | 기능 설명  |
|------------|--|
| LED 상태 표시등 | <p>LED 상태 표시등의 색상으로 제품 작동 상태가 표시됩니다.</p> <ul style="list-style-type: none"> <li>초록색: 인증 성공</li> <li>빨간색: 인증 실패</li> <li>파란색/하늘색 점멸: 정상 동작 상태</li> <li>파란색/초록색 점멸: DHCP를 사용함으로 설정 시 IP 주소를 받지 못한 상태</li> <li>파란색/초록색 점멸: 네트워크 설정 초기화 시</li> <li>초록색 점멸: 입력 대기 상태</li> </ul> |
| RF 카드 인식부  | 출입을 위해 RF 카드를 인식시키는 부분입니다.   |
| 지문 인식부     | 출입을 위해 손가락을 올려 지문을 인식시키는 부분입니다.  |

| 명칭                 | 기능 설명                   |
|--------------------|-------------------------|
| 전원 (2핀)            | 전원 케이블을 연결합니다.          |
| 릴레이 (3핀)           | 릴레이 케이블을 연결합니다.         |
| 이더넷 (4핀)           | 이더넷 케이블을 연결합니다.         |
| RS-485 (4핀)        | RS-485 케이블을 연결합니다.      |
| TTL 입력 (4핀)        | TTL 입력 케이블을 연결합니다.      |
| Wiegand 입력/출력 (4핀) | Wiegand 입출력 케이블을 연결합니다. |

## 케이블 및 커넥터

### 전원



| 핀 | 명칭       | 색상      |
|---|----------|---------|
| 1 | PWR +VDC | 빨간색(흰띠) |
| 2 | PWR GND  | 검은색(흰띠) |

### 릴레이



| 핀 | 명칭      | 색상  |
|---|---------|-----|
| 1 | RLY NO  | 흰색  |
| 2 | RLY COM | 파란색 |
| 3 | RLY NC  | 주황색 |

### RS-485



| 핀 | 명칭       | 색상  |
|---|----------|-----|
| 1 | 485 TRXP | 파란색 |
| 2 | 485 TRXN | 노란색 |
| 3 | 485 GND  | 검은색 |
| 4 | SH GND   | 회색  |



### TTL 입력



| 핀 | 명칭      | 색상  |
|---|---------|-----|
| 1 | TTL IN0 | 빨간색 |
| 2 | TTL IN1 | 노란색 |
| 3 | TTL GND | 검은색 |
| 4 | SH GND  | 회색  |

### Wiegand 입력/출력



| 핀 | 명칭     | 색상  |
|---|--------|-----|
| 1 | WG D0  | 초록색 |
| 2 | WG D1  | 흰색  |
| 3 | WG GND | 검은색 |
| 4 | SH GND | 회색  |

### 이더넷



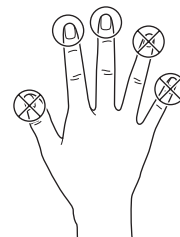
| 핀 | 명칭       | 색상  |
|---|----------|-----|
| 1 | ENET RXN | 노란색 |
| 2 | ENET RXP | 초록색 |
| 3 | ENET TXN | 빨간색 |
| 4 | ENET TXP | 검은색 |

## 올바른 지문 입력 방법

지문 인식률을 높이기 위해 올바르게 지문을 등록하세요. BioEntry P2는 사용자의 지문 입력 각도 및 위치가 바뀌더라도 지문을 인식할 수 있습니다. 지문을 등록할 때 다음 사항에 유의하여 등록하면 인식률을 높일 수 있습니다.

### 지문 입력을 위한 손가락 선택

- 한 손에 짐을 들거나 손가락에 상처가 나는 경우와 같이 특정 손가락의 지문을 사용하기 어려운 경우를 대비하여, 한 명의 사용자 당 최대 10 개의 지문을 등록할 수 있습니다.
- 지문이 잘 인식되지 않는 사용자의 경우 동일 손가락을 두 번 중복으로 등록하여 인식률을 높일 수 있습니다.
- 손가락에 상처가 있거나 지문이 흐릴 경우 다른 손가락의 지문을 입력하세요.
- 지문 입력 시 검지 또는 중지를 사용할 것을 권장합니다. 다른 손가락은 지문 센서 중앙에 정확히 위치하기 어려워서 인식률이 떨어질 수 있습니다.



### 지문 등록 방법

- 1 등록할 손가락을 지문 인식부에 올리고, 살며시 눌러 지문이 잘 인식되도록 하세요.



- 2 “뵁” 소리가 난 뒤, 등록된 손가락의 지문을 다시 스캔하세요. (등록할 손가락의 지문은 두 번 입력합니다.)



#### 지문 등록 시 주의사항

지문 인식할 때 처음에 등록된 지문과 비교하기 때문에 지문 등록이 가장 중요합니다. 지문을 등록할 때 다음 사항에 유의하세요.

- 손가락이 센서에 완전히 접촉되도록 깊이 위치시키세요.
- 지문의 중심점 부분이 센서의 중심에 오도록 위치시키세요.
- 손가락에 상처가 있거나 지문이 흐릴 경우 다른 손가락의 지문을 입력하세요.
- 지문 인식 시 화면 안내에 따라 움직이지 말고 정확하게 입력하세요.
- 손가락을 세워 센서와의 접촉 면적이 작아지거나 손가락 각도가 틀어진 경우에는 지문 인식이 되지 않을 수 있습니다.



#### 지문 인식이 잘 되지 않는 경우

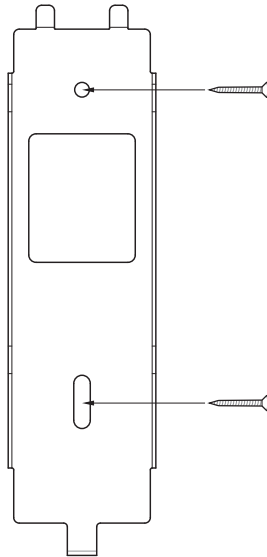
BioEntry P2는 계절의 변화나 손가락의 상태 변화에 관계없이 지문을 인식할 수 있습니다. 하지만, 외부 환경이나 지문 입력 방법에 따라 인식률의 차이가 있을 수 있습니다. 지문이 잘 인식되지 않는 경우 다음의 조치를 취할 것을 권장합니다.

