

# CoreStation

## 설치 가이드

버전 1.04  
한국어

KO 101.00.CS40 V1.04A

문서 번호	개정	제목 / 설명
EN 101.00.CS40	V1.04A	CoreStation Installation Guide
EN 102.00.CS40	V1.00A	CoreStation Setup Manager User Guide
201.00.CS40	V1.00A	CoreStation Intelligent Biometric Controller: Quick Guide
EN 102.00.BS2	V1.8.5A	BioStar 2.8.5 Administrator Guide
EN 101.00.BS2	V1.8.5A	BioStar 2.8.5 Installation Guide
EN 201.00.BS2	V1.01A	BioStar 2 Quick Guide
Warranty_SP_001	V12	Suprema Warranty Policy

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## 안전을 위한 주의사항

제품을 올바르게 사용하여 위험이나 재산상의 피해를 방지하기 위한 내용입니다. 반드시 지켜 주시기 바랍니다.

### 경고

지시 사항을 위반하여 심각한 상해나 사망에 이를 수 있습니다.

#### 설치 관련

**직사 광선, 습기, 먼지나 그늘음이 많은 곳에는 설치하지 마십시오.**

- 화재 또는 감전의 원인이 됩니다.

**전열기 등으로 인해 열이 발생하는 곳에는 설치하지 마십시오.**

- 과열로 인한 화재 또는 감전의 원인이 됩니다.

**물기가 없는 장소에 설치하십시오.**

- 습기로 인한 제품 손상 및 감전의 원인이 됩니다.

**전자파 장애가 없는 곳에 설치하십시오.**

- 제품 손상 또는 감전의 원인이 됩니다.

**사용자가 임의로 제품을 설치하거나 수리하지 마십시오.**

- 화재, 감전, 부상의 원인이 됩니다.
- 사용자의 임의 설치나 수리로 인해 제품이 손상된 경우에는 무상 서비스를 받을 수 없습니다.

### 주의

지시 사항을 위반하여 경미한 상해나 제품 손상이 발생할 수 있습니다.

#### 설치 관련

**전원 케이블 등을 통행 장소에 방치하지 마십시오.**

- 제품 파손 또는 신체 상해의 원인이 됩니다.

**자석, TV, (특히 CRT) 모니터, 스피커 등 자성이 강한 물체 주변에 설치하지 마십시오.**

- 고장의 원인이 됩니다.

#### 사용 관련

**제품을 떨어뜨리거나 충격을 주지 마십시오.**

- 고장의 원인이 됩니다.

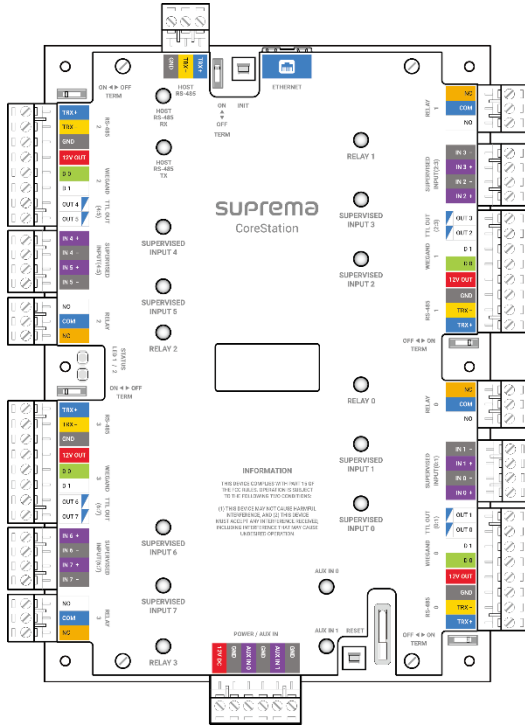
**제품의 버튼을 무리하게 누르거나 날카로운 도구를 사용해 누르지 마십시오.**

- 고장의 원인이 됩니다.

**제품 청소 시 물, 벤젠, 알코올 등이 아닌 부드러운 마른 천으로 닦아 주십시오.**

- 제품 고장의 원인이 됩니다.

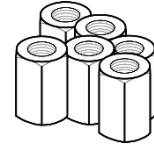
## 제품 구성



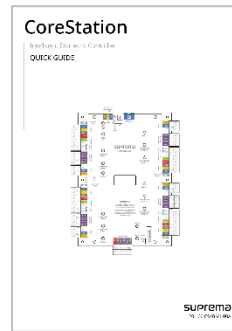
CoreStation



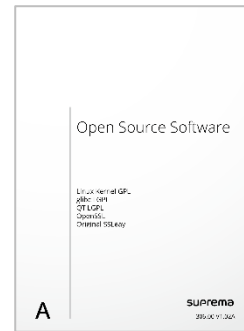
고정용 나사  
(12 개)



스페이서  
(6 개)



