

X-Station 2

設置ガイド

バージョン 1.01

日本語

JA 101.00.XS2-ODPB, XS2-OAPB V1.01A

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安全にお使いいただくために

本製品を使用する前に、ご自身や他人への怪我を未然に防ぎ、物的損害を防止するために、この「安全にお使いいただくために」をお読みください。本マニュアルの「製品」という用語は、製品および製品に付属するすべての品目を指します。

指示アイコン



警告: この記号は、死亡または重傷につながるおそれのある状況を示しています。



注意: この記号は、中度の傷害や物的損害をもたらすおそれのある状況を示しています。



注意: この記号は、注記または追加情報を示します。



警告

設置場所

本製品を無断で設置したり修理したりしないでください。

- 感電、火災、または製品の損傷につながるおそれがあります。
- あらゆる改造により、または取り付け手順に従わなかったために損傷が生じた場合は、製造元の保証が無効になることがあります。

本製品を、直射日光の当たる場所、湿気の多い場所、埃やすすの多い場所、ガス漏れがありそうな場所には置かないでください。

- 感電または火災につながるおそれがあります。

本製品を屋外に設置する場合は、過熱を防ぐために、直射日光の当たらない、風通しが良い涼しい場所に設置してください。

本製品を屋外に設置する際、密閉されたエンクロージャの中には入れないでください。

エンクロージャの内部温度が上昇すると、感電、火災、または故障につながるおそれがあります。

本製品を、熱器具の近くなど高温になる場所に置かないでください。

- 過熱により火災につながるおそれがあります。

本製品を、乾燥した場所に設置してください。

- 湿気や液体は感電や製品の損傷につながるおそれがあります。

本製品を、無線周波数の影響を受ける場所に設置しないでください。

- 火災や製品の損傷につながるおそれがあります。

お取り扱い

本製品は乾燥した状態にしておいてください。

- 湿気や液体は感電、火災、または製品の損傷につながるおそれがあります。

損傷した電源アダプタ、プラグ、緩んだコンセントは使用しないでください。

- 接続部がしっかりと固定されていないと、感電や火災の原因になるおそれがあります。

電源コードを折り曲げたり損傷させたりしないでください。

- 感電または火災につながるおそれがあります。



注意

設置場所

本製品を、直射日光や紫外線が当たる場所に設置しないでください。

- 製品の損傷、故障、変色、変形につながるおそれがあります。

電源ケーブルを人が通る場所に取り付けしないでください。

- 負傷や製品の損傷につながるおそれがあります。

本製品を、磁石、テレビ、モニター（特に CRT モニター）、スピーカーなど磁気を発する物の近くに設置しないでください。

- 本製品が故障するおそれがあります。

複数の製品を設置する場合は、製品の間に最低限の間隔を空けてください。

- 本製品が他の製品から放射される無線周波数の影響を受けて、故障するおそれがあります。

IEC/EN 62368-1 の認可を受けた、製品の電力消費量以上に対応する電源アダプタを使用してください。Suprema が販売する電源アダプタを使用することを強くお勧めします。

- 適切な電源を使用しないと、本製品が正しく動作しない恐れがあります。
- 最大消費電流の仕様については、製品仕様の電源を参照してください。

Secure I/O 2、電子ロック、および本製品に対して、独立した電源を使用してください。

- 同じ電源を接続して使用すると、本製品が誤動作するおそれがあります。

電源と Power over Ethernet (PoE) を同時に接続して使用しないでください。

- 本製品が故障するおそれがあります。

IP65等級を満足するために、製品とケーブルを接続した後、必ず、配線カバーか配管を使用、筐体に収納することを使用することをお勧めします。

- 防水・防塵性能が低下すると故障の原因となります。

お取り扱い

本製品を落下させたり、衝撃を与えたりしないでください。

- 本製品が故障するおそれがあります。

製品のファームウェアのアップグレードが進行中の電源供給が中断されないように注意してください。

- 本製品が故障するおそれがあります。

パスワードを他人に開示しないでください。また、定期的に変更してください。

- そうしないと、不正な侵入が発生するおそれがあります。

本製品のボタンを無理に押したり、鋭利な工具で押したりしないでください。

- 本製品が故障するおそれがあります。

本製品を非常に高温または低温になる場所に保管しないでください。本製品は -20 °C ~ 50 °C の温度でを使用することをお勧めします。

- 本製品が故障するおそれがあります。

本製品を清掃する際は、次の点に注意してください。

- 清潔で乾燥したタオルで本製品を拭きます。
- 本製品を消毒する必要がある場合は、布またはティッシュを適量の消毒用アルコールで湿らせ、指紋センサーなどの露出した表面をすべて丁寧に清掃します。消毒用アルコール（イソプロピルアルコール含有率 70 %）と、清潔で研磨性のない布（レンズ用ティッシュなど）を使用します。
- 本製品の表面に液体を直接塗布しないでください。

本製品を本来の用途以外に使用しないでください。

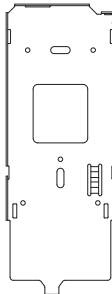
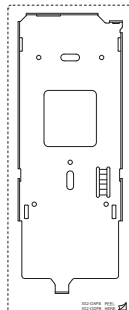
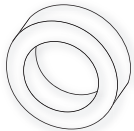
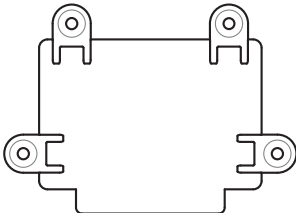
- 本製品が故障するおそれがあります。

RTC バッテリー

承認を受けていない、または正しくないタイプのバッテリーを使用すると、爆発のおそれがあります。バッテリーの廃棄は、該当する地域または国際的な廃棄物規制に従ってください。

はじめに

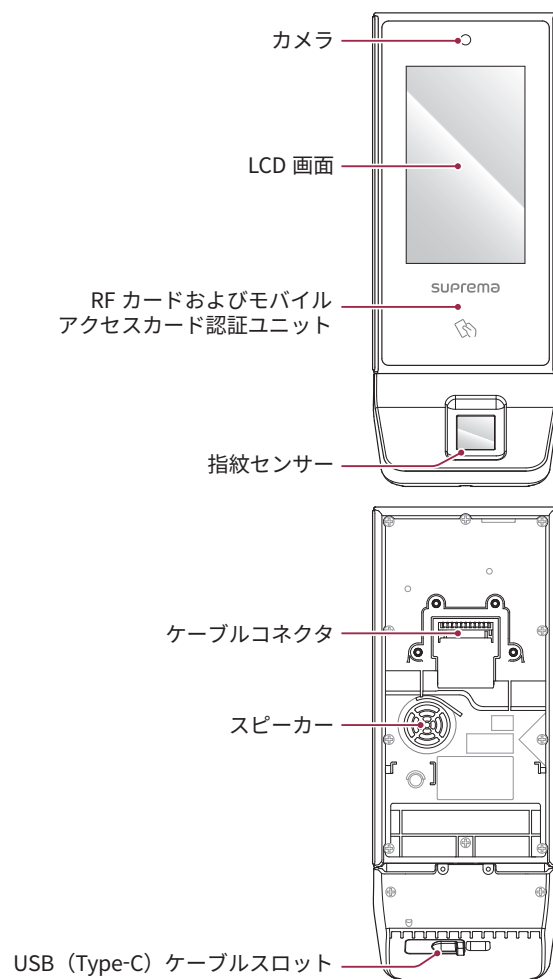
部品

			
X-Station 2	壁用ブラケット	穴あけ用テンプレート	
			
ケーブル	ダイオード	120 Ω 抵抗	
			
フェライト磁心	PVC アンカー x 2	固定ねじ x 2	ブラケット固定ねじ (星形)
			