- 손가락에 물이나 땀이 있을 경우 물기를 닦은 뒤 입력하세요.
- 손가락이 너무 건조한 경우 손 끝에 입김을 가볍게 분 뒤 입력하세요.
- 손가락에 상처가 생긴 경우 다른 손가락의 지문을 다시 등록하세요.
- 처음 등록된 지문은 올바르게 입력되지 않은 경우가 많으므로 ‘지문 등록 시 주의사항’에 따라 지문을 다시 등록하세요.

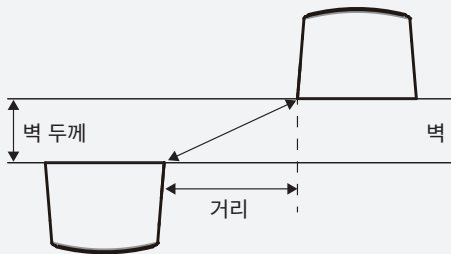
# 설치

## 브래킷 및 제품 고정

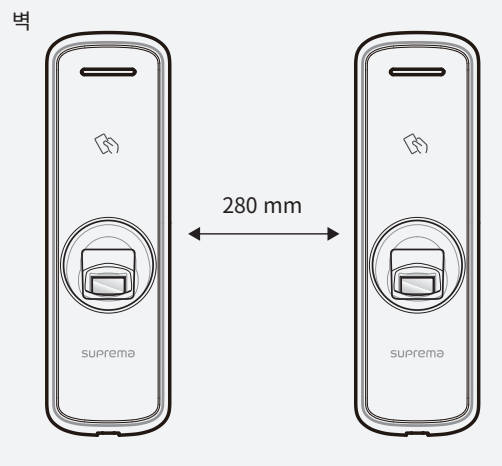
1 제공된 드릴링 템플릿을 이용하여 브래킷을 장착할 위치를 정하세요. BioEntry P2를 장착할 위치에 고정용 나사를 이용하여 브래킷을 단단히 고정하세요.



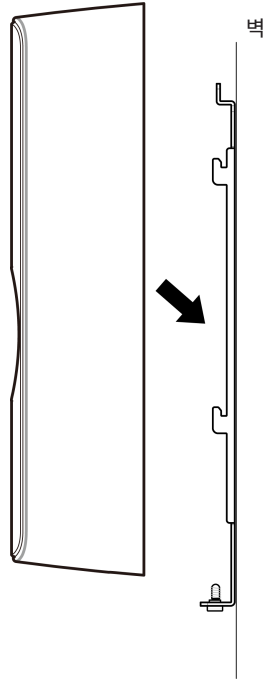
- BioEntry P2를 콘크리트 벽에 설치할 경우 드릴로 구멍을 뚫어 PVC 앵커를 끼운 뒤 고정용 나사로 고정하세요.
- RF 신호 간섭을 피하기 위해 최소 이격 거리를 확인하여 설치하세요.



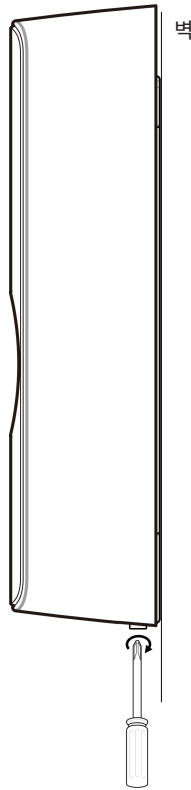
| 벽 두께   | 거리     |
|--------|--------|
| 100 mm | 250 mm |
| 120 mm | 250 mm |
| 150 mm | 180 mm |



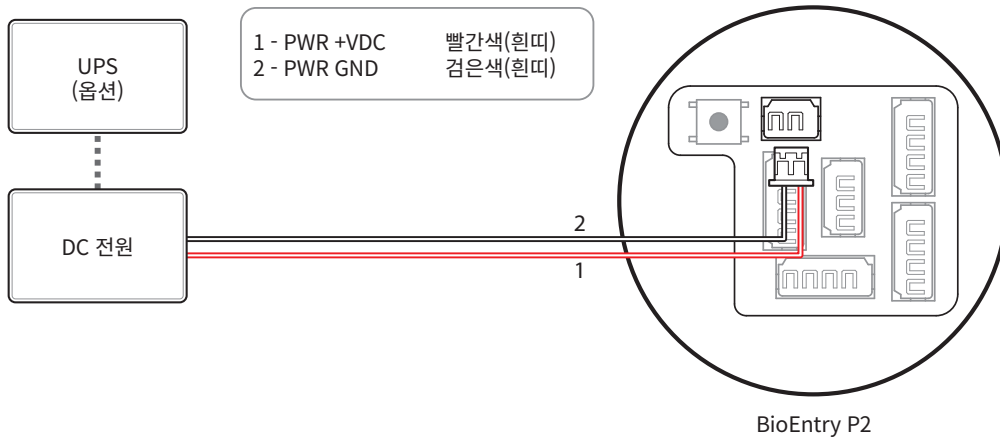
2 고정된 브래킷 위에 BioEntry P2를 장착하세요.



3 제품 고정용 나사를 돌려 BioEntry P2와 브래킷을 조립하세요.



