

Door Interface

設置ガイド

バージョン 1.00

日本語

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目次

安全にお使いいただくために 2

指示アイコン	2
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はじめに 4

部品	4
各部品の名前と機能	5

設置 11

電源接続	12
RS-485 接続	13
リレー	14
フェールセーフロック	14
フェールセキュアロック	15
Wiegand IN	15
ドアセンサーおよび Exit ボタン	16
AUX IN	16

製品仕様 17

寸法	18
----	----

FCC 準拠情報 19

付録 20

免責事項	20
著作権表示	21
オープンソースライセンス	21
GNU General Public License	22
GNU Lesser General Public License	30
OpenSSL License	33
Original SSLeay License	34

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恐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恐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ています。



警告

設置

大容量電源を使用する場合は、誤配線に特に注意してください。

- 配線を誤ると、重大な火災、感電、または製品の損傷を引き起こす恐れがあります。

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恐れがあります。
- 改造または取り付け手順に従わないことにより破損が生じた場合は、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恐れがあります。

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恐れがあります。

本製品は、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恐れがあります。

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恐れがあります。

取り扱い

本製品は乾燥した状態を保ってください。

- 湿気や液体は感電、火災、または製品の損傷につながる恐れがあります。

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恐れがあります。

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恐れがあります。



注意

設置

製品を設置する前にこのマニュアルをお読みになり、安全で正しい設置を行うようにしてください。

電源ケーブルやその他のケーブルを配線するときは、すべてのデバイスの電源を切った状態で接続してください。

- 装置の誤動作や故障につながるおそれがあります。

マニュアルをダブルチェックして、正しく配線されていることを確認してから、製品に電源を接続してください。

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、変形につながる恐れがあります。

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。

- 怪我や製品の損傷につながる恐れがあります。

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。

- 本製品が故障する恐れがあります。

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。

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。

- 本製品が故障する恐れがあります。

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。

- 本製品が故障する恐れがあります。

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 0 °C～50 °C の温度でを使用することをお勧めします。

- 本製品が故障する恐れがあります。

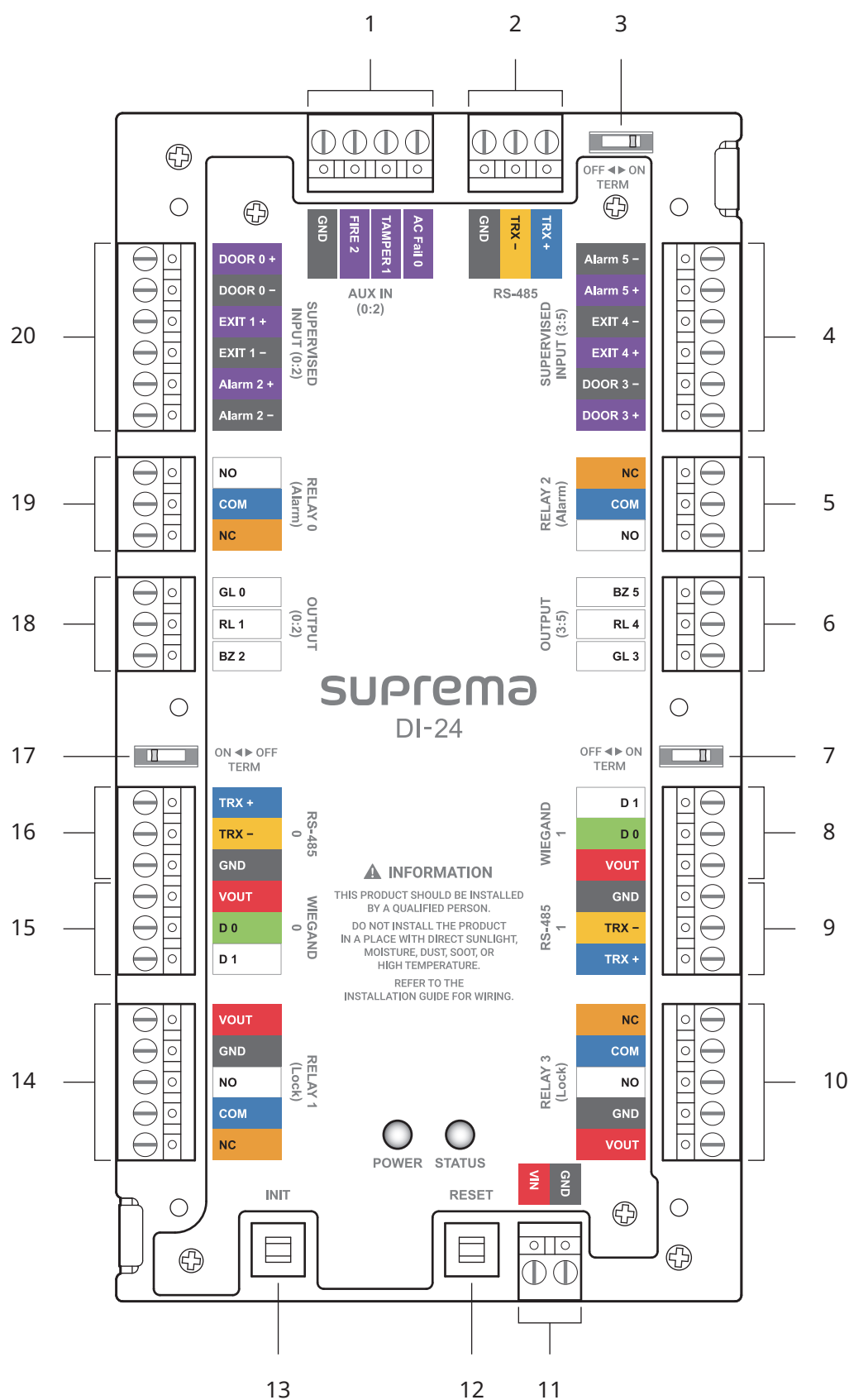
本製品を清掃する際は、次の点に注意してください。

- 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、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。