ケーブルカバー	収縮チューブ	クイックガイド	オープンソースの ソフトウェアガイド



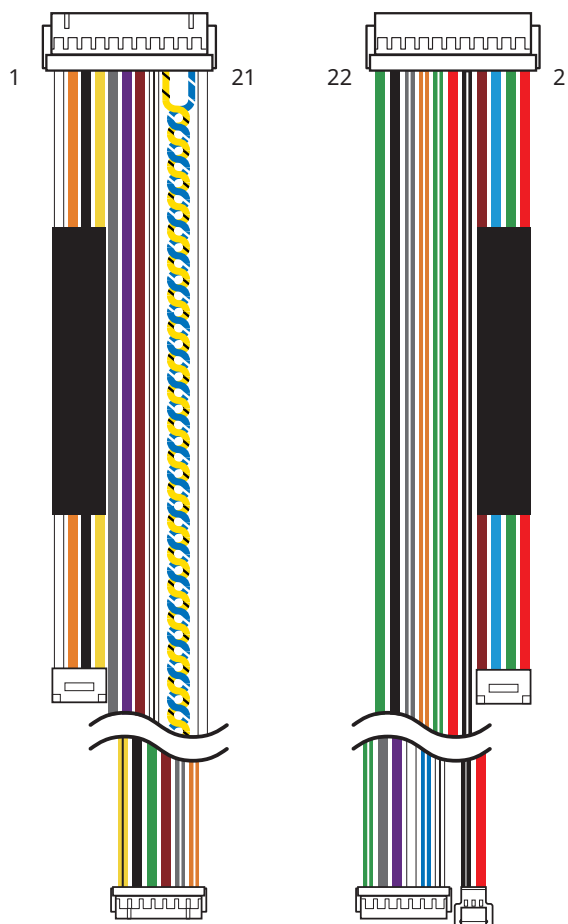
- 部品は設置環境によって異なる場合があります。
- 製品をブラケットに組み付ける際、セキュリティを強化するために、製品固定ねじの代わりに付属のブラケット固定ねじ (星形) を使用できます。
- 製品の詳細については、Suprema のウェブサイト(<https://www.supremainc.com>)にアクセスして、ユーザーガイドを参照してください。

各部品の名前と機能



名前	説明
カメラ	ユーザーの写真の登録及びイメージログを取得します。
LCD 画面	操作用の UI があります。
RF カードおよびモバイルアクセスカード認証ユニット	エントランス用の RFID カードまたはモバイルアクセスカードをスキャンする部分。
指紋センサー	指紋を読み取ります。
ケーブルコネクタ	ケーブルを接続します。 - 電源装置 - イーサネット + PoE - RS-485 - Wiegand 入力および出力 - TTL 入力 - リレー
スピーカー	音を鳴らします。
USB (Type-C) ケーブルスロット	USB ケーブルを接続します。

ケーブルとコネクタ



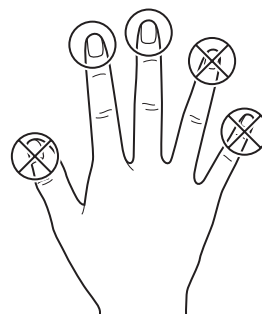
ケーブル	PIN	名前	色
RJ-45 (イーサネット + PoE)	1	ENET TXP	白
	3	ENET TXN	オレンジ
	5	ENET RXP	黒
	7	ENET RXN	黄
TTL 入力	9	TTL GND	グレー
	11	TTL IN0	紫
	13	TTL IN1	茶
RS-485	15	485 GND	白(黒のストライプ)
	17	485 TRXN	黄(黒のストライプ)
	19	485 TRXP	青(白のストライプ)
Wiegand	21	WG D1	白
	22	WG D0	緑
	20	WG GND	黒
リレー	18	RLY NO	グレー(白のストライプ)
	16	RLY NC	オレンジ(白のストライプ)
	14	RLY COM	緑(白のストライプ)
電源	12	PWR +VDC	赤
	10	PWR GND	黒(白のストライプ)
RJ-45 (イーサネット + PoE)	8	VB2	茶
	6	VB2	青
	4	VB1	緑
	2	VB1	赤

指紋を登録する方法

指紋の認証率を上げるために、指紋を正しく登録してください。X-Station 2 では、ユーザーの指紋入力角度と位置が変化しても指紋を認識できます。指紋を登録する際に次の点に注意すると、認証率が上がる場合があります。

指紋を入力する指を選ぶ

- 特定の指の指紋を使用できない場合、例えば片手で荷物を持ち上げていたり、指に怪我をしていたりする場合に備えて、ユーザーごとに最大 10 個の指紋を登録できます。
- 指紋がうまく認識されない場合は、2 回連続して同じ指で登録すると認証率が上がる場合があります。
- 指に切り傷がある場合や、指紋がはっきりしない場合は、別の指の指紋を登録します。
- 指紋をスキャンする際に人差し指または中指を使用することを推奨します。指紋センサーの中央に別の指を正確に置くことが難しい場合は、認証率が低下する場合があります。



指紋の登録方法

- 1 指紋の登録用の LCD 画面に「Scan Finger (スキャンフィンガー)」というメッセージが表示されたら、指紋を登録する指を指紋認証ユニットに置き、認証率を上げるために指を軽く押し付けます。



- 2 ビープ音の後に再入力画面が表示されたら、登録した指の指紋を再度スキャンします (登録する指の指紋を 2 回スキャンします)。



指紋の登録に関する注意

指紋認識時には最初に登録した指紋と照合されるため、最初の指紋登録が最も重要です。指紋を登録する際は次の点に注意してください。

- 指をセンサーに密着させてしっかりと押し付けます。
- 指紋の中央をセンサーの中央に合わせてください。
- 指に切り傷がある場合や、指紋がはっきりしない場合は、別の指の指紋を登録します。
- 画面の指示に従って、指を動かさずに指紋を正しくスキャンします。
- 指を動かしてセンサーとの接触面が小さくなったり指の角度が変わったりすると、指紋認証が行われない場合があります。



指紋認識が失敗した場合

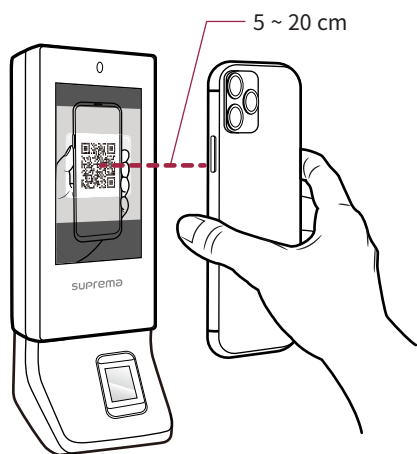
X-Station 2 は、季節の変化や指の状態にかかわらず、指紋を認識できます。ただし、認証率は、外部環境や指紋入力方法によって異なる場合があります。指紋認証がスムーズにいかない場合は、以下の措置を講じることをお勧めします。