## 전원 연결



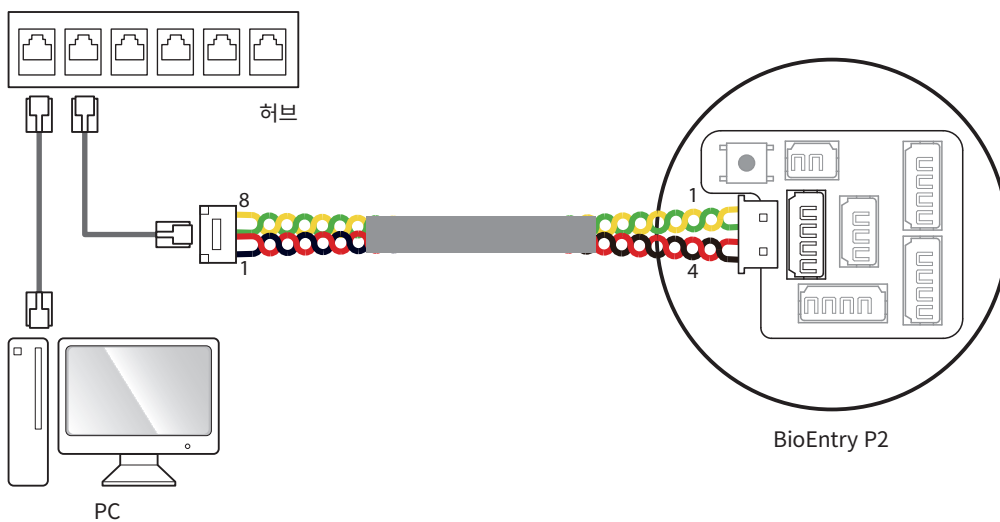
- 전원 어댑터는 IEC/EN 62368-1 승인을 받은 제품으로 단말기의 소모 전력 이상의 제품을 사용하세요. 전원 어댑터에 다른 기기를 연결하여 사용하려면 단말기의 소모 전력과 다른 기기에 필요한 소모 전력을 합한 전류 용량 이상의 어댑터를 사용해야 합니다.
  - 최대 소모전류 규격은 제품 사양의 **전원**을 참고하세요.
- 전원 어댑터를 사용할 경우 전원 케이블의 길이를 임의로 연장하지 마세요.
- Secure I/O 2, 전기정(전기식 잠금장치), BioEntry P2는 반드시 개별 전원을 사용하세요. 전원을 함께 연결하여 사용하면 장치가 오작동할 수 있습니다.

## 네트워크 연결

### TCP/IP

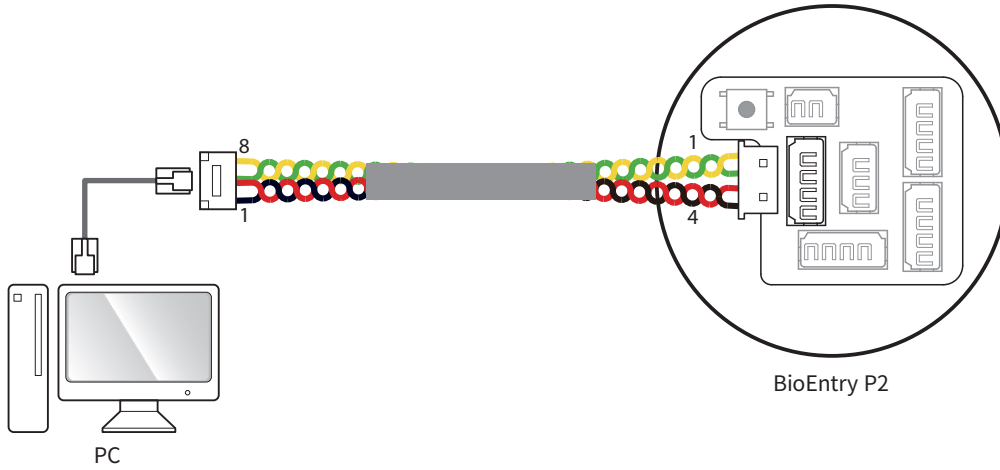
#### LAN 연결 (허브와 연결)

일반 타입의 CAT-5e 케이블을 사용하여 허브와 연결할 수 있습니다.

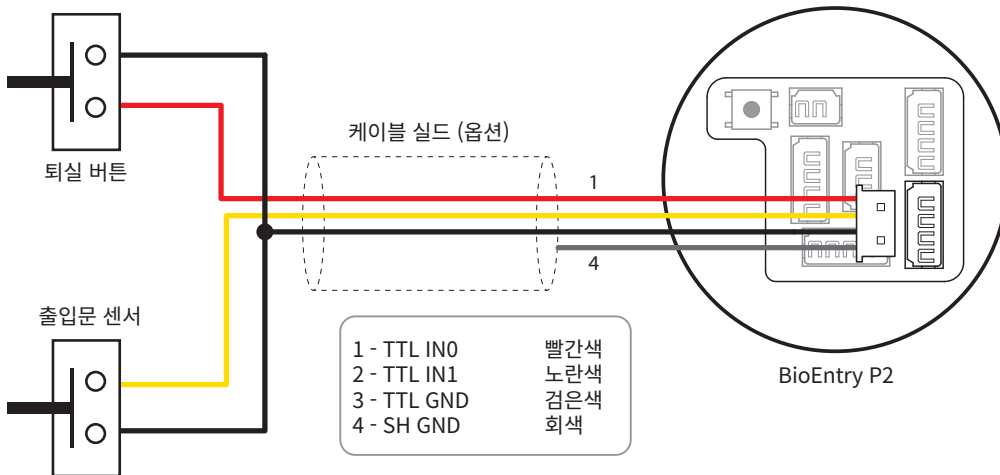


### LAN 연결 (PC와 직접 연결)

BioEntry P2는 자동 MDI/MDIX 기능을 가지고 있으므로 크로스 케이블 아닌 일반 타입의 CAT-5e 케이블로 PC와 직접 연결할 수 있습니다.