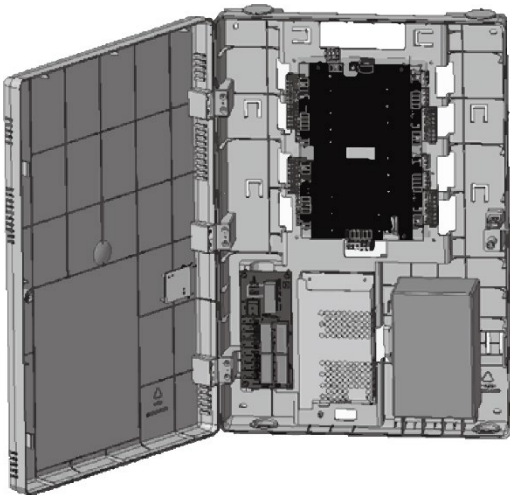
퀵 가이드



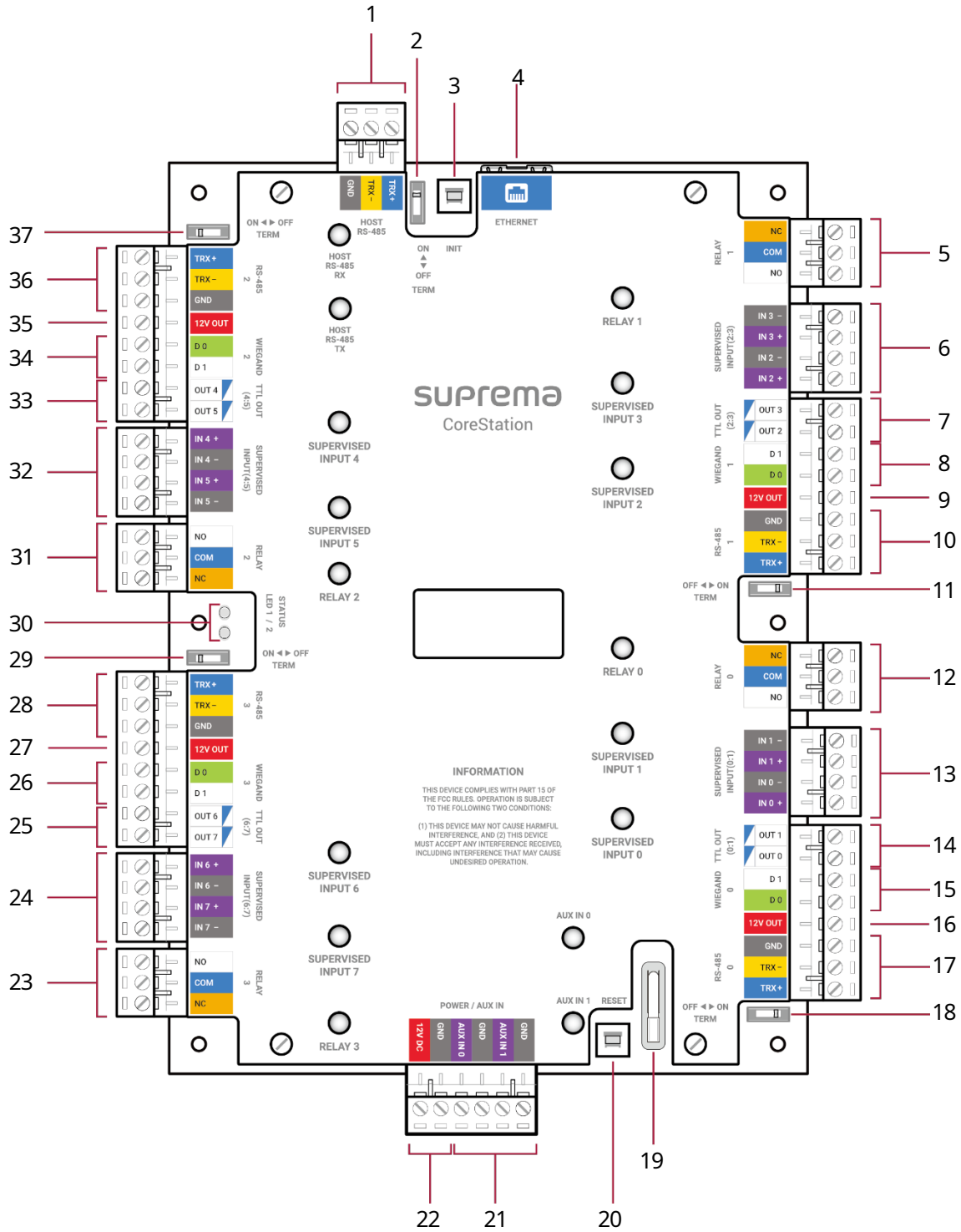
오픈소스라이선스 가이드

## 액세서리

CoreStation은 액세서리로 함체를 함께 구매할 수 있습니다. 함체에는 LED 제어 보드, 전원 제어 보드, 전원 장치, 배터리, 탭퍼가 포함되어 있습니다.



# 각 부분의 명칭 및 기능



No.	이름	No.	이름
1	HOST RS-485 연결	20	RESET 버튼
2	HOST RS-485 중단 저항 스위치	21	AUX IN (0, 1) 연결
3	INIT 버튼	22	CoreStation 전원 연결(DC 12V IN)
4	이더넷 연결	23	릴레이 3 연결
5	릴레이 1 연결	24	TTL 입력 (6, 7) 또는 Supervised Input (6, 7) 연결
6	TTL 입력 (2, 3) 또는 Supervised Input (2, 3) 연결	25	TTL 출력 (6, 7) 연결
7	TTL 출력 (2, 3) 연결	26	Wiegand 3 연결
8	Wiegand 1 연결	27	12VDC 출력
9	12VDC 출력	28	RS-485 3 연결
10	RS-485 1 연결	29	RS-485 3 중단 저항 스위치
11	RS-485 1 중단 저항 스위치	30	CoreStation 상태 LED
12	릴레이 0 연결	31	릴레이 2 연결
13	TTL 입력 (0, 1) 또는 Supervised Input (0, 1) 연결	32	TTL 입력 (4, 5) 또는 Supervised Input (4, 5) 연결
14	TTL 출력 (0, 1) 연결	33	TTL 출력 (4, 5) 연결
15	Wiegand 0 연결	34	Wiegand 2 연결
16	12VDC 출력	35	12VDC 출력
17	RS-485 0 연결	36	RS-485 2 연결
18	RS-485 0 중단 저항 스위치	37	RS-485 2 중단 저항 스위치
19	RTC 배터리		

#### 알아두기

- 장치와 연동된 CoreStation을 초기화한 뒤 다른 장치에 연결하려면 **INIT** 버튼을 2초 이상 누르십시오.
- CoreStation과 Wiegand 장치를 연결할 때 Wiegand 장치의 전원으로 CoreStation의 전원 출력(12V, 최대 1.5A)을 사용할 수 있습니다. 200mA를 소모하는 Wiegand 장치를 3대 연결하면 남아 있는 전원 출력 단자에 최대 900mA를 소모하는 장치를 연결할 수 있습니다.
- RTC 배터리 용량은 226mah이며, 기대 수명은 설치 환경 및 동작 방법에 따라 다를 수 있습니다. RTC 배터리 교체 시에는 CR2032를 준수하십시오.

## 통신 상태 LED

LED	상태
HOST RS-485 TX	주황색 점멸: RS-485 데이터를 송신 중인 상태
HOST RS-485 RX	녹색 점멸: RS-485 데이터를 수신 중인 상태
RELAY (0 ~ 3)	빨간색 점등: 릴레이 동작
SUPERVISED INPUT (0 ~ 7)	TTL 입력을 사용할 때 <ul style="list-style-type: none"> <li>• 녹색 점등: Normal Close</li> <li>• 꺼짐: Normal Open</li> </ul> Supervised Input을 사용할 때 <ul style="list-style-type: none"> <li>• 녹색 점등: Normal Close(합선), Normal Open, 스위치 켜짐</li> <li>• 꺼짐: 스위치 꺼짐</li> </ul>
AUX IN (0, 1)	주황색 점등: AUX 신호를 수신 중인 상태

## 출입통제 등급

기능	등급
Destructive Attack	I
Line Security	I
Endurance	IV
Standby Power	I
Single Point Locking Device with Key Locks	I

## CoreStation 상태 LED

CoreStation의 상태는 제품 전면부의 왼쪽에 위치한 **STATUS LED 1 / 2**로 확인할 수 있으며, 이더넷, RS-485 0, RS-485 1, RS-485 2, RS-485 3, RS-485 HOST, 시스템의 상태를 1초씩 순서대로 보여줍니다.

