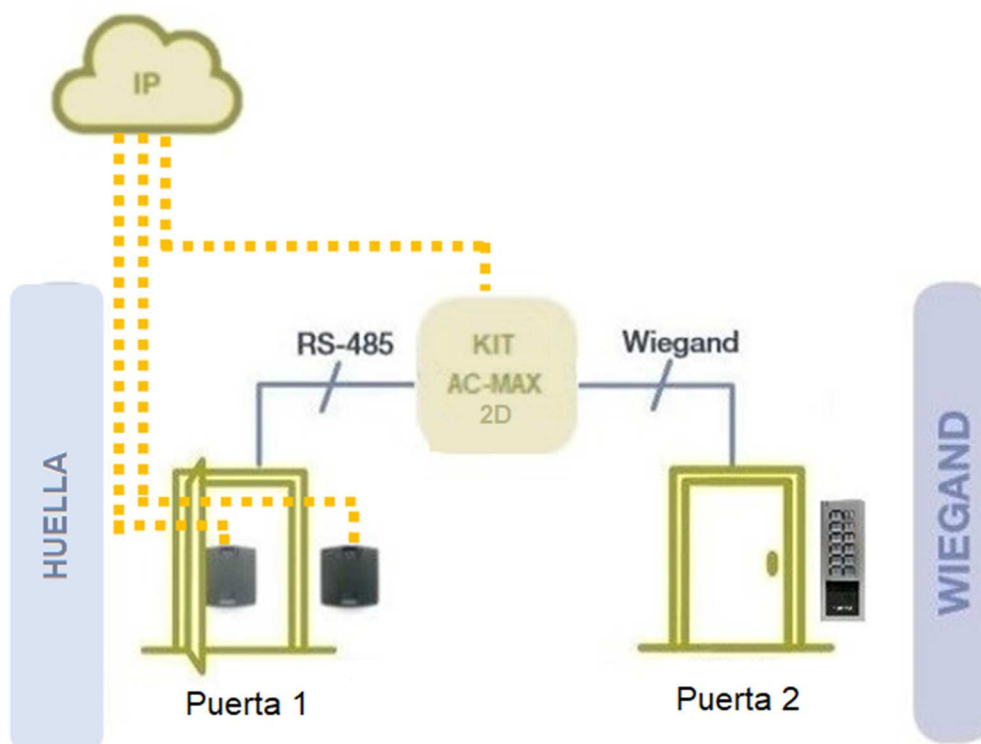


GUIA-1 GUIA CABLEADO KITS AC-MAX

INSTALACIÓN-CABLEADO KITS AC-MAX

Nota: este documento hace referencia a este ejemplo de instalación AC-MAX.



Introducción

Este documento indica paso a paso como poner en marcha una instalación AC-MAX de dos/cuatro puertas utilizando tanto lectores tipo Wiegand como lectores de huella RS485 ref. 5225 FPAC-MAX.

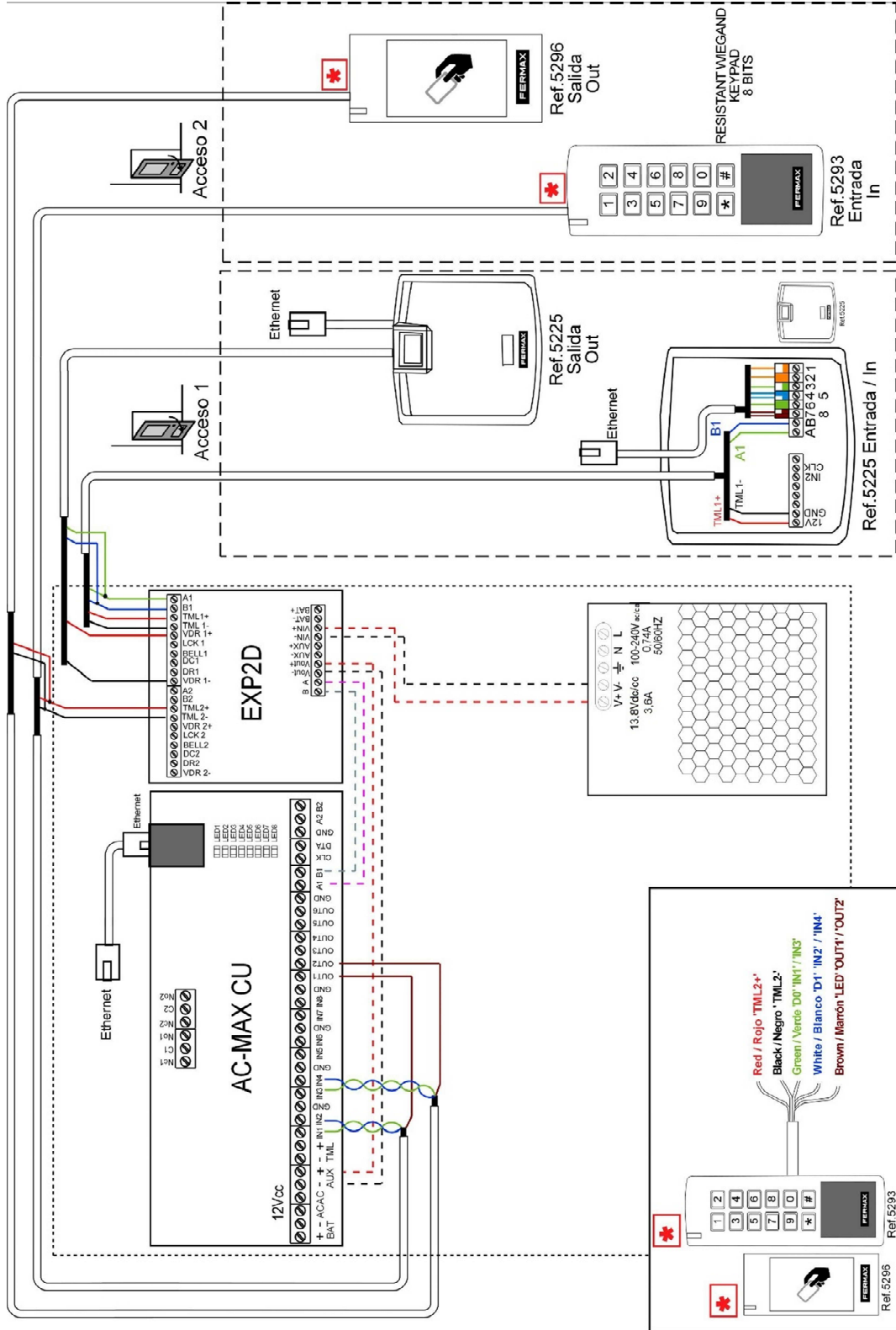
Para ello utilizaremos en la guía un kit de 2 puertas y 3 lectores. En la puerta 1 utilizaremos 2 lectores uno de entrada y otro de salida y en la puerta 2 un lector de entrada.