- 指が水や汗で濡れている場合は、指を乾かしてからスキャンします。
- 指が乾燥し過ぎている場合は、指先に息を当ててから指をスキャンします。
- 指を切った場合は、別の指の指紋を登録します。
- 最初に登録した指紋が正しくスキャンされていない場合があるため、「指紋の登録に関する注意」に従って、もう一度指紋を登録してください。

QR/バーコードの使用方法およびデバイスライセンスに関する注記

QR/バーコードをユーザーに発行し、認証方法として使用できます。QR/バーコードの認識率を高めるために、画面の指示に従って正しくスキャンしてください。

QR/バーコードのスキャン方法



- デバイスのカメラと QR/バーコードの間隔を 5～20 cm に保ちます。
- QR/バーコードをデバイスのスキャン画面の中央に配置します。
- スマートフォンにダウンロードした QR/バーコードを使用して認証を行う場合、デバイスが QR/バーコードをはっきり読み取れるようにスマートフォンの輝度を調整します。
- 画面の指示に従わない場合、QR/バーコードのスキャンに時間がかかったり、スキャンに失敗したりすることがあります。

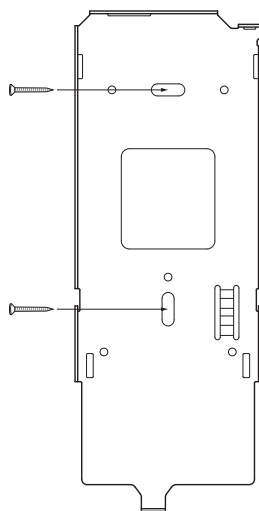
デバイスライセンスに関する注記

- QR/バーコード認証を使用するには、別途デバイスライセンスが必要です。デバイスライセンスを発行するには、購入先にご連絡ください。
- デバイスライセンスファイルは暗号化されたファイルであるため、自由に変更することはできません。
- デバイスライセンスは、デバイス ID に基づいて発行されます。デバイス ID が通常とは異なる方法で変更された場合、ライセンスの保証サービスは提供されません。

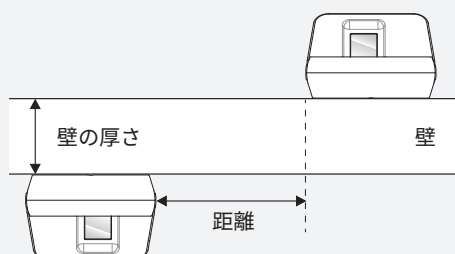
設置場所

ブラケットと製品の固定

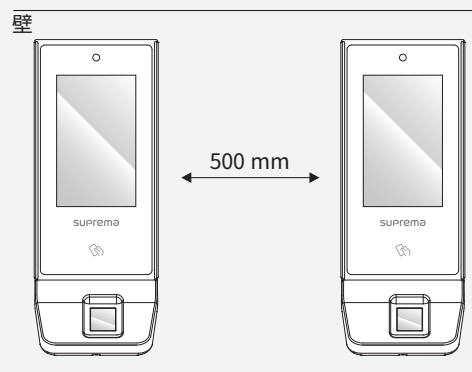
- 1 付属のドリル用テンプレートを使用して、ブラケットを取り付ける正しい位置を決定します。固定ねじをブラケットに通して、X-Station 2 の取り付け位置にブラケットをしっかりと固定します。



- コンクリート壁に X-Station 2 を設置する場合は、ドリルで穴を開け、PVC アンカーを挿入して、固定ねじで固定します。
- RF 干渉を回避するには、最小分離距離を維持する必要があります。

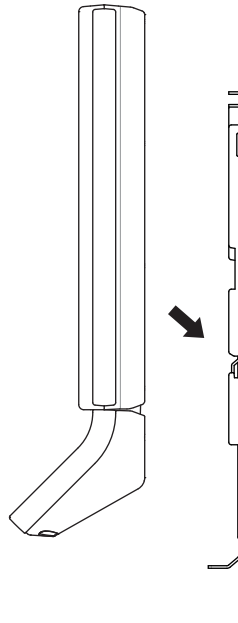


壁の厚さ	距離
100 mm	500 mm
120 mm	400 mm
150 mm	300 mm

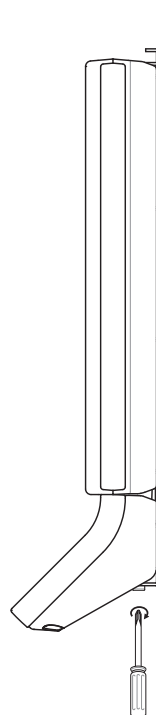


- モバイルアクセスカードを使用するときは、RF 干渉を回避するために、各デバイスを 1 m 以上離して設置します。

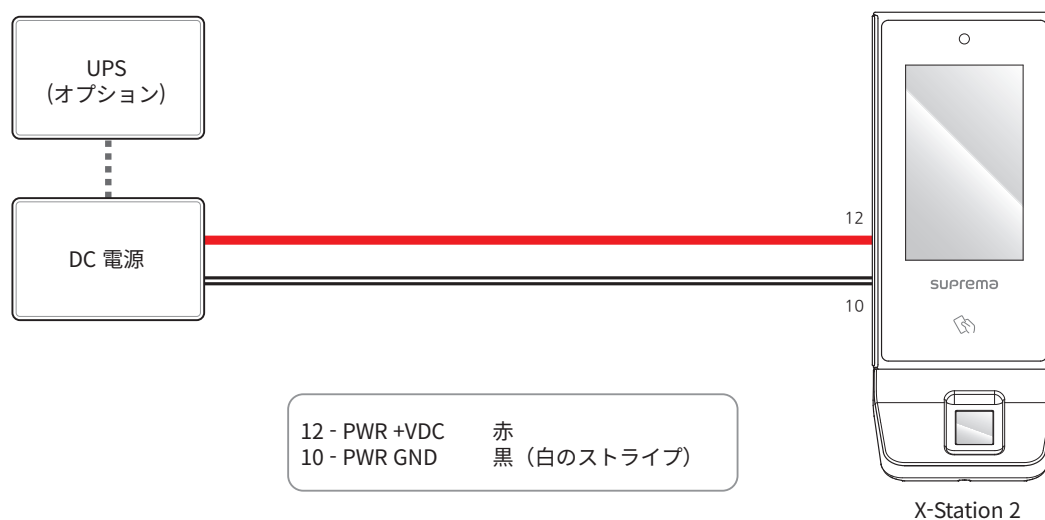
- 2** ケーブルカバーを組み付け、X-Station 2 を固定ブラケットに取り付けます。