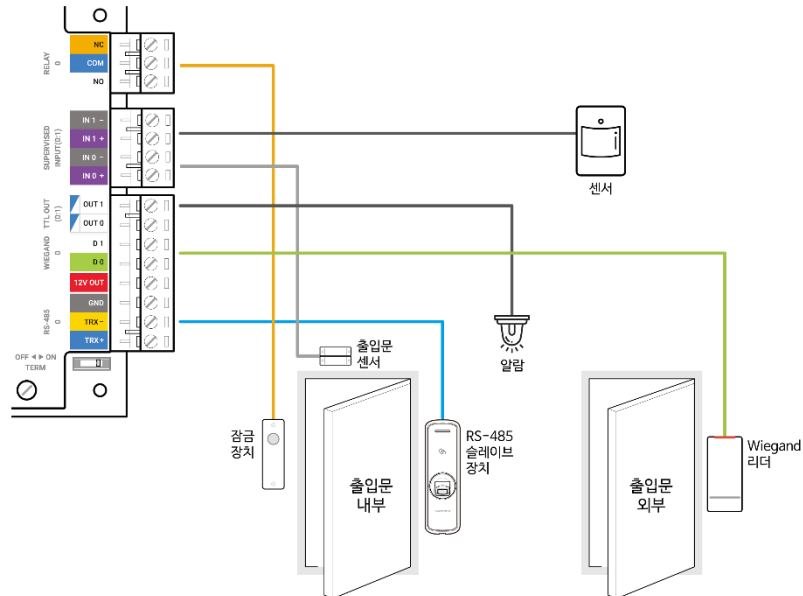
항목	LED 1	LED 2	상태
이더넷	빨간색	빨간색	유동 IP 연결 실패
	빨간색	노란색	유동 IP 연결 대기 중
	빨간색	하늘색	고정 IP 연결 성공
	빨간색	파란색	유동 IP 연결 성공
	빨간색	자홍색	고정 IP 연결 실패
	빨간색	꺼짐	HW 오류
RS-485 0	노란색	빨간색	슬레이브 장치 없음
	노란색	노란색	슬레이브 장치 연결 해제
	노란색	파란색	슬레이브 장치 정상
	노란색	꺼짐	HW 오류
RS-485 1	녹색	빨간색	슬레이브 장치 없음
	녹색	노란색	슬레이브 장치 연결 해제
	녹색	파란색	슬레이브 장치 정상
	녹색	꺼짐	HW 오류
RS-485 2	하늘색	빨간색	슬레이브 장치 없음
	하늘색	노란색	슬레이브 장치 연결 해제
	하늘색	파란색	슬레이브 장치 정상
	하늘색	꺼짐	HW 오류
RS-485 3	파란색	빨간색	슬레이브 장치 없음
	파란색	노란색	슬레이브 장치 연결 해제
	파란색	파란색	슬레이브 장치 정상
	파란색	꺼짐	HW 오류
RS-485 HOST	자홍색	빨간색	슬레이브 장치 없음
	자홍색	노란색	슬레이브 장치 연결 해제
	자홍색	파란색	슬레이브 장치 정상
	자홍색	꺼짐	HW 오류
시스템	흰색	빨간색	시스템 잠금 (장치의 작업 조건 및 동작)
	흰색	노란색	시스템 잠금 (BioStar 2의 작업 조건 및 동작)
	흰색	녹색	BioStar 2 연결 성공
	흰색	하늘색	BioStar 2 연결 성공 + 탬퍼 켜짐
	흰색	파란색	탐퍼 켜짐
	흰색	자홍색	시스템 잠금 (장치의 작업 조건 및 동작) + 탬퍼 켜짐
	흰색	흰색	시스템 잠금 (BioStar 2의 작업 조건 및 동작) + 탬퍼 켜짐
	자홍색	자홍색	데이터베이스 마이그레이션 동작 중



## 설치 예제

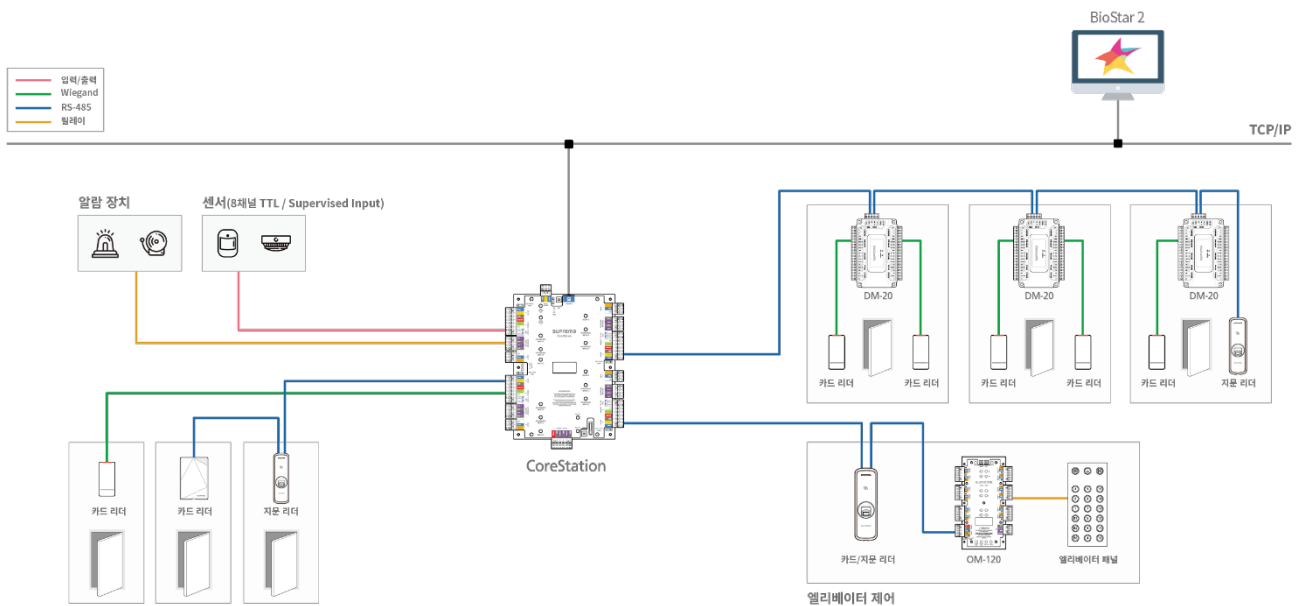
CoreStation은 바이오메트릭 인증을 수행할 수 있는 중앙 집중식 출입통제 시스템입니다. 엔터프라이즈급 시스템용으로 설계된 CoreStation은 최대 500,000 명의 사용자 정보를 저장할 수 있으며, 초당 400,000 지문 매칭을 수행할 수 있습니다.

BioStar 2와 연동하여 출입통제와 근태관리를 모두 사용할 수 있으며, RS-485(OSDP), Wiegand, Supervised input, AUX와 같은 다양한 인터페이스를 제공합니다.