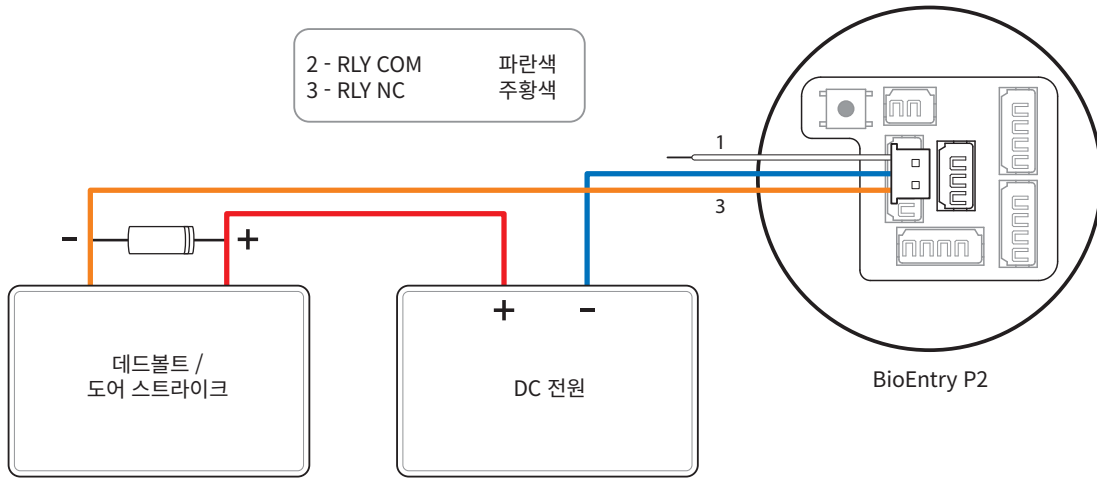
### TTL 입력 연결



## 릴레이 연결

### Fail Safe Lock

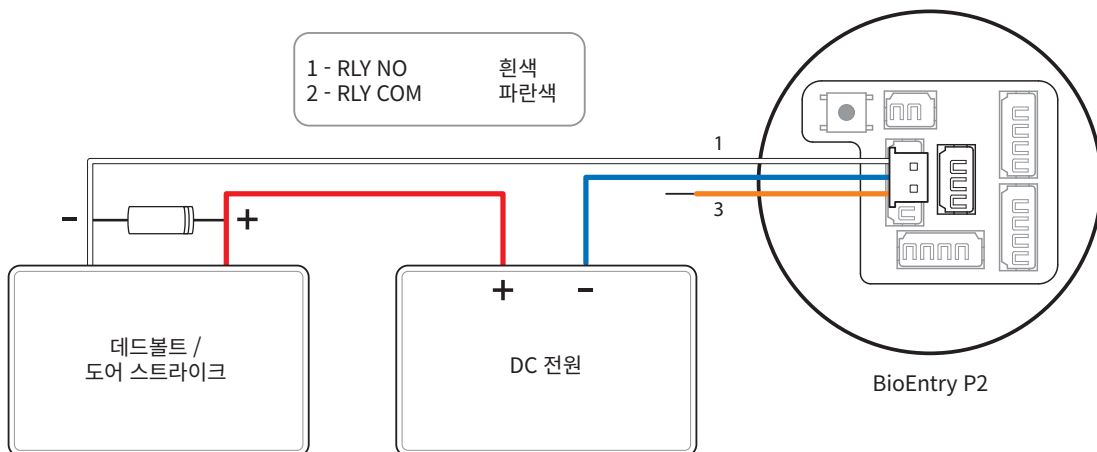
Fail Safe Lock을 사용하려면 아래 그림과 같이 N/C 릴레이를 연결하세요. Fail Safe Lock은 정상 시 릴레이 회로에 전류가 흐르며, 릴레이가 동작하여 전류를 일시적으로 차단하면 출입문이 열립니다. 정전이 되거나 외부 요인으로 장치의 전원이 끊길 경우 출입문이 열립니다.



- 출입문 잠금 장치가 작동할 때 발생하는 역전류로부터 릴레이를 보호하기 위해 그림과 같이 출입문 잠금 장치 배선 양쪽에 다이오드를 설치하세요.
- 다이오드의 설치 방향에 주의하세요. 다이오드는 출입문 잠금 장치와 가깝게 설치하세요.
- BioEntry P2와 출입문 잠금 장치는 별도의 전원을 사용하세요.
- 슈프리마의 지능형 장치에는 편의를 제공하기 위해 별도의 컨트롤러 없이 독립형으로 연결하여 출입문을 직접 열거나 잠글 수 있도록 하는 릴레이가 내장되어 있습니다. 그러나 향상된 보안이 요구되는 출입통제 애플리케이션의 경우 잠재적으로 출입문 잠금 해제를 유발할 수 있는 변조 공격을 방지하기 위해 장치에 내장된 릴레이를 사용하지 않는 것이 좋습니다. 이러한 애플리케이션의 경우 잠금 제어를 위해 출입문 내부의 안전한 위치에 설치된 슈프리마의 Secure I/O 2, DM-20, CoreStation 과 같은 별도의 릴레이 장치를 사용할 것을 권장합니다.

### Fail Secure Lock

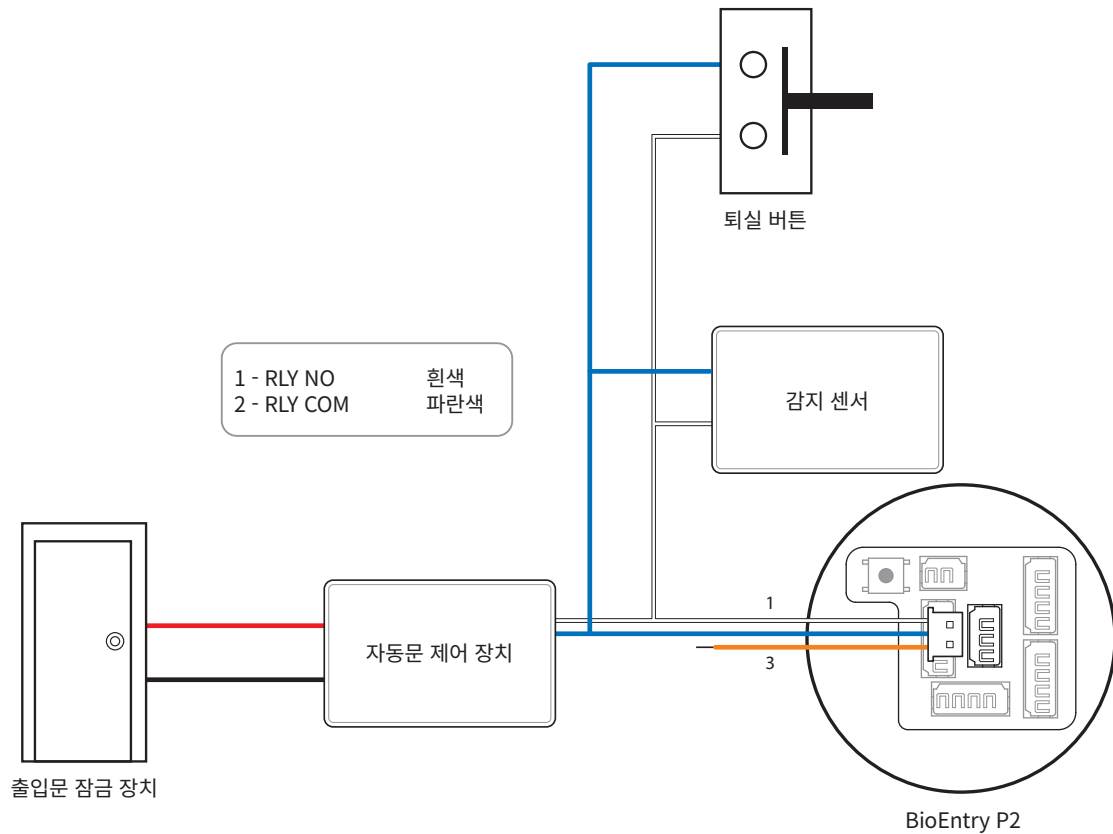
Fail Secure Lock을 사용하려면 아래 그림과 같이 N/O 릴레이를 연결하세요. Fail Secure Lock은 정상 시 릴레이 회로에 전류가 흐르지 않으며, 릴레이가 동작하여 전류가 흐르면 출입문이 열립니다. 정전이 되거나 외부 요인으로 장치의 전원이 끊길 경우 출입문이 잠깁니다.