- 本製品が故障する恐れがあります。

各部品の名前と機能



番号	名前
1	AUX IN (0:2) 接続
2	RS-485 接続
3	RS-485 終端抵抗スイッチ
4	SUPERVISED INPUT (3:5) または Input (3:5) 接続
5	RELAY 2 (Alarm) 接続
6	OUTPUT (3:5) 接続
7	RS-485 1 終端抵抗スイッチ
8	WIEGAND 1 接続
9	RS-485 1 接続
10	RELAY 3 (Lock) 接続
11	Door Interface 電源接続 (DC 12 V/DC 24 V IN)
12	RESET ボタン
13	INIT ボタン
14	RELAY 1 (Lock) 接続
15	WIEGAND 0 接続
16	RS-485 0 接続
17	RS-485 0 終端抵抗スイッチ
18	OUTPUT (0:2) 接続
19	RELAY 0 (Alarm) 接続
20	SUPERVISED INPUT (0:2) または Input (0:2) 接続



- デバイスに現在リンクされている Door Interface を初期化し、別のデバイスに接続するには、INIT ボタンを 2 秒以上押し続けます。
- RESET ボタンを押して、デバイスを再起動します。
- Door Interface とリーダーが接続されている場合、Door Interface のリーダー電源出力 (DC 12 V、最大 0.6 A / DC 24 V、最大 0.3 A) をリーダーの電源として使用できます。DC 12 V 電源出力に基づいて、それぞれ 0.3 A を消費する最大 2 台のリーダーを接続できます。

Door Interface のステータス LED

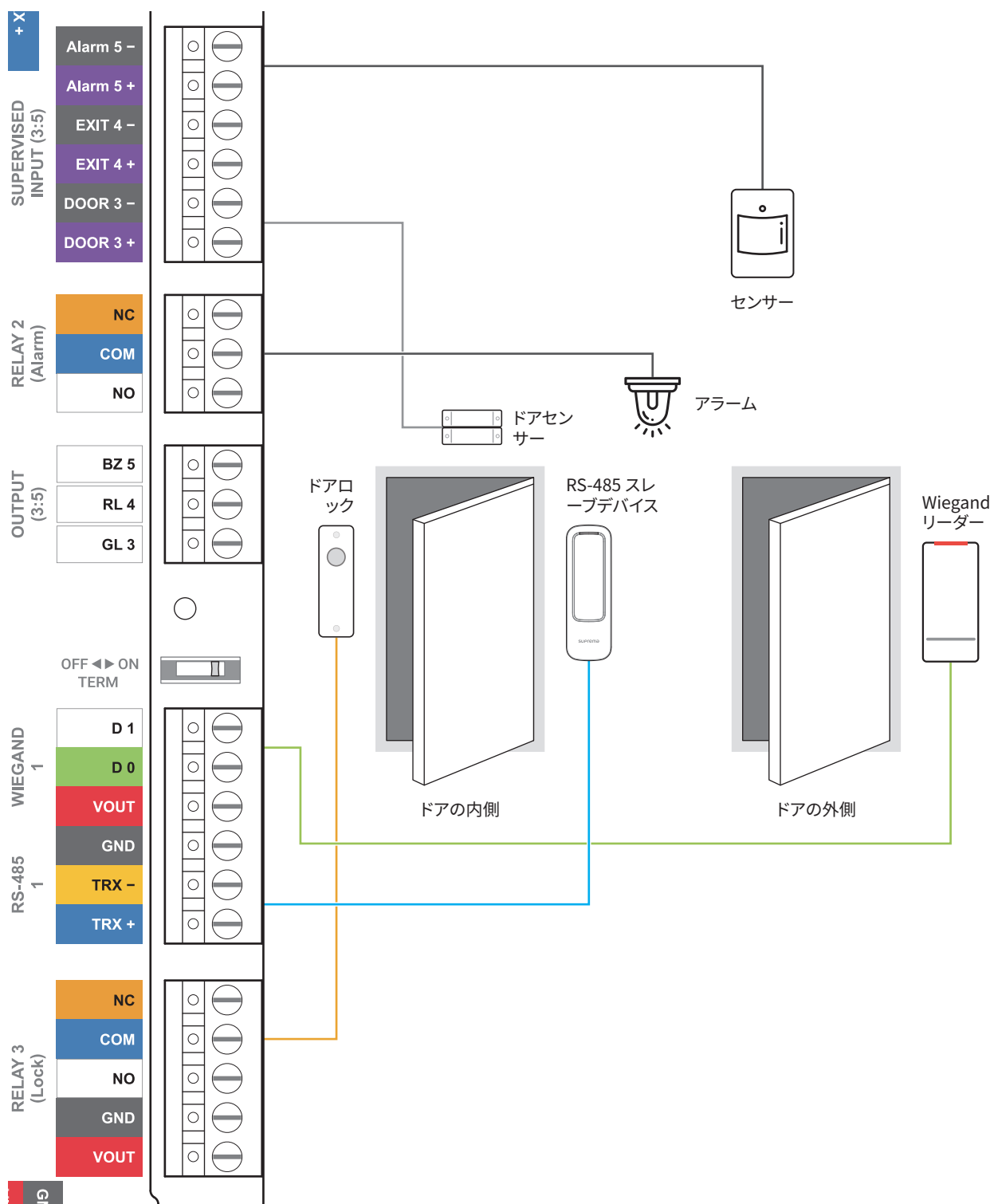
Door Interface のステータスは、製品の前面ユニットの右側にある STATUS で確認できます。このステータス LED は、RS-485、RS-485 0、RS-485 1、およびシステムのステータスを、それぞれ順に 1 秒間ずつ表示します。