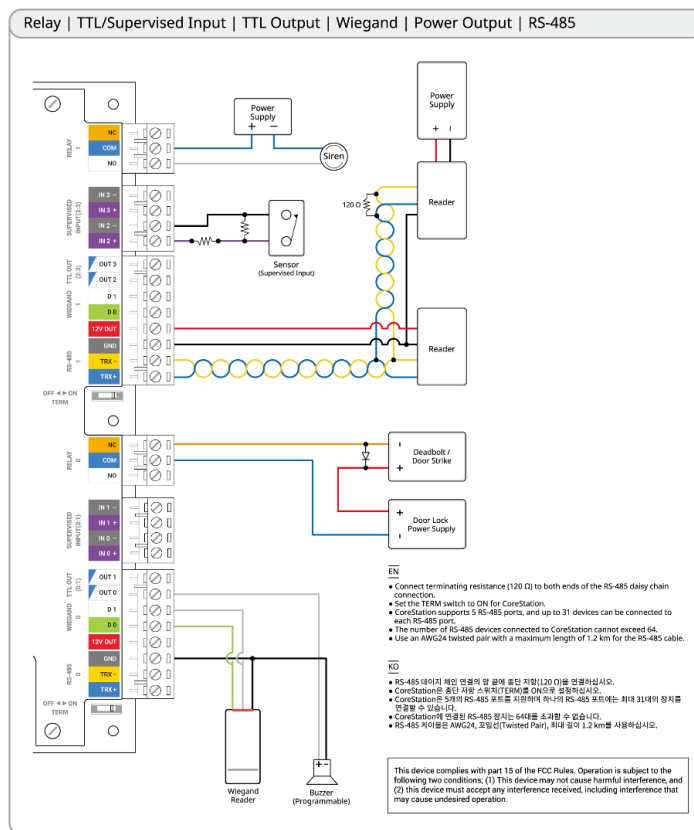
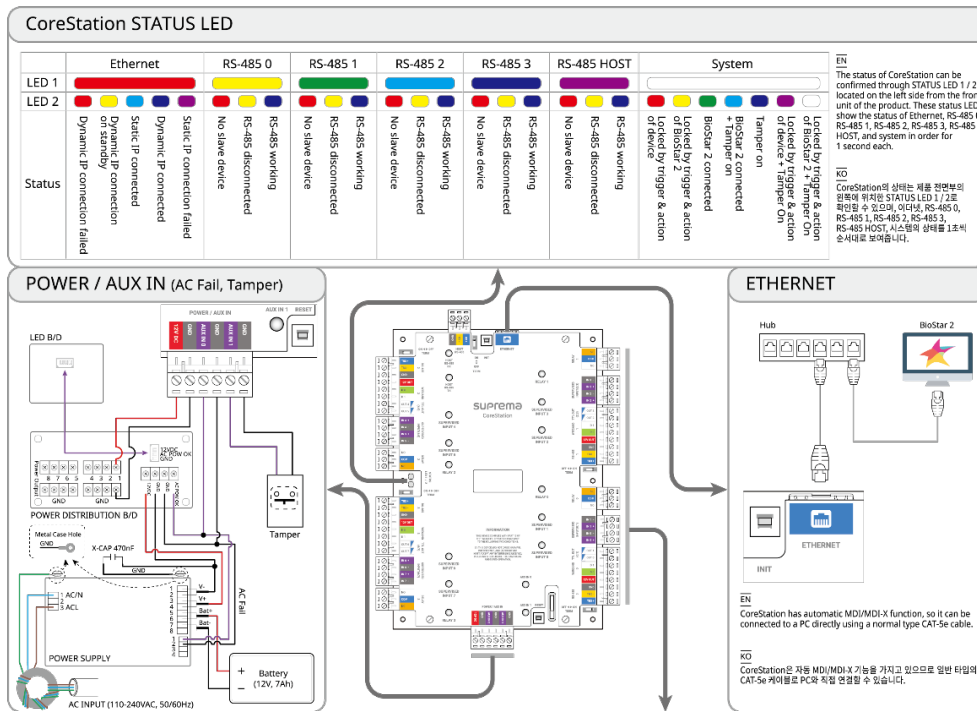
## 시스템 구성도

CoreStation은 RS-485 장치를 최대 64대까지 연결할 수 있으며, DM-20을 데이터 체인으로 연결하면 Wiegand 장치를 132대까지 확장할 수 있습니다.



## 전체 연결 구성도

안정적인 CoreStation의 사용을 위해 전용 합체를 사용할 것을 권장합니다. 합체에는 LED 제어 보드, 전원 제어 보드, 전원 장치, 배터리, 탭퍼가 포함되어 있습니다.



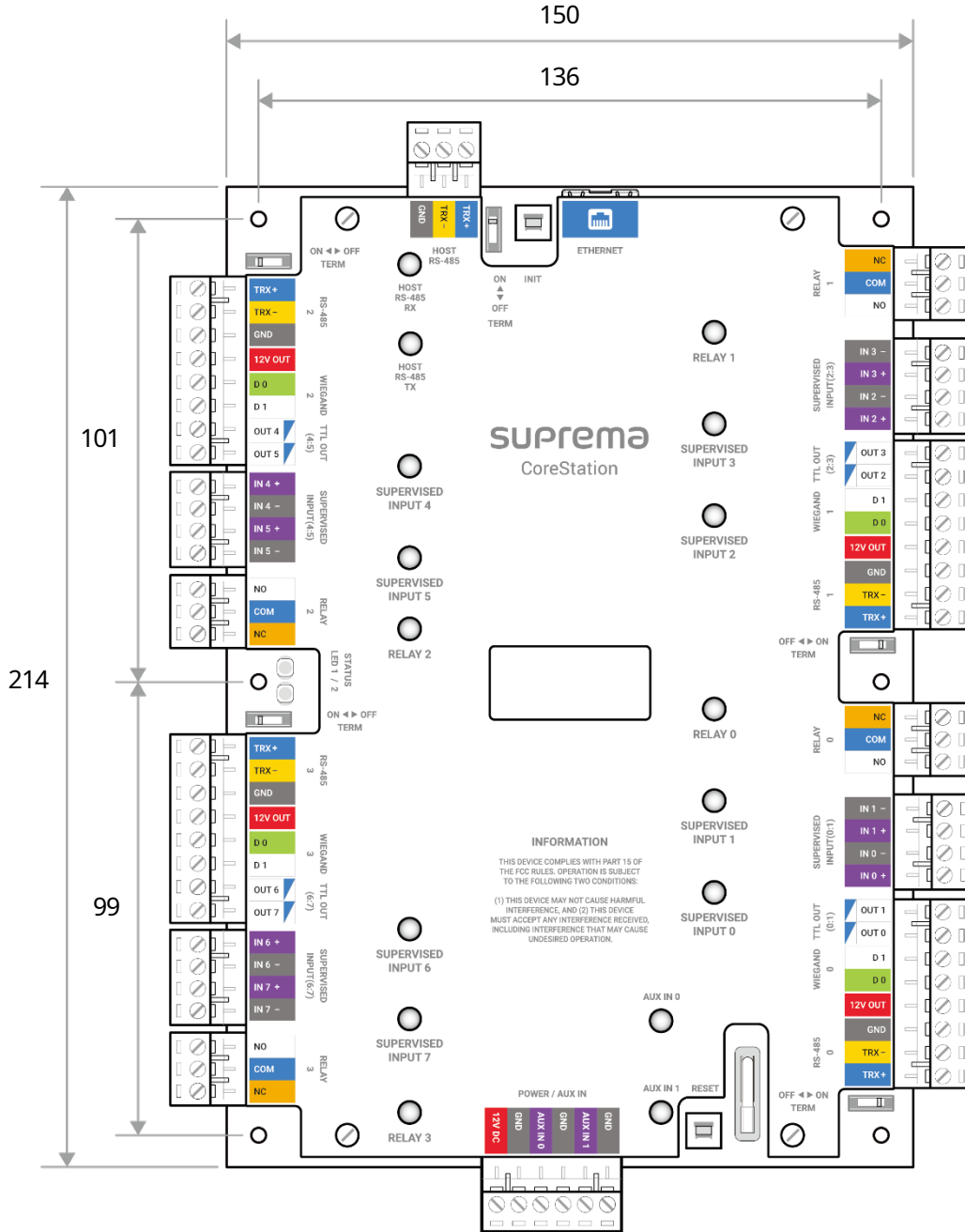
### 알아두기

- A 스위치로 제어되는 소켓에 연결하지 마십시오.