- 출입문 잠금 장치가 작동할 때 발생하는 역전류로부터 릴레이를 보호하기 위해 그림과 같이 출입문 잠금 장치 배선 양쪽에 다이오드를 설치하세요.
- 다이오드의 설치 방향에 주의하세요. 다이오드는 출입문 잠금 장치와 가깝게 설치하세요.
- BioEntry P2와 출입문 잠금 장치는 별도의 전원을 사용하세요.
- 슈프리마의 지능형 장치에는 편의를 제공하기 위해 별도의 컨트롤러 없이 독립형으로 연결하여 출입문을 직접 열거나 잠글 수 있도록 하는 릴레이가 내장되어 있습니다. 그러나 향상된 보안이 요구되는 출입통제 애플리케이션의 경우 잠재적으로 출입문 잠금 해제를 유발할 수 있는 변조 공격을 방지하기 위해 장치에 내장된 릴레이를 사용하지 않는 것이 좋습니다. 이러한 애플리케이션의 경우 잠금 제어를 위해 출입문 내부의 안전한 위치에 설치된 슈프리마의 Secure I/O 2, DM-20, CoreStation 과 같은 별도의 릴레이 장치를 사용할 것을 권장합니다.

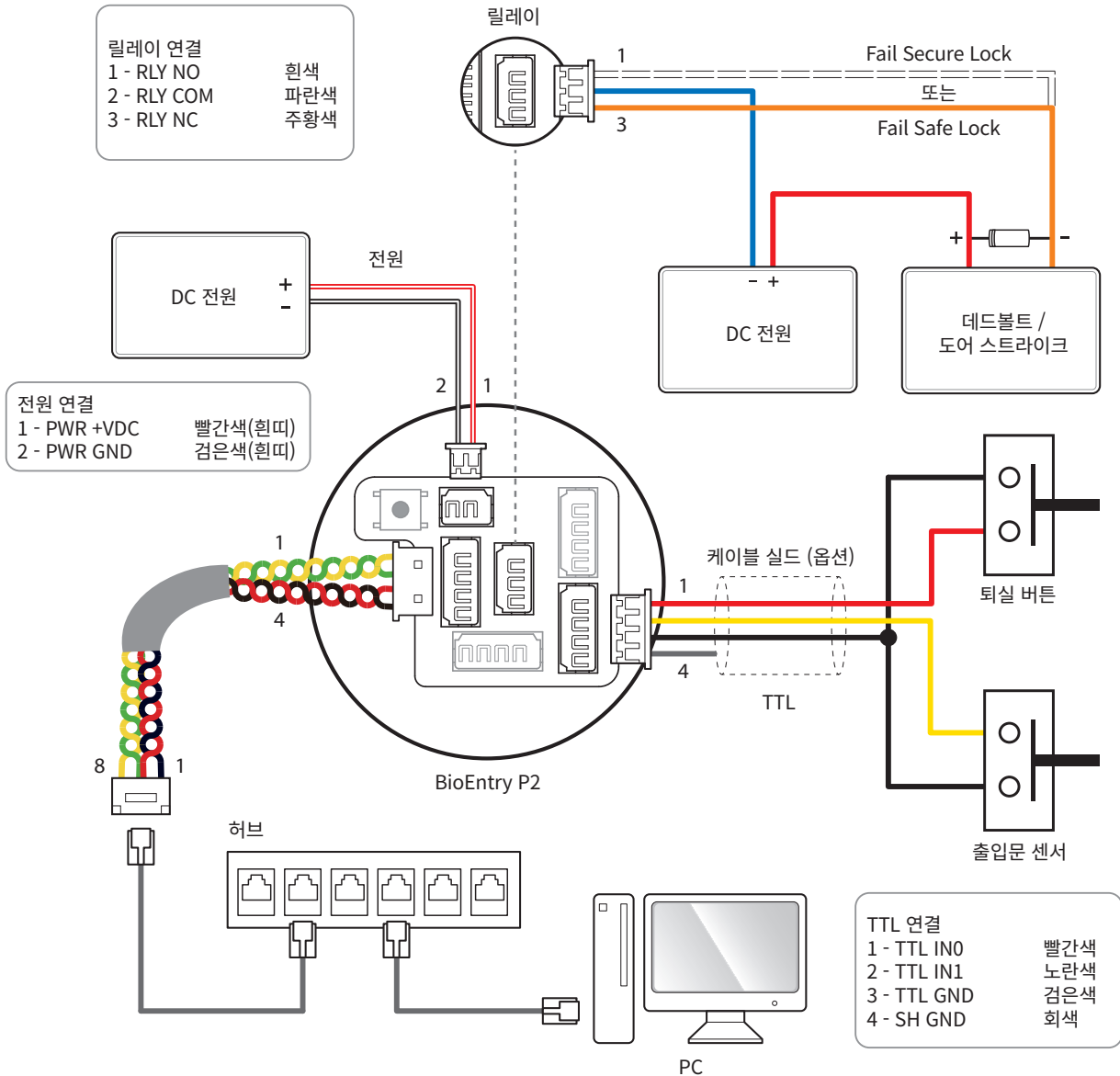
### 자동문 연결





## 독립형 연결

별도의 I/O 장치를 연결하지 않고 BioEntry P2를 직접 출입문 잠금 장치, 출입문 스위치, 출입문 센서 등에 연결할 수 있습니다.