機能	LED	ステータス
RS-485	マゼンタ色と青色で点滅	マスターデバイスは正常。
	マゼンタ色と黄色で点滅	マスターデバイスの接続が切れている。
RS-485 0	黄色と青色で点滅	スレーブデバイスは正常。
	黄色と黄色で点滅	スレーブデバイスの接続が切れている。
	黄色と赤色で点滅	スレーブデバイスなし。
RS-485 1	緑色と青色で点滅	スレーブデバイスは正常。
	緑色と黄色で点滅	スレーブデバイスの接続が切れている。
	緑色と赤色で点滅	スレーブデバイスなし。
システム	白色と白色で点滅	システムロック (BioStar 2 のトリガーとアクションによる) + タンパーオン
	白色とマゼンタ色で点滅	システムロック (デバイスのトリガーとアクションによる) + タンパーオン
	白色と青色で点滅	タンパーオン
	白色とスカイブルー色で点滅	BioStar 2 への接続に成功 + タンパーオン
	白色と緑色で点滅	BioStar 2 への接続に成功
	白色と黄色で点滅	システムロック (BioStar 2 のトリガーとアクションによる)
	白色と赤色で点滅	システムロック (デバイスのトリガーとアクションによる)

設置例

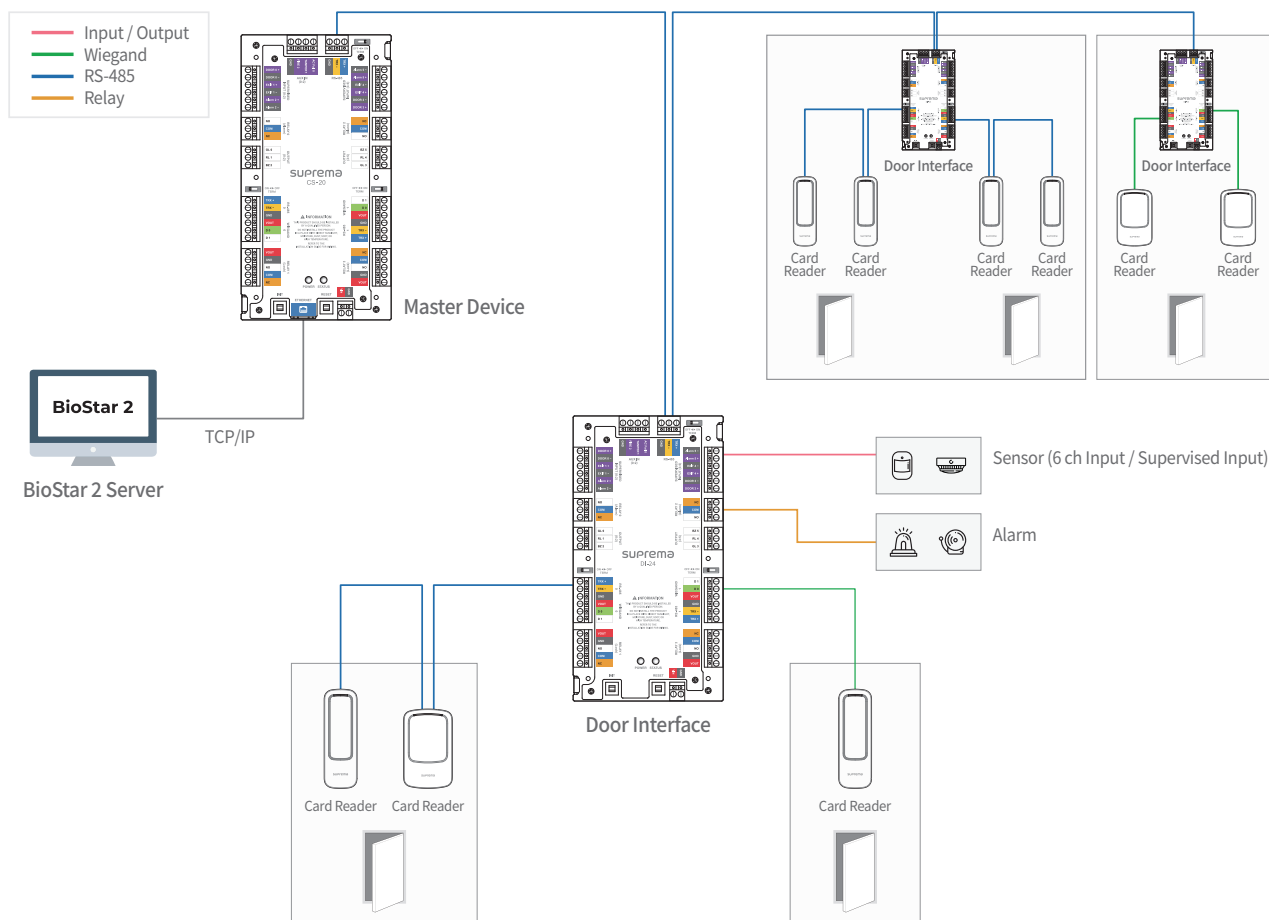
Door Interface は、最大 2 つの扉を簡単に構成できる拡張モジュールです。

BioStar 2 との連携により、入退管理および勤怠管理の両方で利用することができます。また、RS-485 (OSDP)、Wiegand、スーパーバイズド入力、AUX を含むさまざまなインターフェイスが提供されます。