# 제품 치수

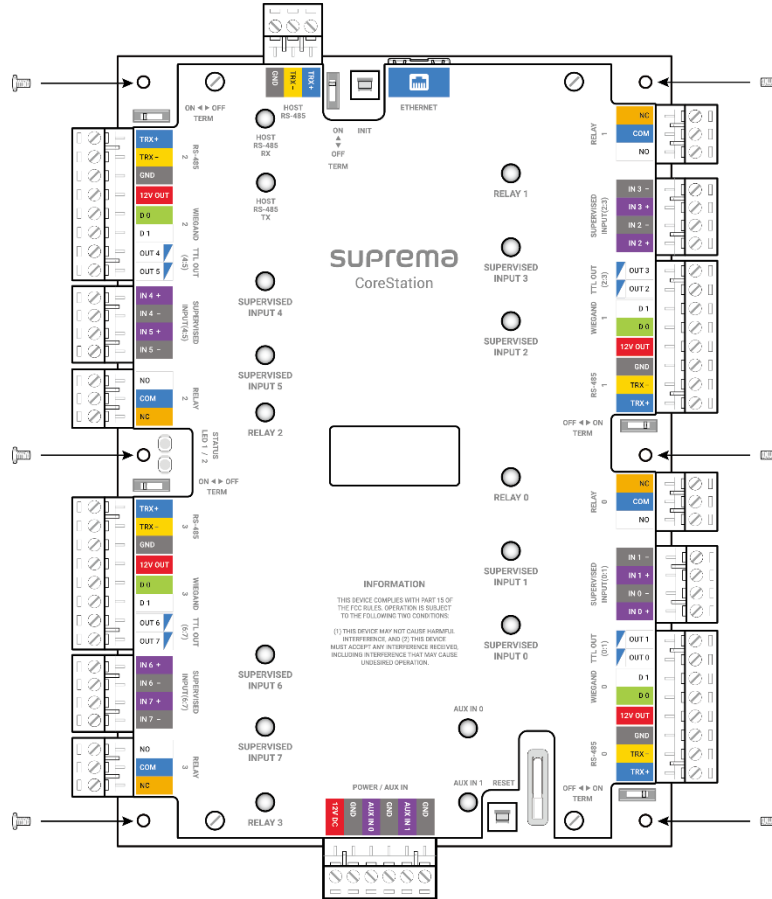
(단위: mm)

\* 치수 공차는 ±0.3mm입니다.



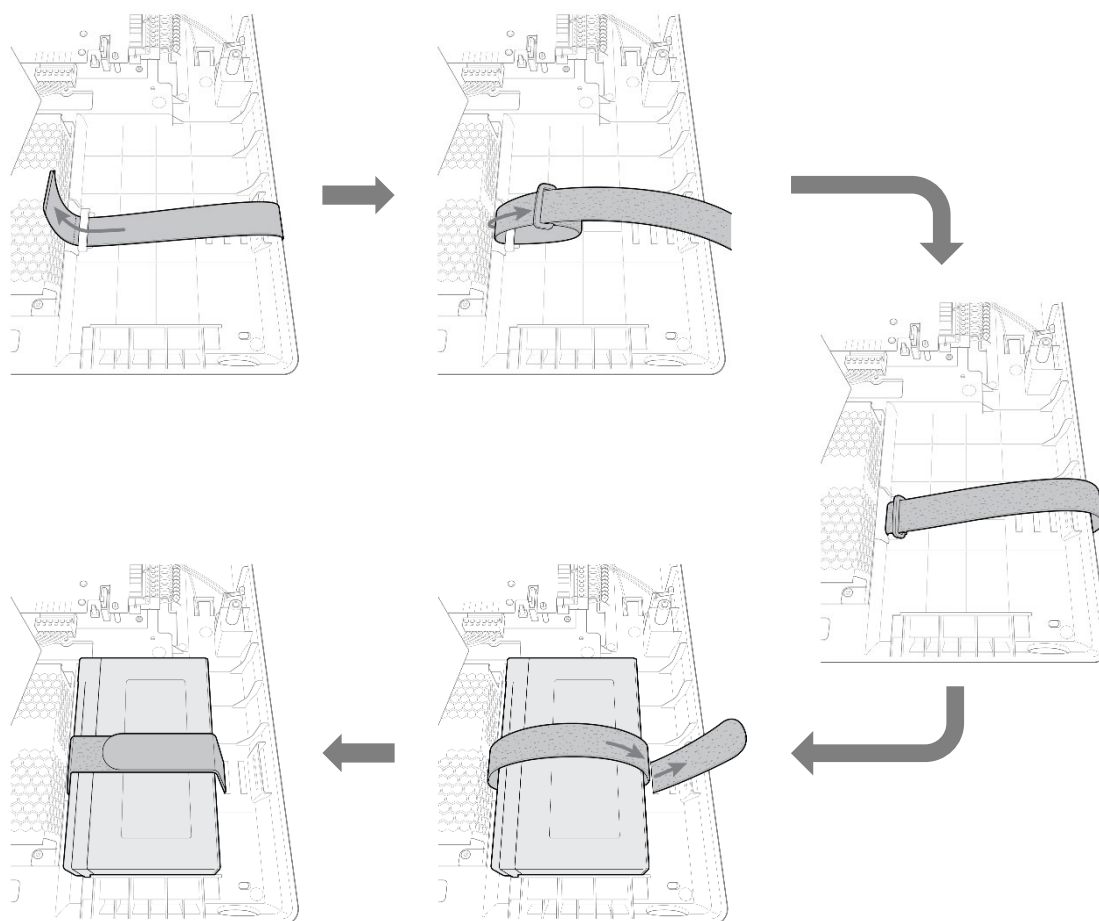
# 설치

- 1 CoreStation을 장착할 위치에 스페이서를 고정용 나사로 고정하십시오.
- 2 고정된 스페이서 위에 고정용 나사로 제품을 단단히 고정하십시오.



## 배터리

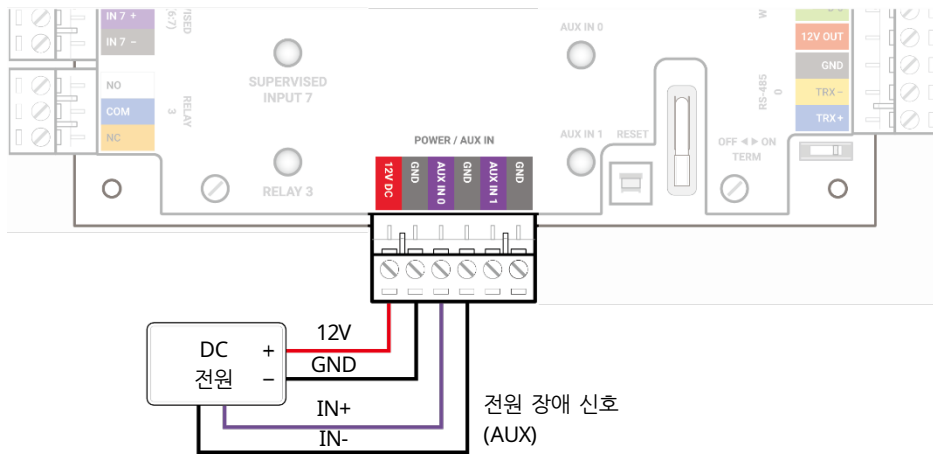
배터리 벨크로 스트랩을 함체에 끼운 뒤 배터리를 고정하십시오.