- 3** X-Station 2 の製品固定ねじを締めて、X-Station 2 をブラケットに接合します。



電源装置の接続



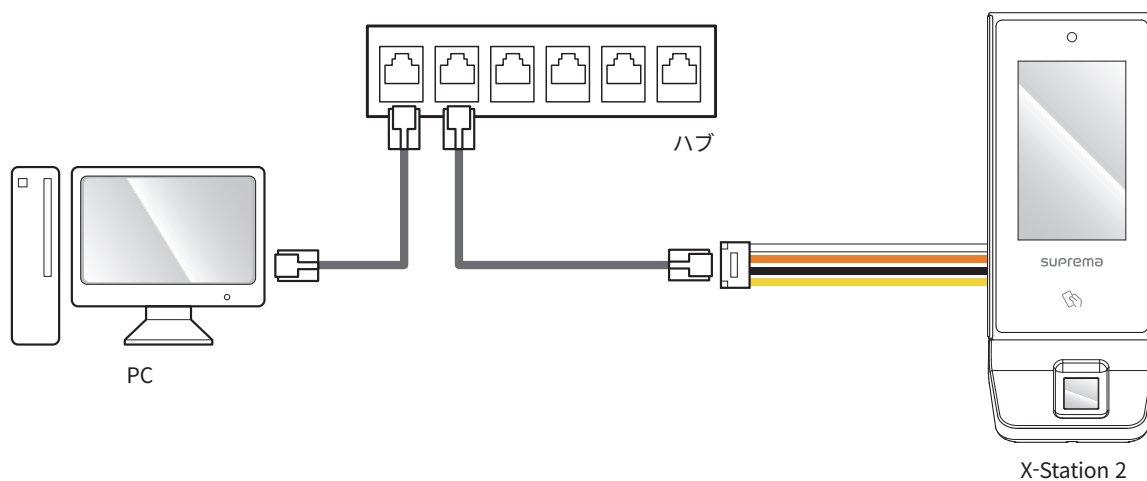
- IEC/EN 62368-1 の認可を受けた、製品の電力消費量以上に対応する電源アダプタを使用してください。別のデバイスを電源アダプタに接続して使用する場合は、端末と別のデバイスに必要な合計の電力消費量以上の電流容量を備えたアダプタを使用してください。
 - 最大消費電流の仕様については、製品仕様の**電源**を参照してください。
- 電源アダプタを使用する場合は、電源ケーブルの長さを延長しないでください。
- Secure I/O 2、電子ロック、および製品ごとに独立した電源を使用してください。これらのデバイスを同じ電源に接続して使用すると、デバイスが正常に機能しない場合があります。
- デバイスを DC 電源 (またはアダプタ) と PoE 電源の両方に同時に接続しないでください。

ネットワーク接続

TCP/IP

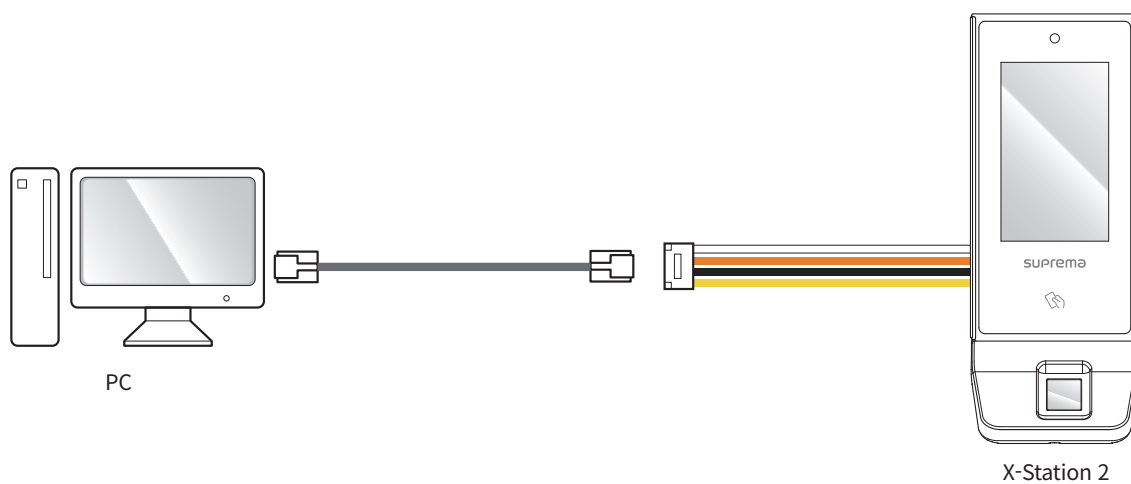
LAN 接続(ハブに接続)

一般的なタイプの CAT-5 ケーブルを使用して、製品をハブに接続できます。

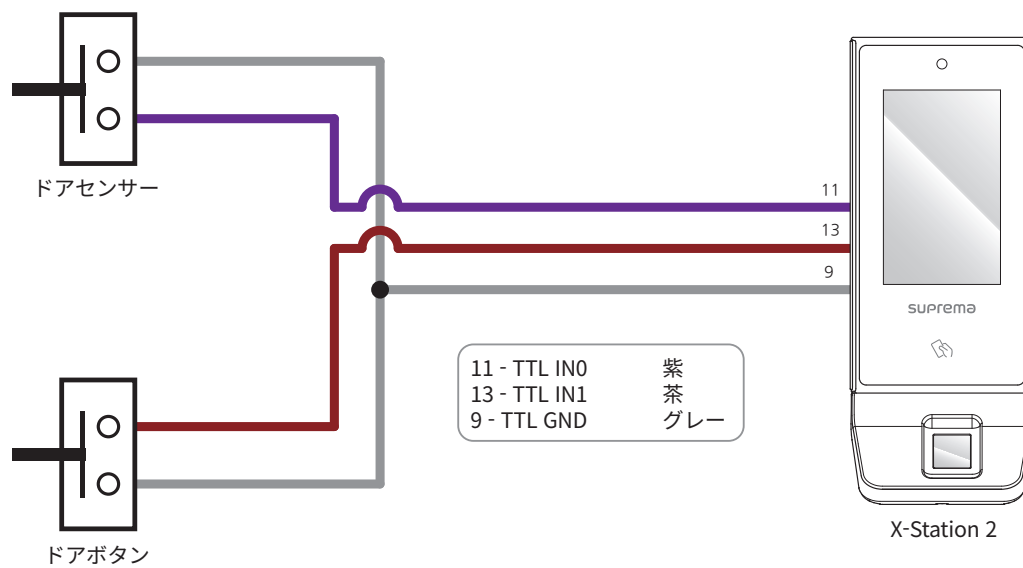


LAN 接続(PC への直接接続)

X-Station 2 には、通常のストレートタイプの CAT-5 ケーブルまたはクロスケーブルを使用して直接 PC に接続できるように、自動 MDI/MDIX 機能が搭載されています。



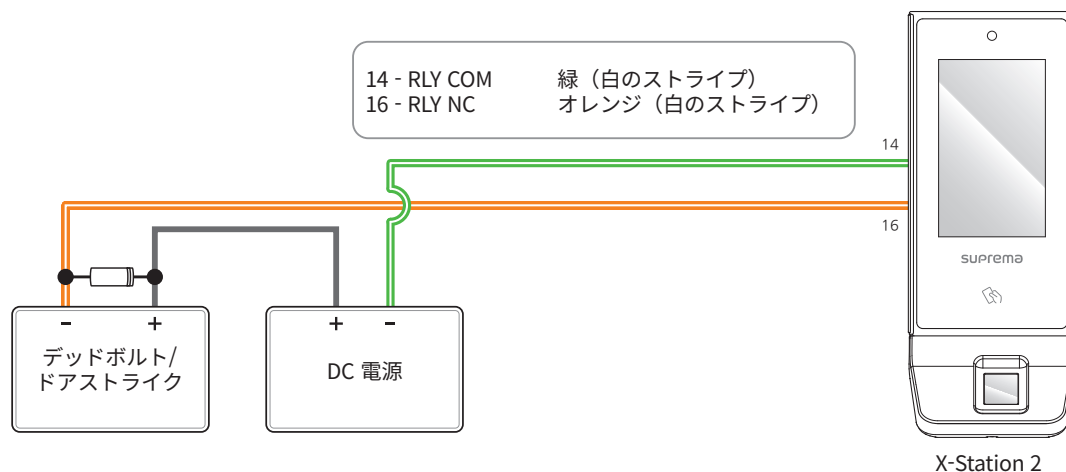
TTL 入力接続



リレー接続

フェールセーフロック

フェールセーフロックを使用するために、下の図のように N/C リレーを接続します。通常、フェールセーフロック用のリレーには電流が流れています。リレーが作動して電流が遮断されると、ドアが開きます。停電や外部の要因のために製品に接続した電源が切断された場合は、ドアが開きます。