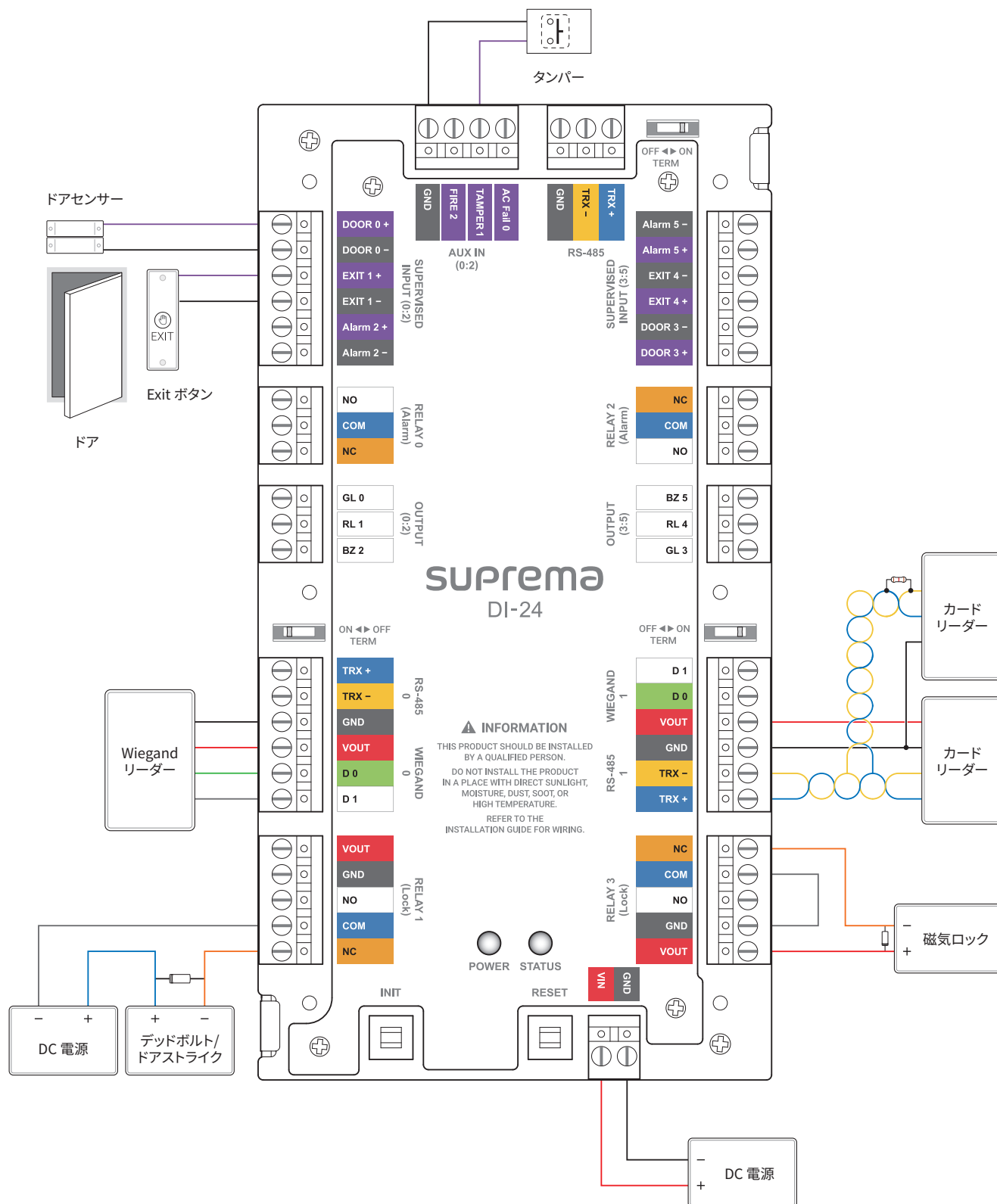
システム図

Door Interface は 3 つの RS-485 ポートをサポートしており、複数の Door Interface をマスターデバイスにデジチェーン接続すると、最大 34 の扉を構成できます。



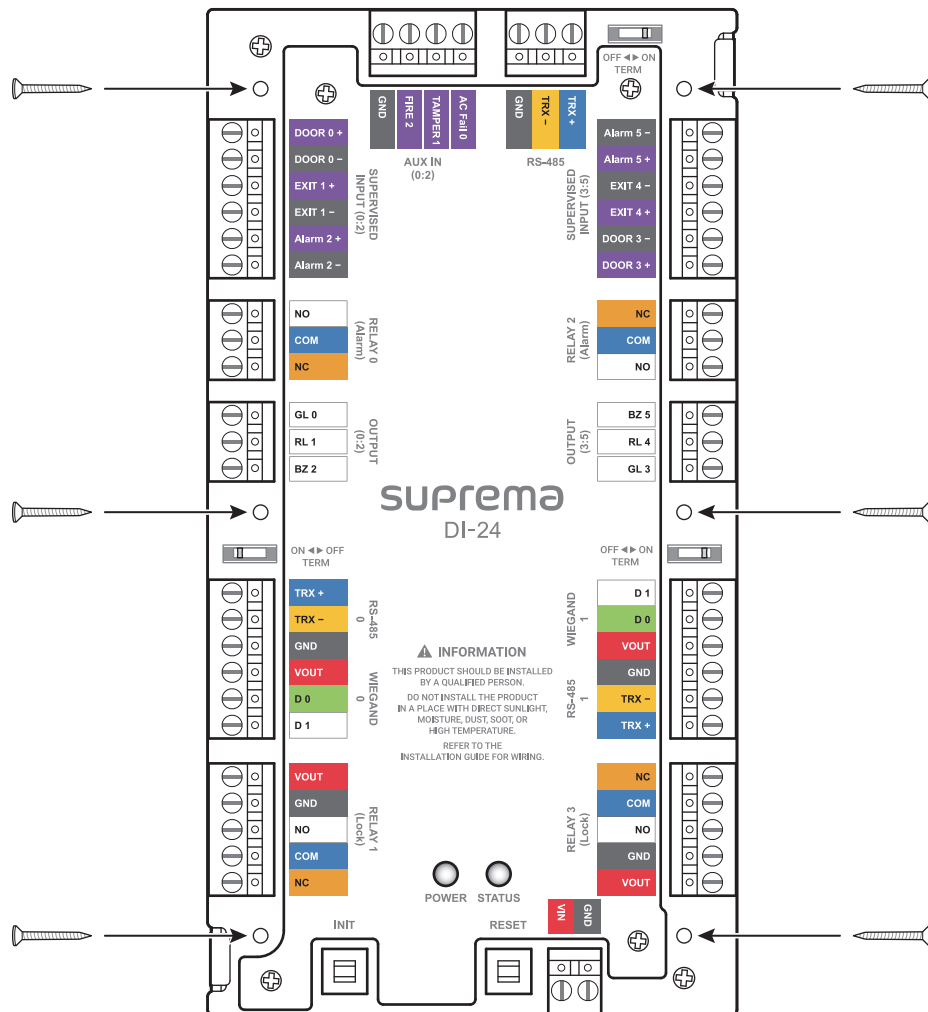
- RS-485 0 および RS-485 1 ポートには、各ポートごとに最大 2 台のデバイスを接続できます。
- 1 つの RS-485 ポートに 3 台以上のデバイスが接続されている場合、スレーブデバイスを検索する際に、目的のデバイスが接続可能なリストに表示されないことがあります。
- Door Interface がマスターデバイスのホストポートにスレーブとして接続されている場合、マスターデバイスとの接続が失われても、Door Interface に接続されているスレーブデバイスは、オフライン用のファシリティコードを使用、識別し、ドアをロック解除できます。