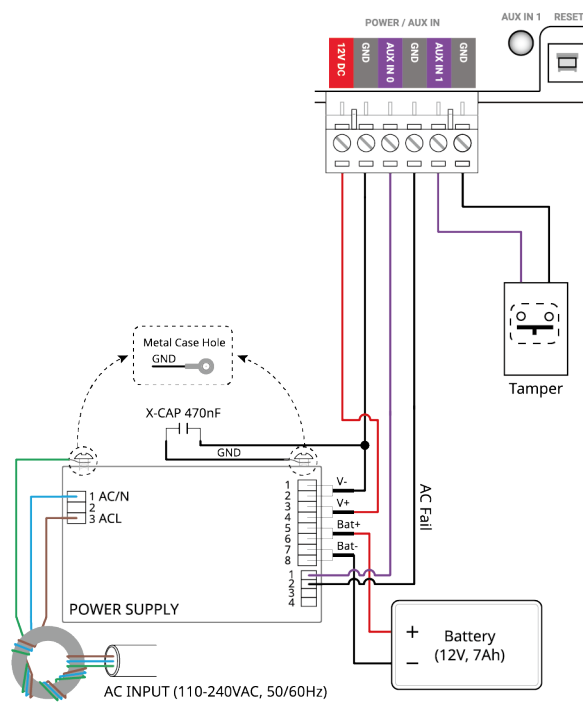
## 연결

### 전원

- 출입 통제 장치와 CoreStation에 연결하는 전원은 반드시 분리하여 사용하십시오.
- 올바른 전원 규격(12V, 3A)을 사용하십시오.
- 전원 장애를 막기 위해 무정전 전원 장치(UPS)를 연결하여 사용할 것을 권장합니다.



### 전원 (함체)



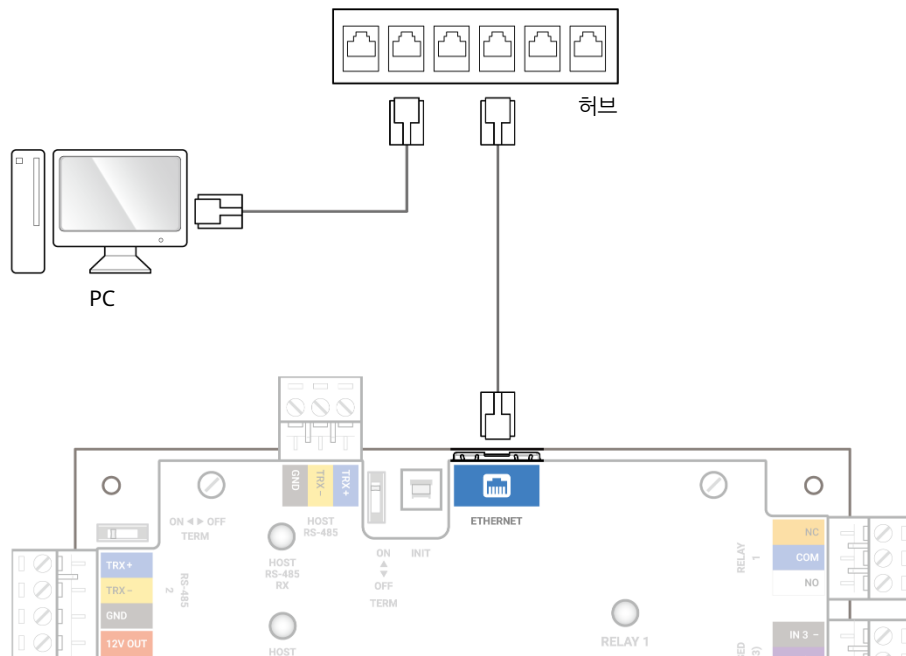
#### 알아두기

- UL294 설치의 경우 전원이 UL294, UL630, UL864, UL1481 표준 중 하나를 준수해야 합니다.

## 네트워크 연결

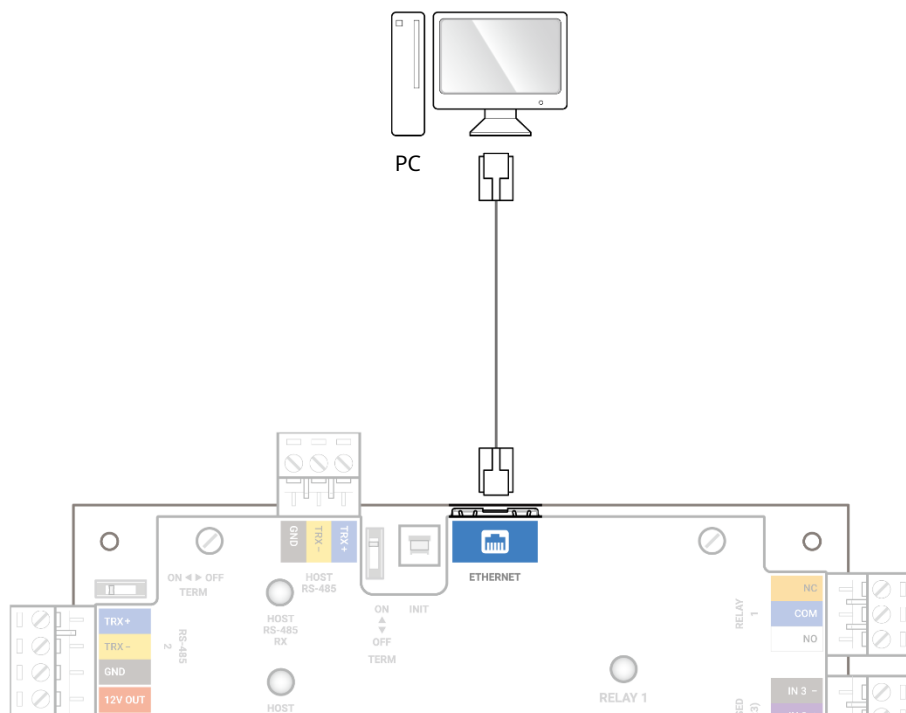
### LAN 연결 (허브와 연결)

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



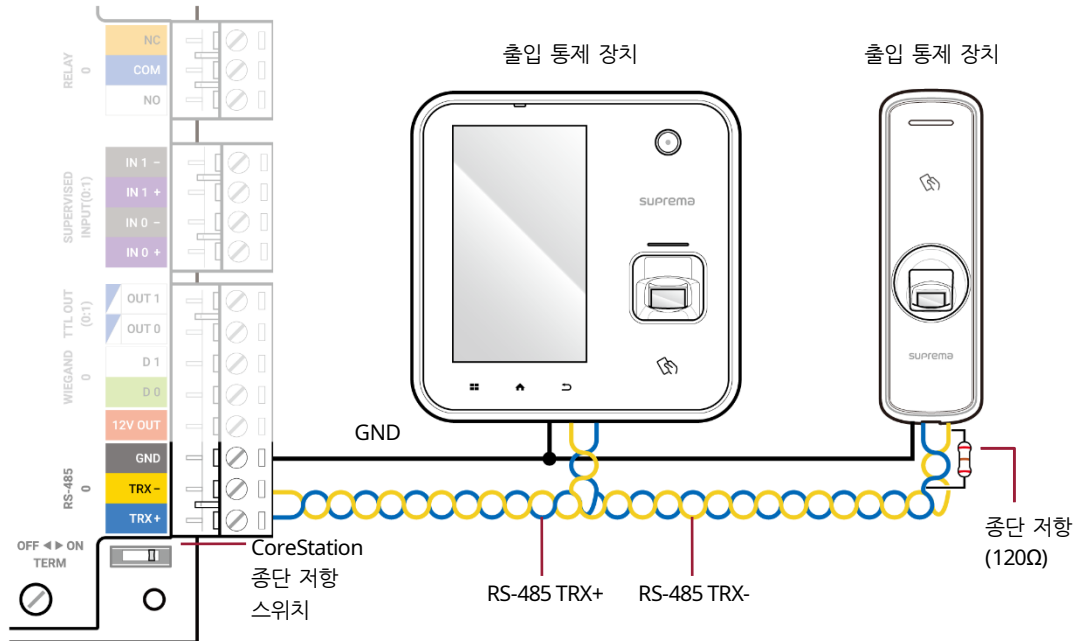
### LAN 연결 (PC와 직접 연결)

CoreStation은 자동 MDI/MDI-X 기능을 가지고 있으므로 일반 타입의 CAT-5e 케이블로 PC와 직접 연결할 수 있습니다.