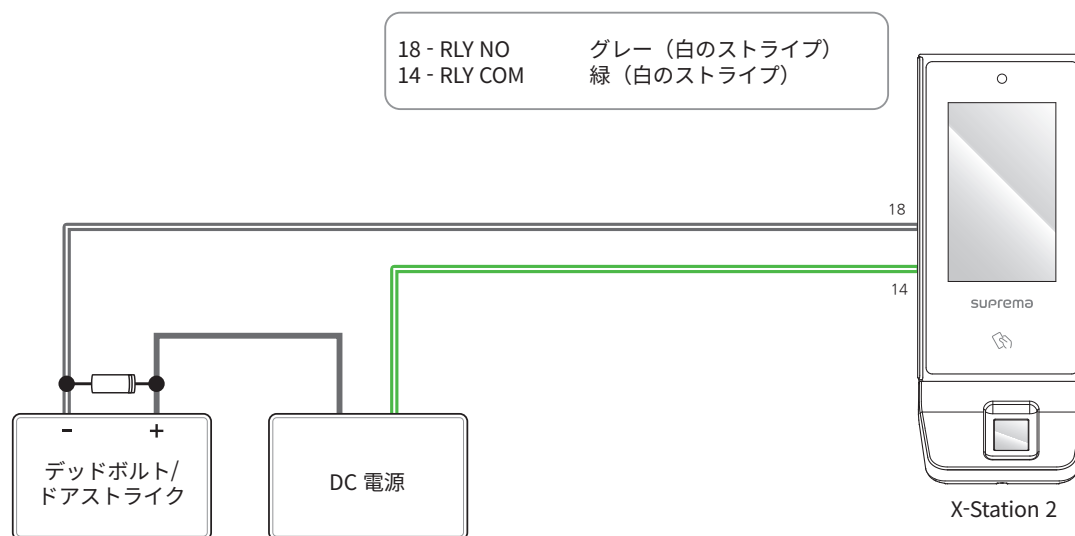
- 図のようにドアロックワイヤーの両側にダイオードを取り付けて、ドアロックの作動時に発生する逆電流からリレーを保護します。
- X-Station 2 とドアロックには別々の電源を使用してください。
- Suprema のスタンドアロン型インテリジェントリーダーには、外部コントローラなしでドアを直接ロック/ロック解除できる内部リレーが搭載されており、利便性が向上しています。ただし、セキュリティを必要とする入退管理の用途では、ドアのロック解除を引き起こす可能性のある改ざん攻撃を防止するため、リーダーの内部リレーの使用はお勧めしません。このような用途では、ドアの安全な側に設置された Suprema の Secure I/O 2、DM-20、CoreStation などのロックコントロールには個別のリレーユニットを使用することを強くお勧めします。



- ダイオードの取り付け方向に注意してください。ダイオードはドアロックの近くに取り付けます。

フェールセキュアロック

フェールセキュアロックを使用するには、下の図のように N/O リレーを接続します。通常、フェールセキュアロック用のリレーに電流は流れていません。電流がリレーによって作動すると、ドアが開きます。停電や外部の要因のために、製品に接続した電源が切断された場合は、ドアがロックします。



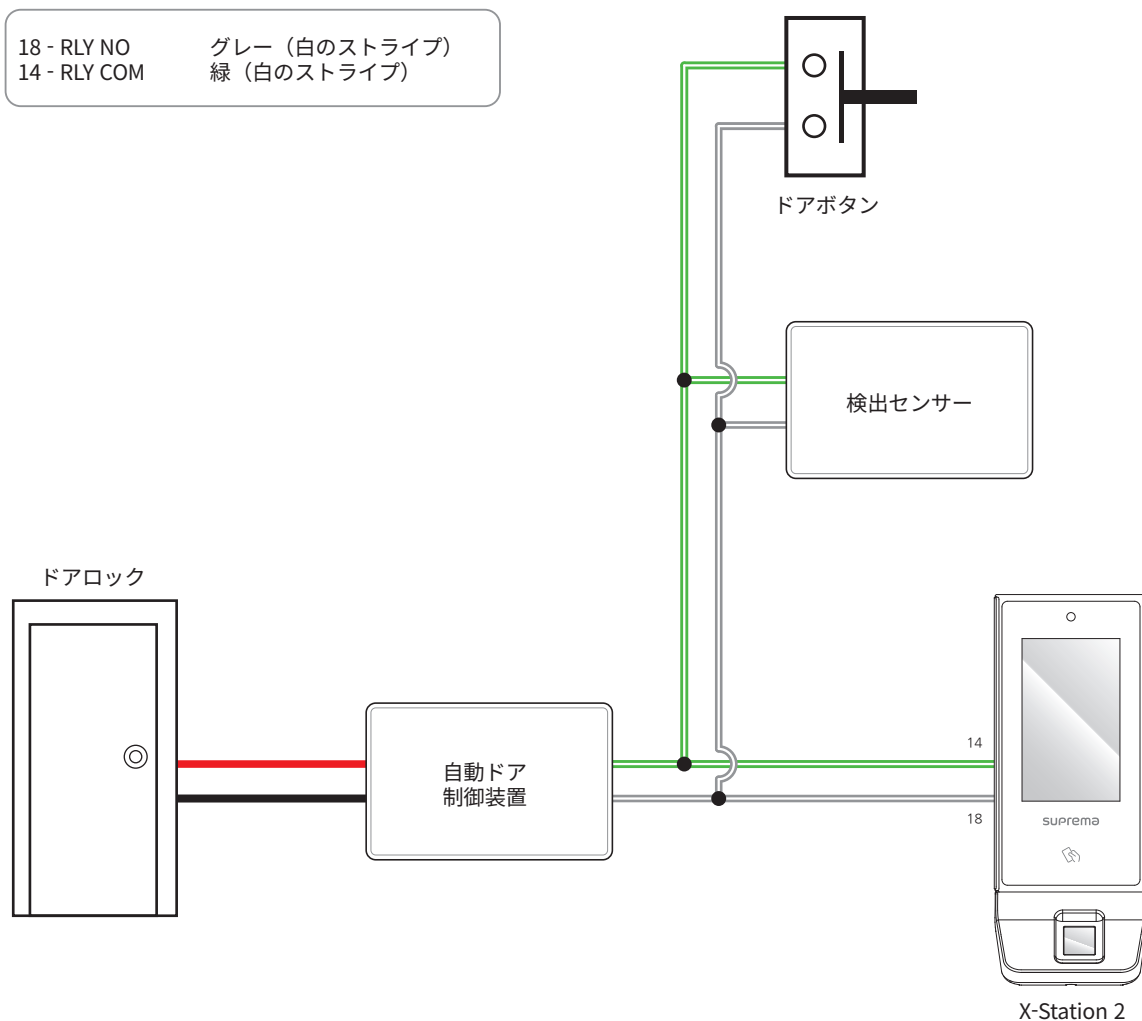
- 図のようにドアロックワイヤーの両側にダイオードを取り付けて、ドアロックの作動時に発生する逆電流からリレーを保護します。
- X-Station 2 とドアロックには別々の電源を使用してください。
- Suprema のスタンドアロン型インテリジェントリーダーには、外部コントローラなしでドアを直接ロック/ロック解除できる内部リレーが搭載されており、利便性が向上しています。ただし、セキュリティを必要とする入退管理の用途では、ドアのロック解除を引き起こす可能性のある改ざん攻撃を防止するため、リーダーの内部リレーの使用はお勧めしません。このような用途では、ドアの安全な側に設置された Suprema の Secure I/O 2、DM-20、CoreStation などのロックコントロールには個別のリレーユニットを使用することを強くお勧めします。