接続の全体図

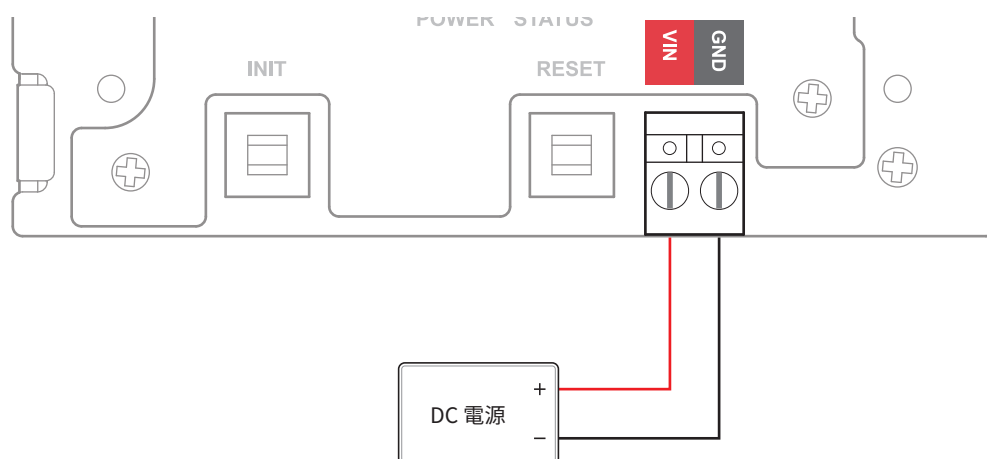


設置

付属の固定ねじを使用して、Door Interface を設置位置にしっかりと固定します。



電源接続



- リーダーと Door Interface には、必ず個別の電源を使用してください。
- 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。



停電を防ぐため、無停電電源装置 (UPS) を接続して使用することをお勧めします。

リーダーと電源タイプによるロックの電源仕様

電源	リーダー (最大電流、デバイス数)	ロック (最大電流、デバイス数)
DC 12 V	600 mA (300 mA x 2 ユニット)	1.2 A (600 mA x 2 ユニット)
DC 24 V	300 mA (150 mA x 2 ユニット)	600 mA (300 mA x 2 ユニット)

ケーブル仕様別の最大延長長

接続距離は、ケーブル仕様や設置環境によって異なる場合があります。不適切な接続はデバイスの誤動作を引き起こす可能性があるため、適切に設置してください。Door Interface は DC 12 V、DC 24 V に対応しているため、各ケーブル仕様ごとの最大延長長を確認し、適切な電源接続を行ってください。

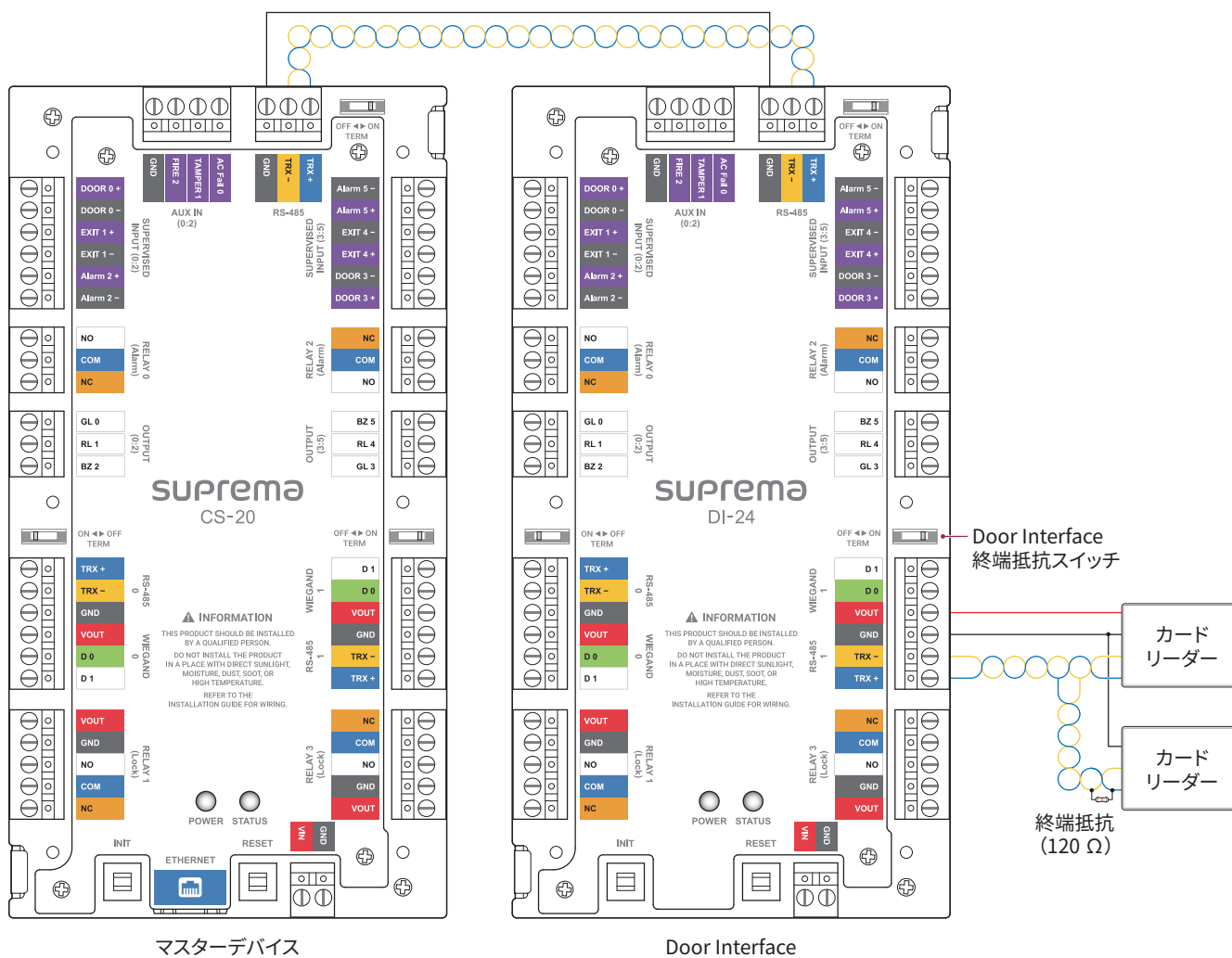
ケーブル規格	DC 12 V		DC 24 V	
	リーダー (300 mA)	ロック (600 mA)	リーダー (150 mA)	ロック (300 mA)
14 AWG	380 m	190 m	1540 m	770 m
16 AWG	240 m	120 m	960 m	480 m
18 AWG	150 m	75 m	600 m	300 m