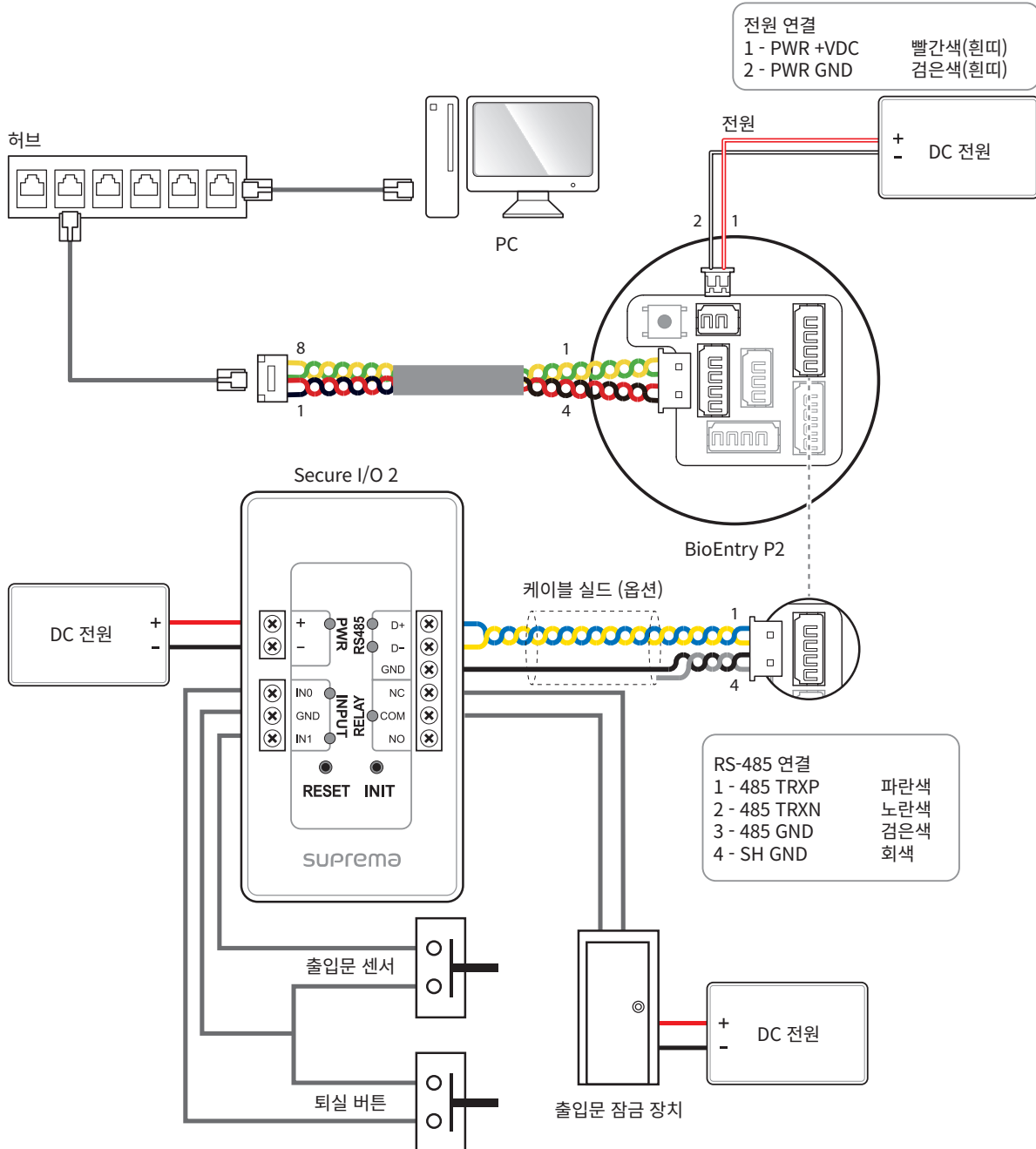


- RS-485 케이블로 슬레이브 장치를 연결하여 BioEntry P2를 다중 출입문 제어 장치로 사용할 수 있습니다. 슬레이브 장치는 더미 리더로 사용되며 인증은 마스터 장치에서 수행합니다.
- Xpass, XPass 2가 마스터 장치로 연결될 경우 카드 인증만 사용할 수 있습니다.
- 연결할 수 있는 최대 슬레이브 장치 수는 인증 방법, 사용자 수, 장치 수에 따라 달라지며 슬레이브 장치 수는 지문 인증 속도에 영향을 줍니다.
- 마스터 장치는 31개의 슬레이브 장치를 제어할 수 있습니다. RS-485 대역폭으로 인해 최대 7대의 지문 인식 장치를 연결할 수 있습니다.
- 슈프리마의 지능형 장치에는 편의를 제공하기 위해 별도의 컨트롤러 없이 독립형으로 연결하여 출입문을 직접 열거나 잠글 수 있도록 하는 릴레이가 내장되어 있습니다. 그러나 향상된 보안이 요구되는 출입통제 애플리케이션의 경우 잠재적으로 출입문 잠금 해제를 유발할 수 있는 변조 공격을 방지하기 위해 장치에 내장된 릴레이를 사용하지 않는 것이 좋습니다. 이러한 애플리케이션의 경우 잠금 제어를 위해 출입문 내부의 안전한 위치에 설치된 슈프리마의 Secure I/O 2, DM-20, CoreStation 과 같은 별도의 릴레이 장치를 사용할 것을 권장합니다.
- 더 자세한 내용은 슈프리마 기술 지원팀([CS@suprema.co.kr](mailto:CS@suprema.co.kr))에 문의하세요.