- ダイオードの取り付け方向に注意してください。ダイオードはドアロックの近くに取り付けます。

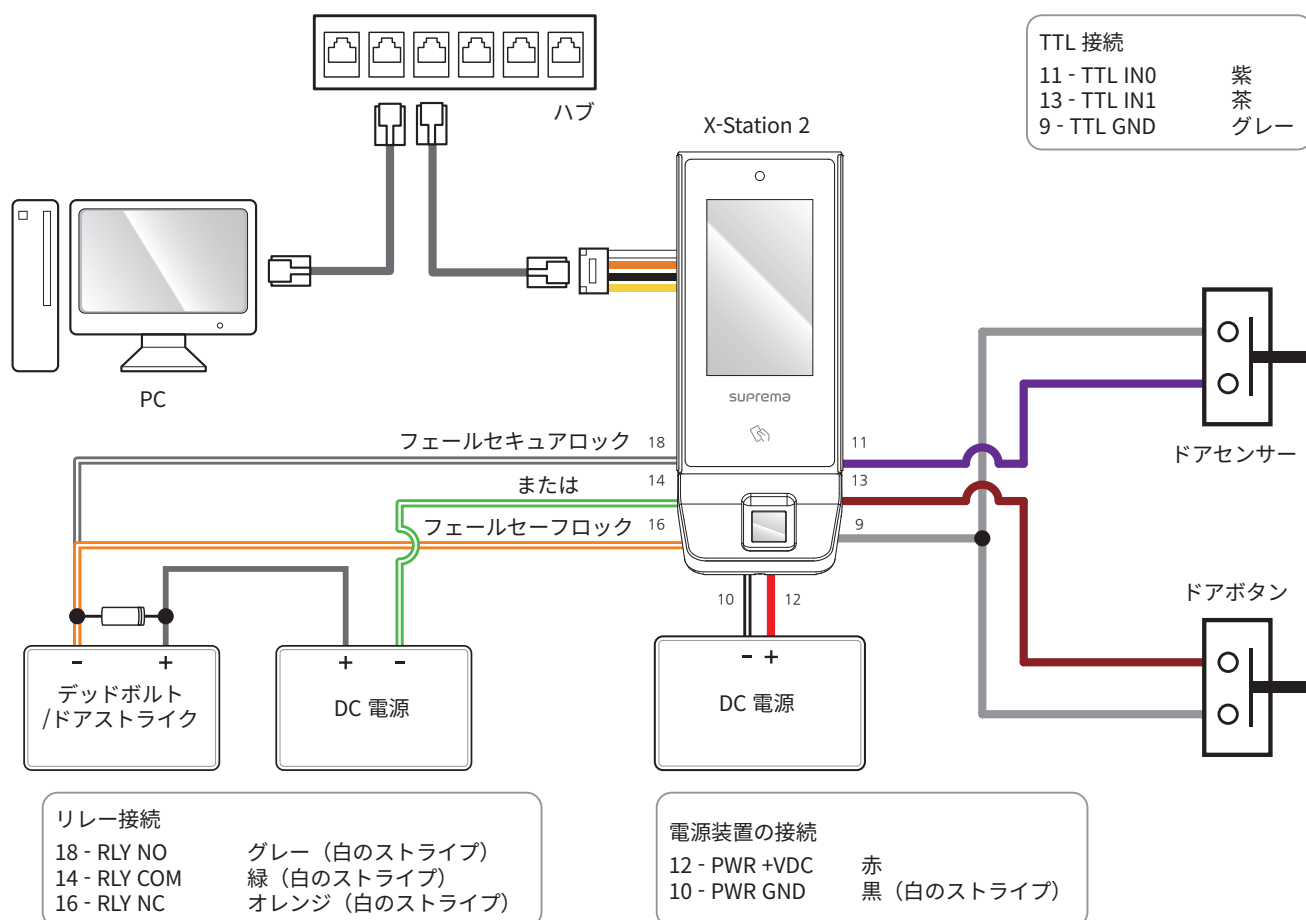
自動ドア接続

18 - RLY NO グレー（白のストライプ）
14 - RLY COM 緑（白のストライプ）



スタンドアロンでの接続

X-Station 2 は、個別の I/O デバイスを接続せずにドアロック、ドアボタン、およびドアセンサーに直接接続できます。



- Suprema のスタンドアロン型インテリジェントリーダーには、外部コントローラなしでドアを直接ロック/ロック解除できる内部リレーが搭載されており、利便性が向上しています。ただし、セキュリティを必要とする入退管理の用途では、ドアのロック解除を引き起こす可能性のある改ざん攻撃を防止するため、リーダーの内部リレーの使用はお勧めしません。このような用途では、ドアの安全な側に設置された Suprema の Secure I/O 2、DM-20、CoreStation などのロックコントロールには個別のリレーユニットを使用することを強くお勧めします。