RS-485 接続

Door Interface は 3 つの RS-485 ポートをサポートしており、複数の Door Interface をマスターデバイスにデジチェーン接続すると、最大 34 の扉を構成できます。



- Door Interface の RS-485 ポートに接続できるスレーブデバイスの最大数は 4 台です。
- RS-485 0 および RS-485 1 ポートには、各ポートごとに最大 2 台のデバイスを接続できます。
- 1 つの RS-485 ポートに 3 台以上のデバイスが接続されている場合、スレーブデバイスを検索する際に、目的のデバイスが接続可能なリストに表示されないことがあります。



- RS-485 ワイヤのサイズは 26 AWG を超えているものとし、すべての配線が National Electrical Code、ANSI/NFPA 70 に準拠する必要があります。
- RS-485 ケーブルには、最大長が 1.2 km の AWG 24 ツイストペアを使用します。
- 終端抵抗 (120 Ω) を RS-485 デジチェーン接続の両端に接続します。中央の線に接続すると、信号レベルが弱くなり、通信性能が低下します。必ずデジチェーン接続の両端に接続してください。Door Interface の終端スイッチ (TERM) をオンに設定します。

リレー

Door Interface には、次の 2 種類のリレーポートがあります。アラームとロック。それぞれ特定の目的に使用できます。

- **Alarm:** 警告灯、サイレン、ブザーなどの警告音や侵入アラートを生成するデバイスに接続できます。
- **Lock:** 電動ストライクロックや磁気ロックなど、ドアのロックやロック解除を行うための装置に接続できます。



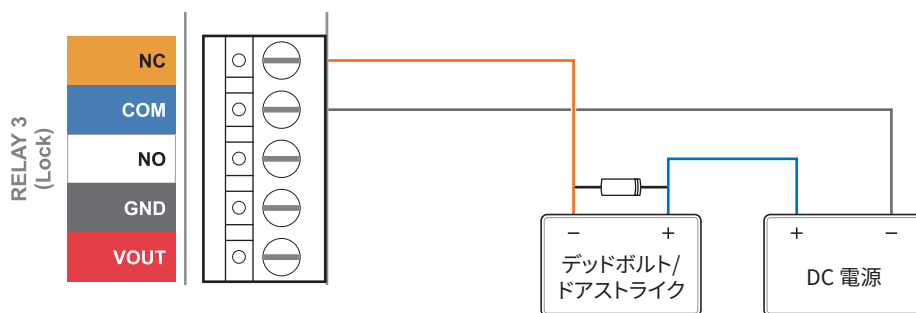
磁気ロックを使用する場合は、ロック電源を直接接続します。

フェールセーフロック

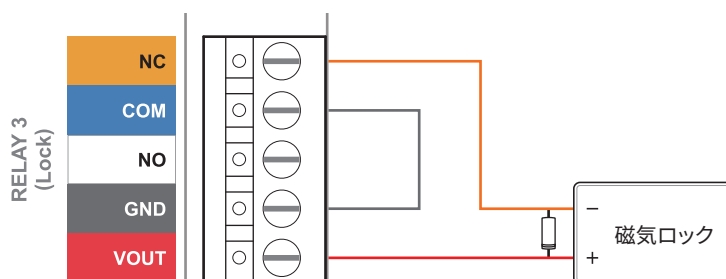
フェールセーフロックを使用するために、下の図のように **NC** リレーを接続します。通常、フェールセーフロック用のリレーには電流が流れています。リレーが作動して電流が遮断されると、ドアが開きます。停電や外部の要因のために製品に接続した電源が切断された場合は、ドアが開きます。



図のようにドアロックワイヤの両側付近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。ダイオードの方向に注意しながら、陰極(ストライプの方向)を電源の + 部分に接続してください。