## Secure I/O 2 연결

BioEntry P2에 I/O 장치인 Secure I/O 2를 RS-485로 연결할 수 있습니다. BioEntry P2와 Secure I/O 2의 연결이 끊기거나 외부 요인에 의해 BioEntry P2의 전원이 차단되더라도 보안을 유지할 수 있습니다.

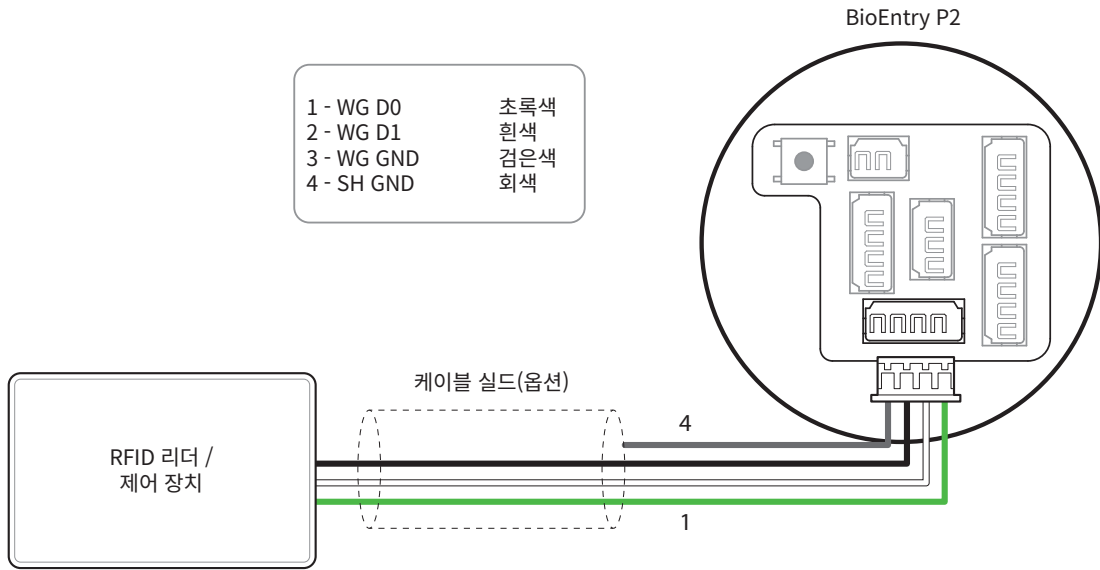
- RS-485 케이블은 AWG24, 꼬임선(Twisted Pair), 최대 길이 1.2 km를 사용하세요.
- RS-485 데이터 체인으로 연결할 경우 종단 저항(120Ω)을 데이터 체인 연결의 양 끝에 연결하세요. 중간 선로에 연결할 경우 신호 레벨이 작아져 통신 성능이 떨어지므로 반드시 데이터 체인 연결의 양 끝에 연결하세요.



- RS-485 케이블로 슬레이브 장치를 연결하여 BioEntry P2를 다중 출입문 제어 장치로 사용할 수 있습니다. 슬레이브 장치는 더미 리더로 사용되며 인증은 마스터 장치에서 수행합니다.
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- 연결할 수 있는 최대 슬레이브 장치 수는 인증 방법, 사용자 수, 장치 수에 따라 달라지며 슬레이브 장치 수는 지문 인증 속도에 영향을 줍니다.
- 마스터 장치는 31개의 슬레이브 장치를 제어할 수 있습니다. RS-485 대역폭으로 인해 최대 7대의 지문 인식 장치를 연결할 수 있습니다.
- 더 자세한 내용은 슈프리마 기술 지원팀([CS@suprema.co.kr](mailto:CS@suprema.co.kr))에 문의하세요.

# Wiegand 연결

Wiegand 입력/출력 장치로 사용



## 네트워크 설정 초기화

- 1 전원을 켜세요.
- 2 장치가 자동으로 재부팅될 때까지 초기화 버튼을 누르세요.
- 3 초기화된 네트워크 정보를 이용해 장치를 연결하세요.
  - TCP/IP 주소: DHCP 주소 할당 (DHCP 주소 할당을 실패하면 169.254.x.x로 설정됩니다.)
  - 서버 모드: 사용 해제
  - RS-485: 기본값, 115200 bps
- 4 TCP/IP나 RS-485 정보를 변경하세요.
- 5 전원을 끄고 켜 뒤 네트워크 정보가 올바르게 설정되었는지 확인하세요.

## 공장 초기화

장치에 저장된 모든 정보와 루트 인증서를 삭제하고 설정을 초기화합니다.

- 1 전원을 켜세요.
- 2 초기화 버튼을 빠르게 세 번 누르세요.
- 3 장치의 LED가 초록색으로 깜박거릴 때 초기화 버튼을 한 번 더 누르세요.



장치에 저장된 루트 인증서가 존재하지 않을 경우 공장 초기화를 진행할 수 없습니다.