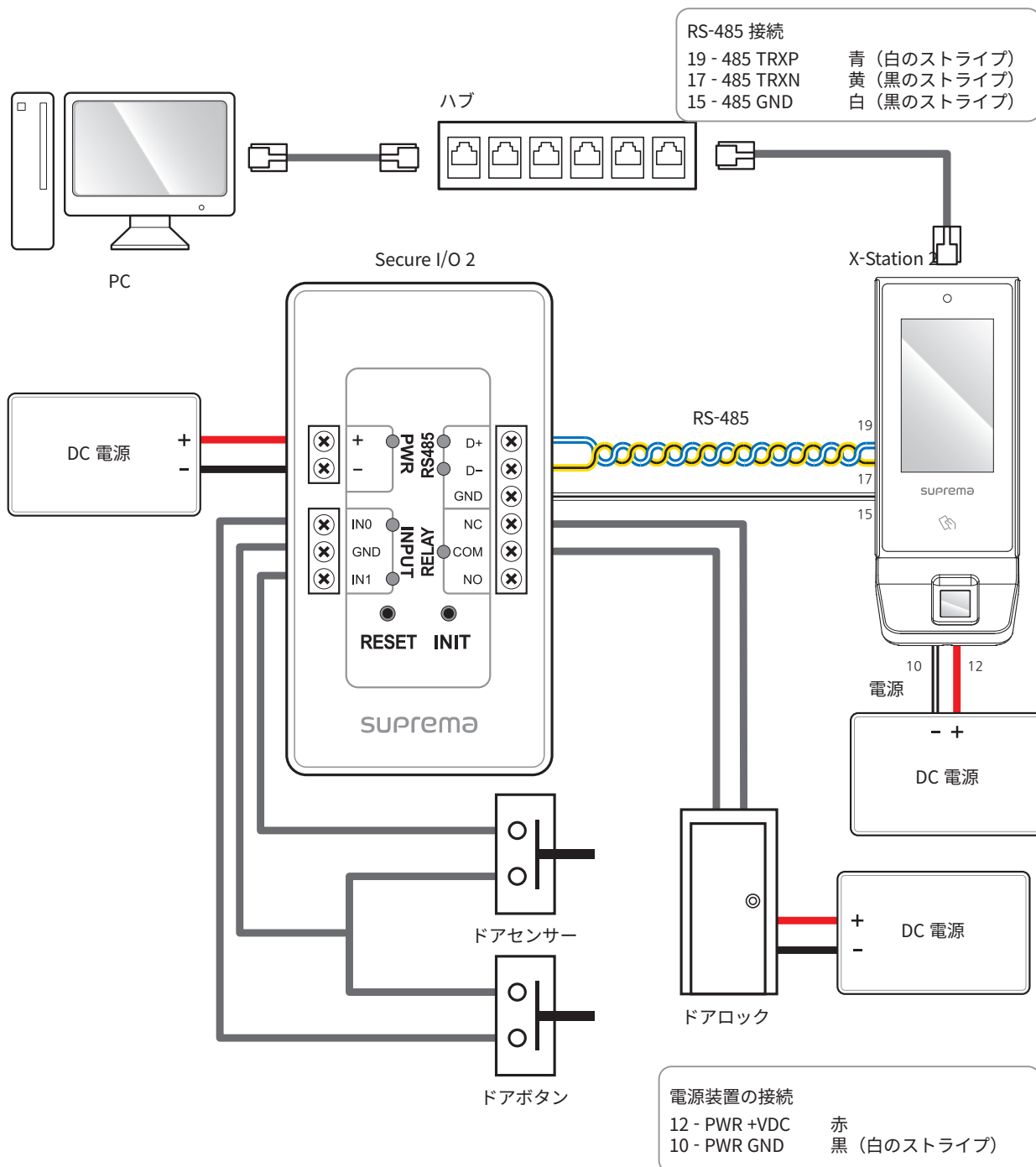


- X-Station 2 は、RS485 ケーブルでスレーブデバイスと接続したマルチドアコントローラとして使用できます。スレーブデバイスはダミーリーダーとして使用され、認証はマスターデバイスで実行されます。
- 詳細については、Suprema 技術サポートチーム (support.supremainc.com) にお問い合わせください。

Secure I/O 2 への接続

Secure I/O 2 は、RS-485 ケーブルで X-Station 2 に接続できる I/O デバイスです。X-Station 2 と Secure I/O 2 の間の接続が失われたり、外部要因により X-Station 2 への電源が切断されたりしても、セキュリティを維持できます。

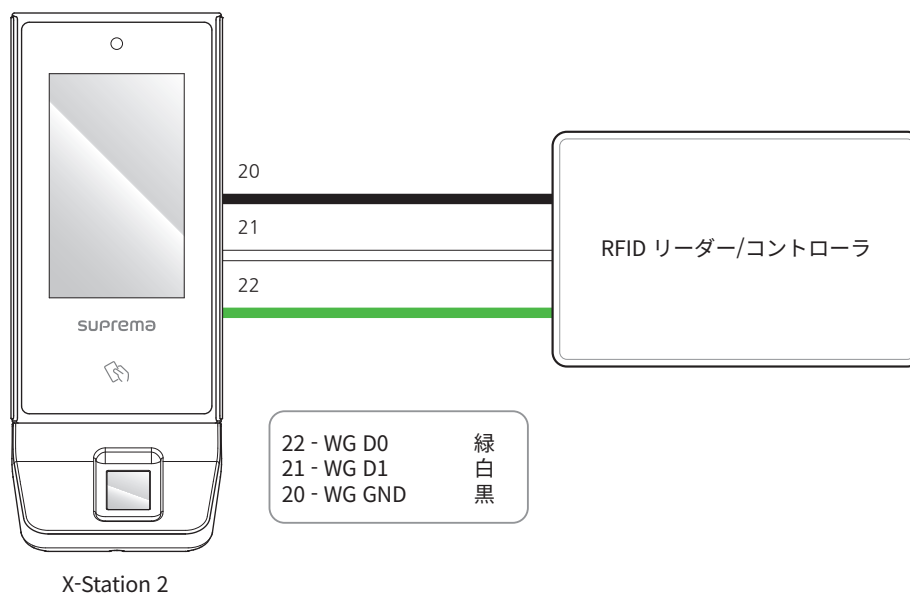
- RS-485 ケーブルには、最大長が 1.2 km の AWG 24 ツストペアを使用します。
- RS-485 のデジターチェーンで接続する場合は、デジターチェーン接続の両端に終端抵抗 (120 Ω) を接続してください。中央の線に接続すると、信号レベルが小さくなり、通信性能が低下します。必ずデジターチェーン接続の両端に接続してください。



- X-Station 2 は、RS485 ケーブルでスレーブデバイスと接続したマルチドアコントローラとして使用できます。スレーブデバイスはダミーリーダーとして使用され、認証はマスターデバイスで実行されます。
- 詳細については、Suprema 技術サポートチーム (support.supremainc.com) にお問い合わせください。