## RS-485

- CoreStation은 5개의 RS-485 포트를 지원하며 하나의 RS-485 포트에는 최대 31대의 장치를 연결할 수 있습니다.
- CoreStation에 연결된 RS-485 장치는 64대를 초과할 수 없습니다.
- RS-485 케이블은 AWG24, 꼬임선(Twisted Pair), 최대 길이 1.2 km를 사용하십시오.
- RS-485 데이터 체인 연결의 양 끝에 종단 저항(120 Ω)을 연결하십시오. 중간 선로에 연결할 경우 신호 레벨이 작아져 통신 성능이 떨어지므로 반드시 데이터 체인 연결의 양 끝에 연결하십시오. CoreStation은 종단 저항 스위치를 ON으로 설정하십시오.



### 알아두기

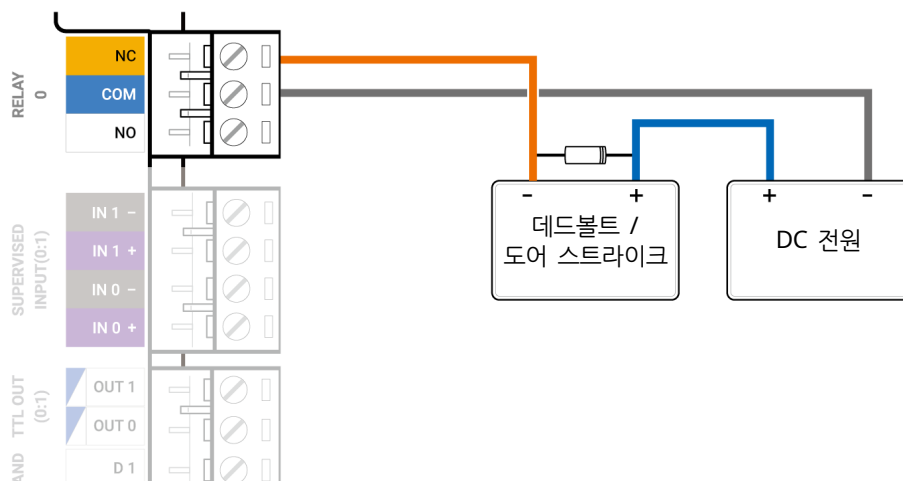
- RS-485 케이블은 AWG26 이상을 사용해야 하며, 모든 배선은 ANSI/NFPA 70 표준을 준수해야 합니다.



## 릴레이

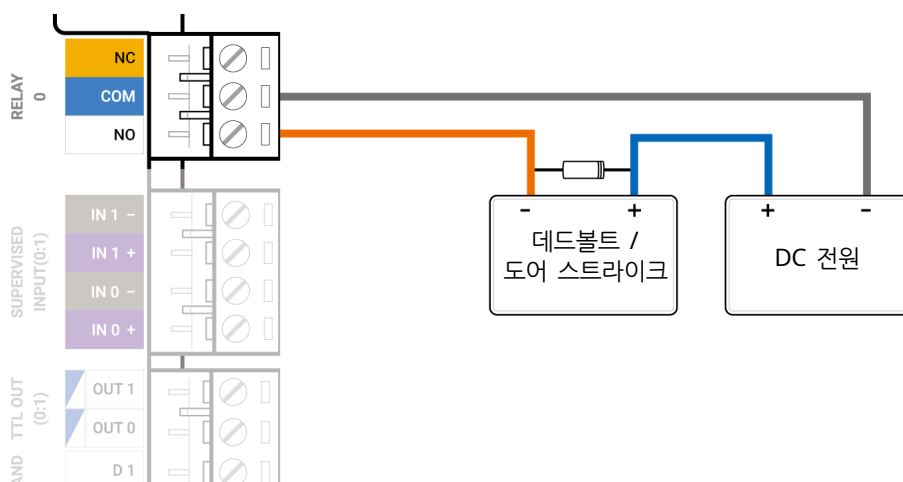
### Fail Safe Lock

- Fail Safe Lock을 사용하려면 아래 그림과 같이 NC 릴레이를 연결하십시오. 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.
- 데드볼트(Deadbolt)나 도어 스트라이크(Door Strike) 설치 시 다이오드를 아래 그림과 같이 전원 입력 양단에 연결하십시오. 다이오드 방향에 주의하여 반드시 Cathode(줄무늬 방향)를 전원의 + 부분에 연결하십시오.

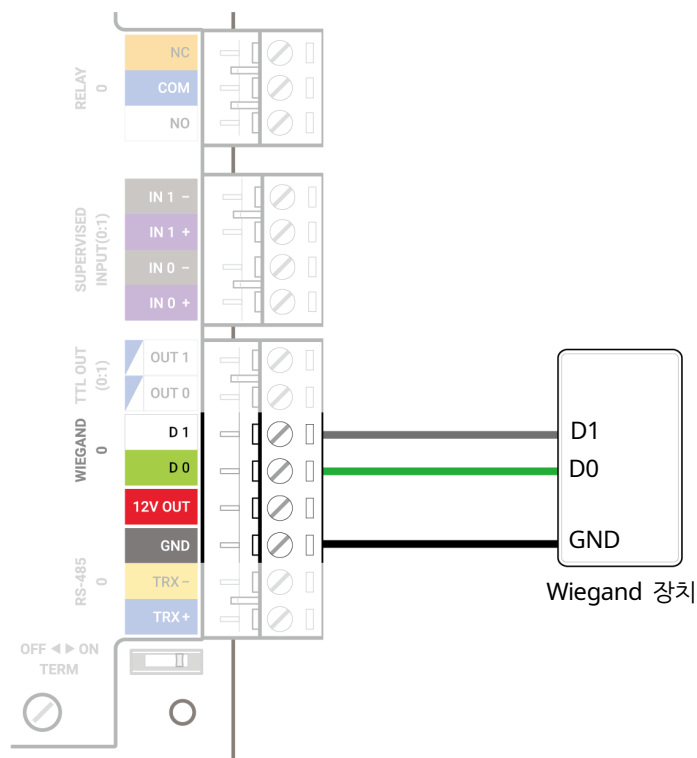


### Fail Secure Lock

- Fail Secure Lock을 사용하려면 아래 그림과 같이 NO 릴레이를 연결하십시오. 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.
- 데드볼트(Deadbolt)나 도어 스트라이크(Door Strike) 설치 시 다이오드를 아래 그림과 같이 전원 입력 양단에 연결하십시오. 다이오드 방향에 주의하여 반드시 Cathode(줄무늬 방향)를 전원의 + 부분에 연결하십시오.