磁気ロックを使用する場合は、下図に示すように、ロック電源をロックポートの **GND** と **VOUT** に直接接続します。



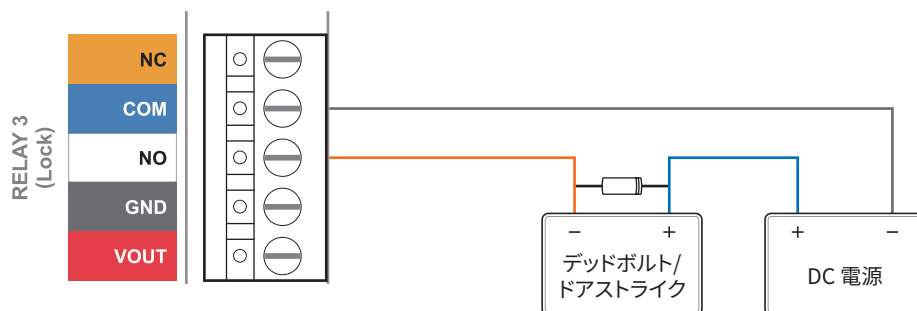
ロック電源を直接接続する場合は、磁気ロックのみ使用できます。

フェールセキュアロック

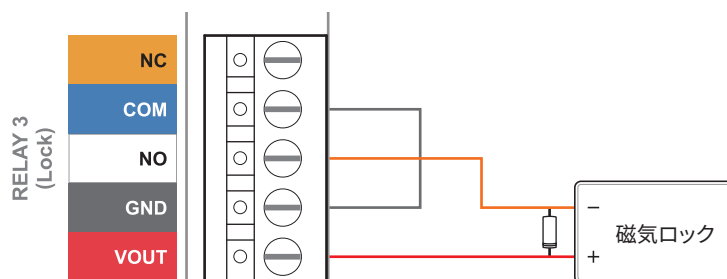
フェールセキュアロックを使用するために、下の図のように **NO** リレーを接続します。通常、フェールセキュアロック用のリレーには電流が流れていません。電流がリレーによって作動すると、ドアが開きます。停電や外部の要因のために、製品に接続した電源が切断された場合は、ドアがロックします。



図のようにドアロックワイヤの両側付近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。ダイオードの方向に注意しながら、陰極(ストライプの方向)を電源の + 部分に接続してください。

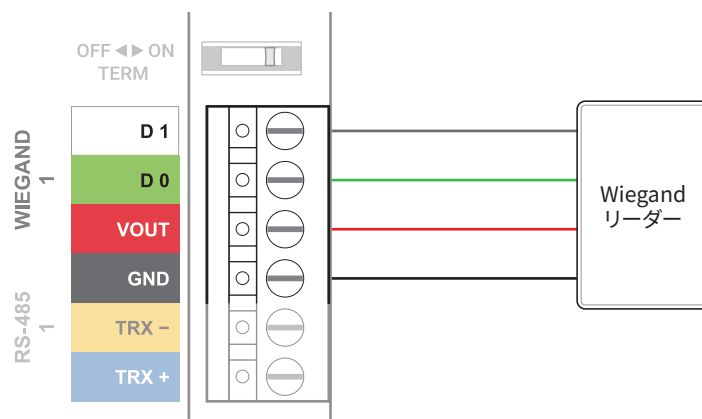


磁気ロックを使用する場合は、下図に示すように、ロック電源をロックポートの **GND** と **VOUT** に直接接続します。



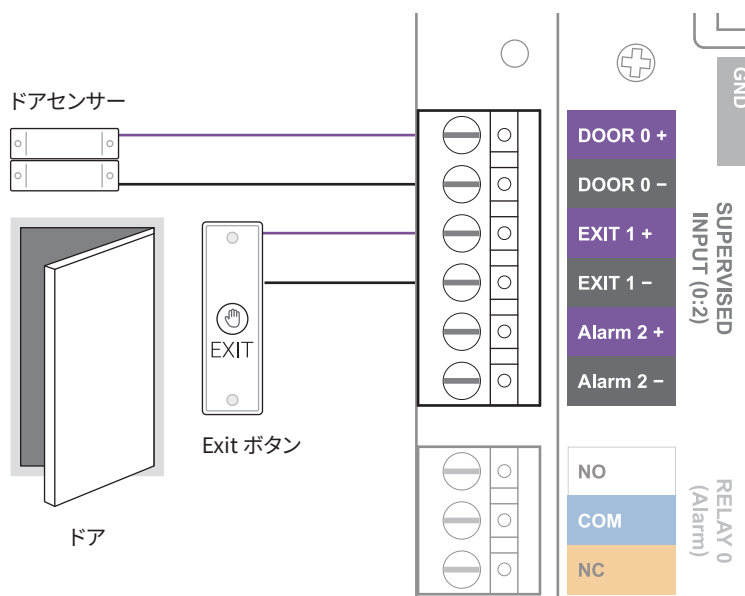
ロック電源を直接接続する場合は、磁気ロックのみ使用できます。

Wiegand IN



ドアセンサーおよび Exit ボタン

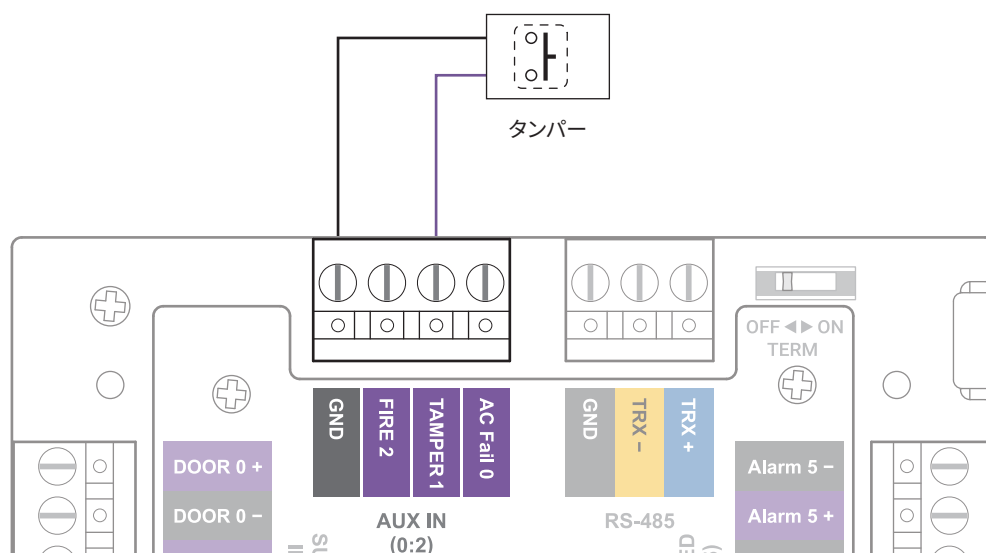
SUPERVISED INPUT ポート No. 0～5 は、通常の入力またはスーパーバイズド入力に使用するように設定できます。



SUPERVISED INPUT **Alarm** ポートは、1 k Ω 、2.2 k Ω 、4.7 k Ω 、または10 k Ω の抵抗器を接続することで使用できます。接続の入力装置に対応する抵抗器を接続した後、BioStar 2 で同じ抵抗値を設定します。