Wiegand 接続

Wiegand 入力または出力デバイスとして使用



製品仕様

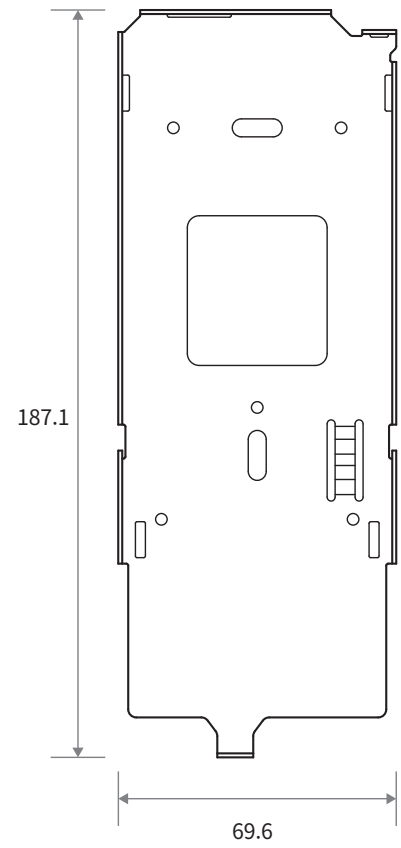
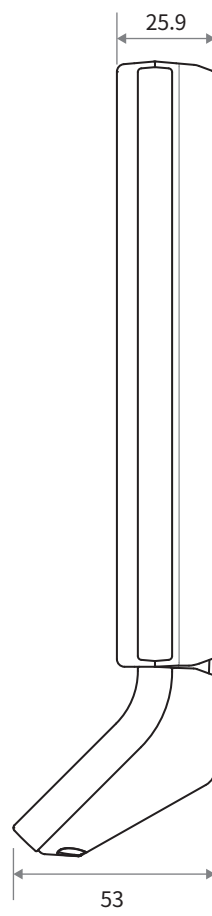
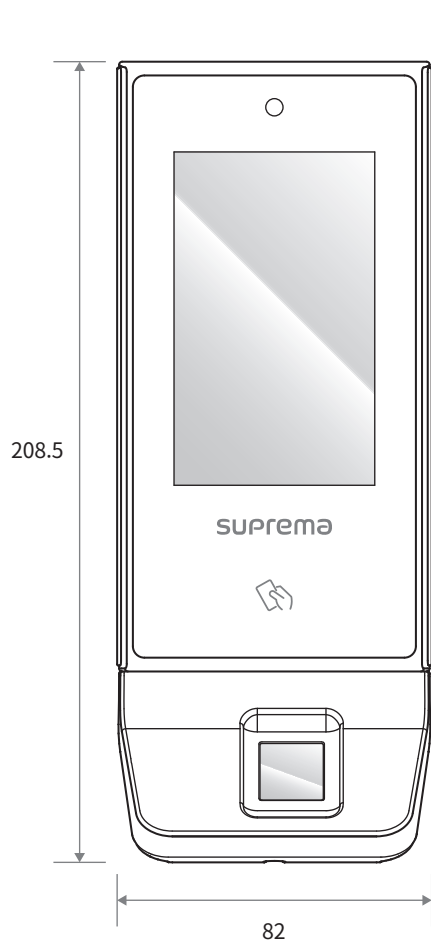
カテゴリ	機能	仕様
認証情報	RF オプション	• XS2-ODPB: 125kHz EM & 13.56MHz MIFARE、MIFARE Plus、DESFire、DESFire EV1/EV2/EV3¹⁾、FeliCa • XS2-OAPB: 125kHz EM、HID Prox & 13.56MHz MIFARE、MIFARE Plus、DESFire、DESFire EV1/EV2/EV3¹⁾、FeliCa、iCLASS SE/SR/Seos
	RF 読み取り範囲 ²⁾	MIFARE/DESFire/iCLASS/HID Prox/EM: 50 mm、Felica: 30 mm
	モバイル	NFC、BLE
	スクランブルキーパッド (PIN)	サポート対象
	QR/バーコード ³⁾	サポート対象 ⁴⁾
全般	CPU	1.5 GHz 4 コア
	メモリ	16 GB Flash + 1 GB RAM
	クリプトチップ	サポート対象
	LCD タイプ	4 インチ IPS カラー LCD
	LCD 解像度	480 x 800
	サウンド	24 ビット
	動作温度	-20 °C ~ 50 °C
	保管温度	-40 °C ~ 70 °C
	動作湿度	0 % ~ 80 %、結露しないこと
	保管湿度	0 % ~ 90 %、結露しないこと
	カメラのタイプ	CMOS 2M ピクセル
	カメラ解像度	1600 x 1200
	寸法 (W x H x D)	82 x 208.5 x 53 (下) / 25.9 (上) (mm)
	重量	• デバイス: 375 g • ブラケット: 86 g (ワッシャーとボルトを含む)
	IP 等級	IP65
	証明書	CE、UKCA、KC、FCC、IC、RCM、BIS、ANATEL、SIG、RoHS、REACH、WEEE
指紋	画像寸法	300 x 400 ピクセル
	解像度	500 dpi
	テンプレート	SUPREMA / ISO19794-2、ANSI-378
	エクストラクタ/マッチャー	MINEX 認定および準拠
	センサー証明書	FBI PIV および FBI モバイル ID FAP20
	偽造指紋検出	サポート対象 (SW ベース)
容量	最大ユーザー数	500,000 ⁵⁾
	最大クレデンシャル (1:N)	指紋: 100,000
	最大クレデンシャル (1:1)	• 指紋: 500,000 • カード: 500,000 • PIN: 500,000
	テキストログの最大数	5,000,000
	画像ログの最大数	50,000

カテゴリ	機能	仕様
インターフェイス	イーサネット	サポート対象 (10/100 Mbps、自動 MDI/MDI-X)
	RS-485	1 チャンネルホストまたはスレーブ (選択可能)
	Wiegand	1 チャンネル入力または出力 (選択可能)
	TTL 入力	2 チャンネル入力
	リレー	リレー 1
	USB	USB 2.0 (ホスト)
	PoE	サポート対象 (IEEE 802.3af 互換)
	タンパー	サポート対象
電気関連	電源	- 電圧: 12 Vdc - 電流: 最大 0.8 A
		- 電圧: 24 Vdc - 電流: 最大 0.5 A
	スイッチ入力 VIH	- 最小: 3 V - 最大: 5 V
	スイッチ入力 VIL	最大: 1 V
	スイッチプルアップ抵抗	4.7 k Ω (入力ポートは 4.7 k Ω でプルアップする)
	Wiegand 出力 VOH	4.8 V 以上
	Wiegand 出力 VOL	0.2 V 未満
	Wiegand 出力プルアップ抵抗	1 k Ω の内部プルアップ
	リレー	2 A @ 30 VDC 抵抗負荷 1 A @ 30 VDC 誘導負荷

- 1) DESFire EV2/EV3 カードは、DESFire EV1 カードとの下位互換性によりサポートされています。CSN およびスマートカード機能は、X-Station 2 と互換性があります。
- 2) RF 読み取り範囲は、設置環境によって異なります。
- 3) 最大 32 個の ASCII コードの列で構成される QR/バーコードをサポートします。
- 4) 別途ライセンスが必要です。
- 5) 認証情報データなしで登録されたユーザーの数です。

寸法

(単位: mm)



FCC 準拠情報

このデバイスは、FCC 規則第 15 部に準拠しています。

動作は、次の 2 つの条件に従います。

- (1) このデバイスは、有害な電波干渉を引き起こしてはなりません。また、
- (2) このデバイスは、望ましくない動作を引き起こす可能性のある電波干渉を含め、受信したあらゆる電波干渉を許容する必要がある場合があります。



この装置は、FCC 規則の第 15 部に従って、クラス A デジタルデバイスの制限に準拠していることがテストおよび確認されています。これらの制限は、居住地域での設置において有害な電波干渉から適切に保護するためのものです。この装置は、無線周波エネルギーを生成、使用、および放射する可能性があり、指示に従って設置および使用しないと、無線通信に有害な電波干渉が発生することがあります。ただし、特定の設置で電波干渉が発生しないことを保証するものではありません。この装置のオフとオンを切り替えてみて、この装置によってラジオやテレビなどの受信に有害な電波干渉が発生することが判明した場合は、次の方法で電波干渉を解消してみてください。

- 受信アンテナの方向や場所を変更する。
- 装置と受信機の位置を離す。
- 受信機が接続されている回路とは別の回路のコンセントに機器を接続する。
- 販売店や、ラジオまたはテレビの経験豊富な技術者に相談する。

製造元によって明示的に承認されていない変更を行った場合、FCC 規則に基づき、ユーザーの装置を操作する権限が無効になる場合があります。

- この機器とそのアンテナを、他のアンテナや送信機と一緒に設置または操作しないでください。
- RF 被曝の要件を満たすため、アンテナとこの機器の使用者の間隔を 20 cm 以上空ける必要があります。

EU 適合宣言 (CE)

本製品は、RED (Radio Equipment Directive) 2014/53/EU の規定に従って CE マークが添付されています。Suprema Inc. はこれによって、本製品が RED (Radio Equipment Directive) 2014/53/EU の必須要件およびその他の関連規定に準拠していることを宣言します。

- Bluetooth 出力: -0.1 dBm
- Bluetooth 周波数: 2402~2480 MHz
- NFC 周波数: 13.56 MHz
- RFID 周波数: 13.56 MHz + 125 kHz

詳細については、次の連絡先にお問い合わせください。

Suprema Inc.

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付録

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Version 3, 29 June 2007

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