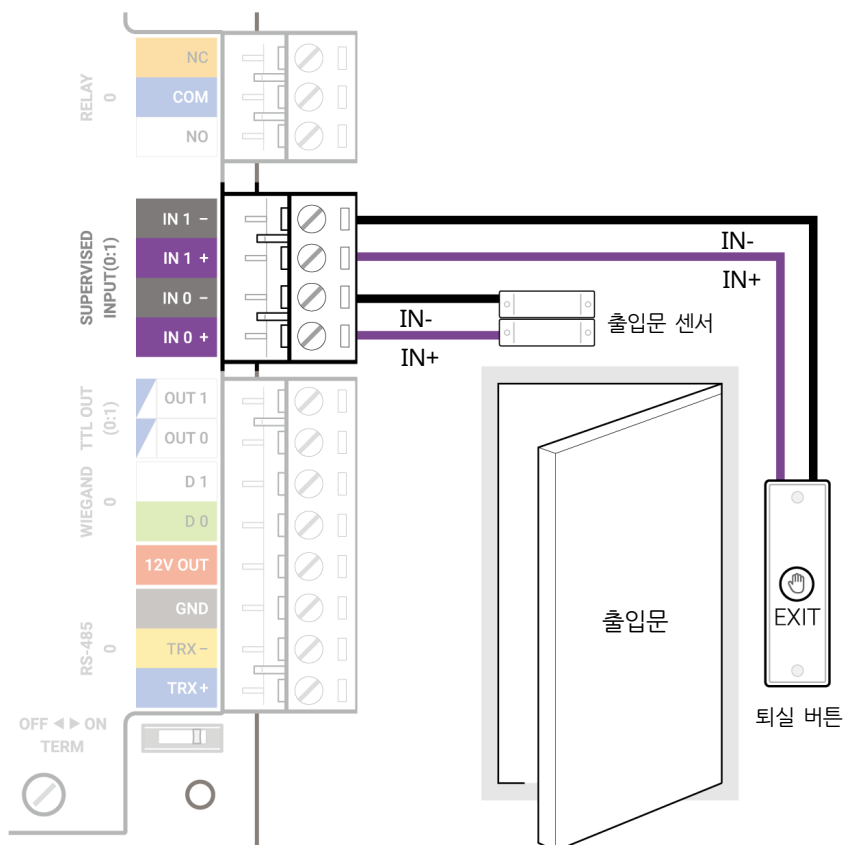


## Wiegand IN



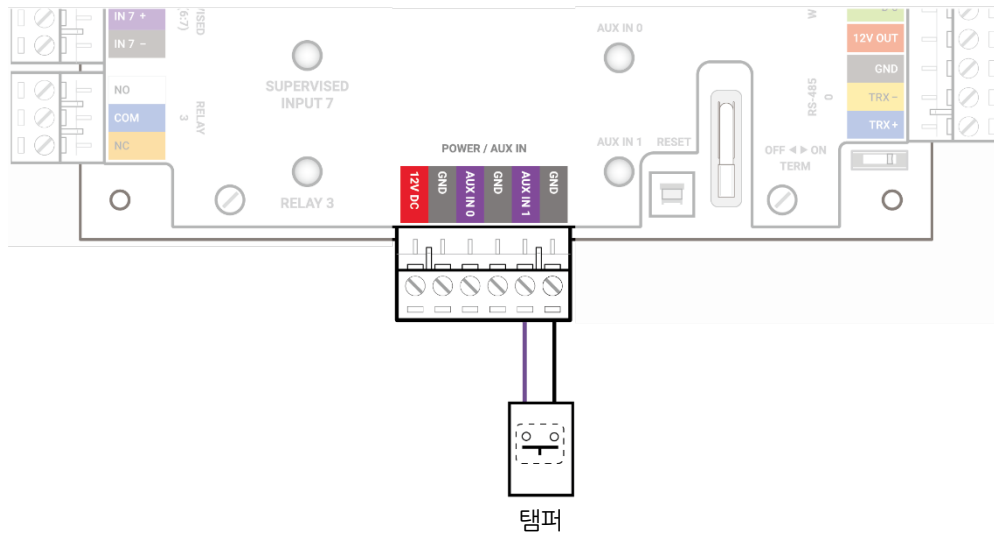
## 출입문 센서 및 퇴실 버튼

SUPERVISED INPUT 0 ~ 7 단자는 일반적인 TTL 입력으로 사용하거나 Supervised Input으로 사용하도록 설정할 수 있습니다.



## AUX IN

- 전원 장애 감지거나 탬퍼를 AUX IN 단자에 연결할 수 있습니다.



### 알아두기

- CoreStation Setup Manager에 접속해 CoreStation의 네트워크 설정을 관리하거나 슬레이브 장치, 입력 및 출력 포트, Wiegand 포트의 연결 상태를 확인할 수 있습니다.
- CoreStation Setup Manager는 CoreStation 펌웨어 1.3.1 버전 이상에서 지원됩니다. 1.3.1보다 낮은 버전의 펌웨어를 사용할 경우 BioStar 2에 접속하여 펌웨어를 최신 버전으로 업그레이드하십시오.
- CoreStation Setup Manager에 대한 자세한 내용은 사용자 가이드를 참고하십시오. 사용자 가이드는 슈프리마 홈페이지(<https://www.supremainc.com>)에서 내려받을 수 있습니다.
- BioStar 2 최신 버전은 CoreStation이 네트워크에 연결되어 재설정이 가능할 때 확인할 수 있습니다.

## 제품 사양

구분	항목	규격
일반	모델명	CS-40
	CPU	1.4GHz 옥타코어
	메모리	8GB Flash + 1GB RAM
	LED	다중 색상 <ul style="list-style-type: none"> <li>• STATUS - 2개</li> <li>• HOST RS-485 TX - 1개</li> <li>• HOST RS-485 RX - 1개</li> <li>• SUPERVISED INPUT - 8개</li> <li>• RELAY - 2개</li> <li>• AUX IN - 2개</li> </ul>
	동작 온도	0°C ~ 50°C
	보관 온도	-40°C ~ 70°C
	동작 습도	0% ~ 80%, 비응축
	보관 습도	0% ~ 95%, 비응축
	동작 환경 조건	0°C ~ 49°C
	치수 (W x H x D)	150 mm x 214 mm x 21 mm
	무게	415 g
	인증	CE, FCC, KC, RoHS, REACH, WEEE
	저장 용량	사용자 수 (1:1)
사용자 수 (1:N)		100,000
템플릿 수 (1:1)		1,000,000 (손가락마다 두 개의 템플릿)
템플릿 수 (1:N)		200,000 (손가락마다 두 개의 템플릿)
카드 수		500,000
PIN 수		500,000
텍스트 로그 수		5,000,000
인터페이스	이더넷	10/100 Mbps, 자동 MDI/MDI-X
	RS-485	5채널
	Wiegand	4채널
	Supervised Input	8채널 (TTL 입력 선택 가능)
	TTL 출력	8채널
	AUX 입력	2채널 (AC POWER FAIL, 탬퍼 연결 지원)
전기 규격	전원	CoreStation - 전압: 12VDC, 전류: 최대 3A 전원 장치 (SMPS) AC INPUT - 110-240VAC, 50/60Hz
	전원 출력	전압: 12VDC 전류: 최대 1.5A
	스위치 입력 VIH	최대: 5V 최소: 4V
	스위치 입력 VIL	최대 1V
	릴레이	전압: 최대 30VDC 전류: 최대 5A

### 알아두기

- 완전한 출입통제 시스템을 갖추기 위해 모든 주변 장치(카드 리더, 키패드, 지문 인식 장치)는 UL294를 준수해야 합니다.
- CoreStation 제품이나 문제 해결을 위한 자세한 정보는 다음 링크를 참고하십시오.

<http://kb.supremainc.com/knowledge/doku.php?id=ko:start>

## FCC 준수 정보

이 기기는 FCC 규제의 Part 15를 준수합니다.

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Version 3, 29 June 2007

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