AUX IN

電力障害検出器、タンパー、または火災検出器を AUX IN ポートに接続できます。



製品仕様

カテゴリ	機能	仕様
全般	モデル	DI-24
	CPU	1.2 GHz 1 コア
	メモリー	4 GB フラッシュ + 256 GB RAM
	暗号チップ	サポート対象
	LED	• POWER - 赤単色 • STATUS - マルチカラー
	動作温度	0 °C ~ 50 °C
	保管温度	-40 °C ~ 70 °C
	動作湿度	0 % ~ 80 % (結露なきこと)
	保管湿度	0 % ~ 95 % (結露なきこと)
	動作環境条件	0 °C ~ 49 °C
	寸法 (W x H x D)	100 x 190 x 33.9 (mm)
	重量	279 g
	証明書	CE, UKCA, KC, FCC, RCM, IC, RoHS, REACH, WEEE, EAC
容量	テキストログの最大数	400
インターフェイス	RS-485	3 チャンネル
	RS-485 通信プロトコル	OSDP V2 準拠
	Wiegand	2 チャンネル
	リレー	リレー 4
	Input	6 チャンネル ¹⁾
	出力	6 チャンネル
	スーパーバイズド入力	6 チャンネル ¹⁾
	AUX 入力	3 チャンネル (AC 電源の停止、タンパー、火災)
電気関連	電源	• 電圧: 12 Vdc • 電流: 最大 2.8 A
		• 電圧: 24 Vdc • 電流: 最大 1.4 A
	電源出力	12 Vdc
		• リーダー: 最大 0.6 A (0.3 A x 2) • ロック: 最大 1.2 A (0.6 A x 2)
		24 Vdc
		• リーダー: 最大 0.3 A (0.15 A x 2) • ロック: 最大 0.6 A (0.3 A x 2)
	スイッチ入力 VIH	• 最大: 5 V • 最小: 3 V
	スイッチ入力 VIL	最大: 1V
	リレー	5 A @ 30 VDC 抵抗負荷

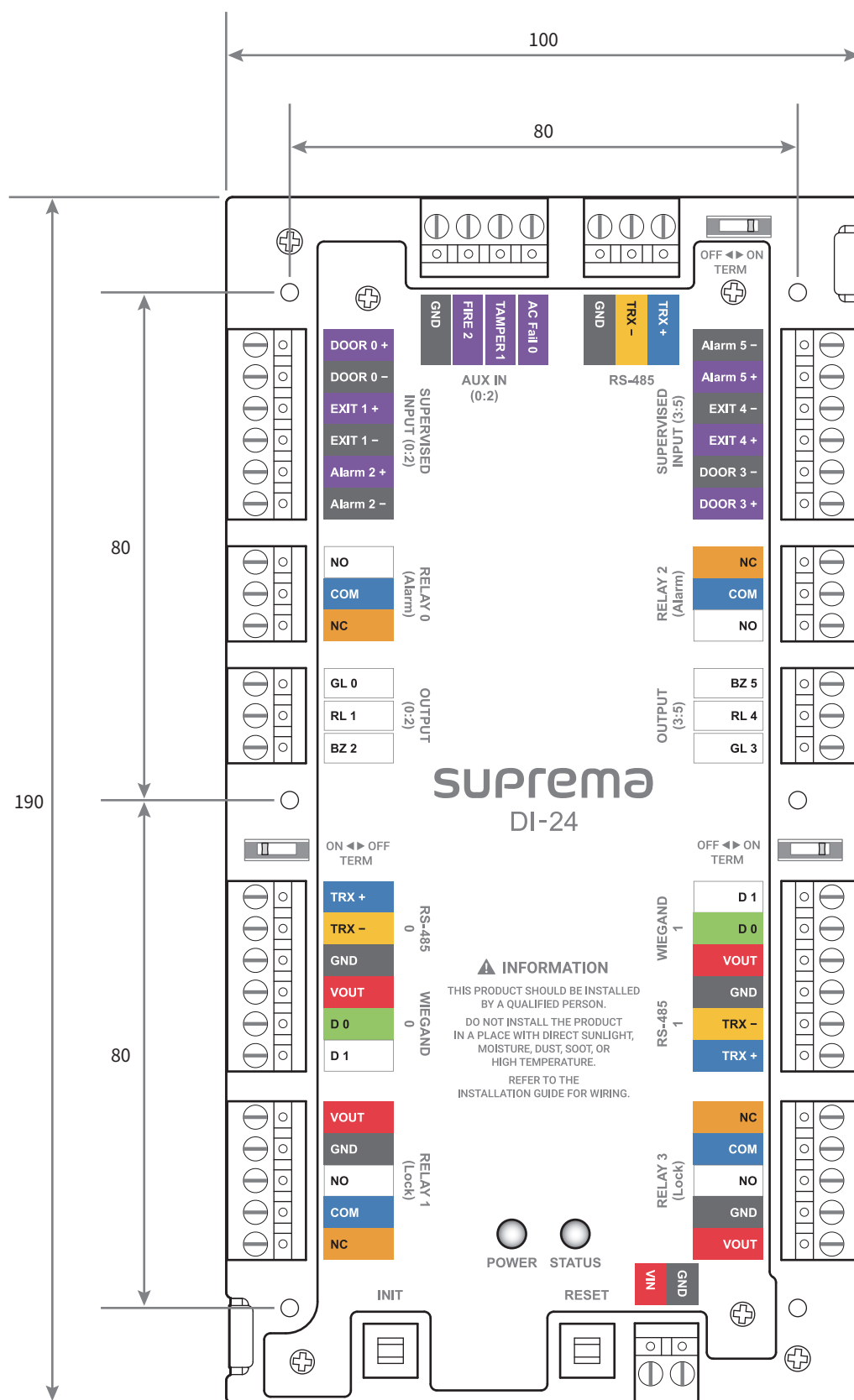
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寸法

(単位:mm)

*公差は±0.3 mm です。



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Version 3, 29 June 2007

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