# 제품 사양

| 구분    | 항목                     | 규격  |
|-------|------------------------|---|
| 크리덴셜  | 바이오 인식                 | 지문  |
|       | RF 카드                  | <ul style="list-style-type: none"> <li>• <b>BEP2-OD:</b> 125KHz EM &amp; 13.56MHz MIFARE, MIFARE Plus, DESFire, DESFire EV1/EV2/EV3<sup>1)</sup>, FeliCa</li> <li>• <b>BEP2-OA:</b> 125KHz EM, HID Prox &amp; 13.56MHz MIFARE, MIFARE Plus, DESFire, DESFire EV1/EV2/EV3<sup>1)</sup>, FeliCa, iCLASS SE/SR/Seos</li> </ul> |
|       | RF 인식 거리 <sup>2)</sup> | MIFARE/DESFire/iCLASS: 50 mm, EM/HID Prox/FeliCa: 30 mm   |
|       | 모바일                    | NFC   |
| 일반    | CPU                    | 1.0 GHz   |
|       | 메모리                    | 8 GB Flash + 64 MB RAM  |
|       | 크립토 칩                  | 지원  |
|       | LED                    | 다중 색상   |
|       | 소리                     | 멀티톤 버저  |
|       | 동작 온도                  | -20 °C ~ 50 °C  |
|       | 보관 온도                  | -40 °C ~ 70 °C  |
|       | 동작 습도                  | 0 % ~ 80 %, 비응축   |
|       | 보관 습도                  | 0 % ~ 90 %, 비응축   |
|       | 치수 (W x H x D)         | 50.1 x 164 x 38 (mm)  |
|       | 무게                     | <ul style="list-style-type: none"> <li>• 장치: 162 g</li> <li>• 브래킷: 39 g (와셔 및 볼트 포함)</li> </ul>   |
|       | 인증                     | CE, UKCA, KC, FCC, RCM, BIS, ANATEL, RoHS, REACH, WEEE  |
| 지문    | 이미지 크기                 | 272 x 320 픽셀  |
|       | 이미지 비트 심도              | 8비트, 256 회색조  |
|       | 해상도                    | 500 dpi   |
|       | 템플릿                    | SUPREMA / ISO19794-2 / ANSI-378   |
|       | 추출                     | MINEX 인증 및 호환   |
|       | 위조 지문 검출               | 지원 (SW 기반)  |
| 저장 용량 | 최대 사용자 수               | 10,000  |
|       | 최대 크리덴셜 수 (1:N)        | 지문: 10,000  |
|       | 최대 크리덴셜 수 (1:1)        | <ul style="list-style-type: none"> <li>• 지문: 10,000</li> <li>• 카드: 10,000</li> </ul>  |
|       | 최대 텍스트 로그 수            | 1,000,000   |
|       | 최대 이미지 로그 수            | 미지원   |
| 인터페이스 | 이더넷                    | 지원 (10/100 Mbps, 자동 MDI/MDI-X)  |
|       | RS-485                 | 1채널 마스터/슬레이브 (선택 가능)  |
|       | RS-485 통신 프로토콜         | OSDP V2 호환  |
|       | Wiegand                | 1채널 입력/출력 (선택 가능)   |
|       | TTL 입력                 | 입력 2채널  |
|       | 릴레이                    | 1개  |
|       | 탐퍼                     | 지원  |

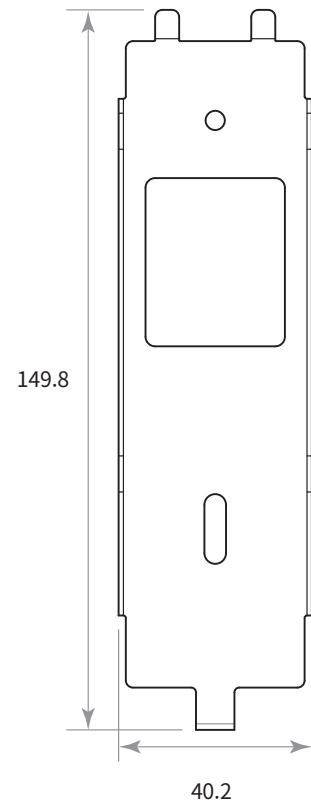
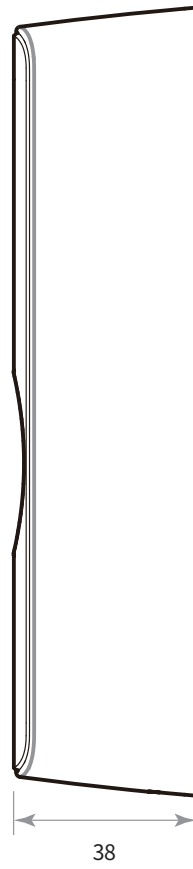
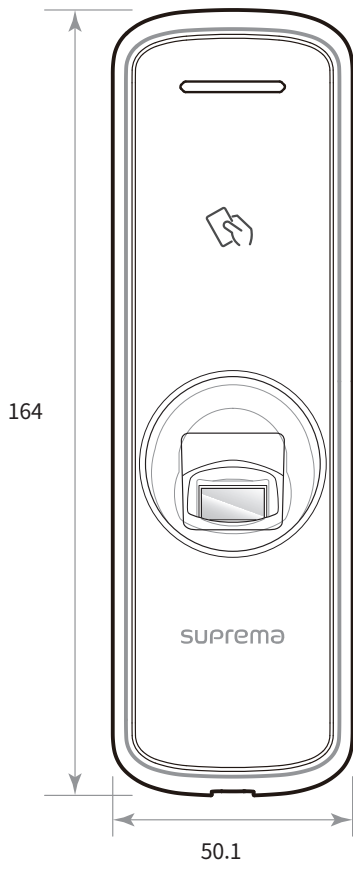
| 구분    | 항목               | 규격   |
|-------|------------------|--|
| 전기 규격 | 전원               | <ul style="list-style-type: none"> <li>전압: 12 Vdc</li> <li>전류: 최대 0.2 A</li> </ul> |
|       | 스위치 입력 VIH       | <ul style="list-style-type: none"> <li>최소: 3 V</li> <li>최대: 5 V</li> </ul>         |
|       | 스위치 입력 VIL       | 최대: 1 V  |
|       | 스위치 풀업 저항        | 4.7 kΩ (입력 단자는 4.7 kΩ으로 풀업 되어 있습니다.)   |
|       | Wiegand 출력 VOH   | 4.8 V 이상   |
|       | Wiegand 출력 VOL   | 0.2 V 이하   |
|       | Wiegand 출력 풀업 저항 | 1 kΩ으로 내부 풀업   |
|       | 릴레이              | 1 A @ 30 VDC Resistive load  |

- 1) DESFire EV2/EV3 카드는 DESFire EV1 카드와 하위 호환되므로, DESFire EV1 카드의 기능을 포함하여 CSN 및 스마트 카드 기능이 지원됩니다.
- 2) RF 인식 거리는 설치 환경에 따라 다를 수 있습니다.

## 제품 치수

(단위: mm)

\* 치수 공차는 ±0.3 mm입니다.



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- (2) 이 기기는 원치 않는 작동을 일으키는 간섭을 포함한 어떠한 간섭도 수용합니다.



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Version 3, 29 June 2007

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