Utilizando los siguientes elementos.

- Controlador de acceso AC-MAX-CU-KIT-2 (kit ref. 5223)
- 2 x lectores HUELLA RS485 FPAC-MAX (Ref. 5225) (Como lector de entrada y lector de salida de la puerta 1).
- 1 x lector WIEGAND (Teclado resistant 5293) (Como lector de entrada de la puerta 2)

Instalación-Cableado

Los siguientes esquemas eléctricos representan como se pueden cablear los kits de 2 o 4 puertas. Realizamos el ejemplo con un sistema de dos puertas con una puerta con lector de entrada y otra con lector de entrada / salida.

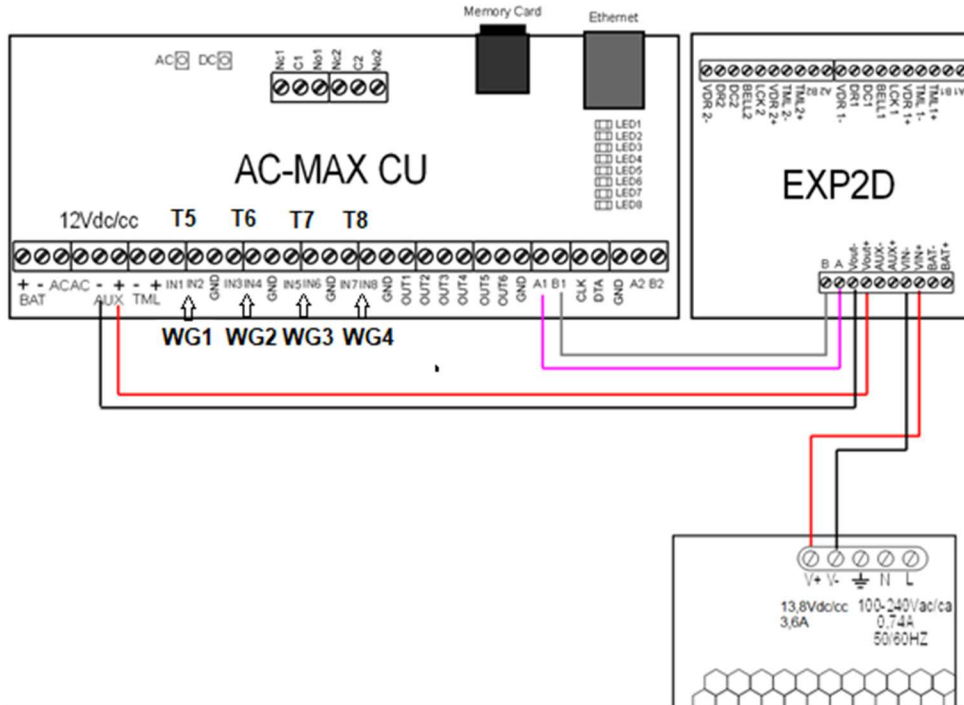


Esquema Ejemplo: de instalación cuya puesta en marcha se establece en esta guía.

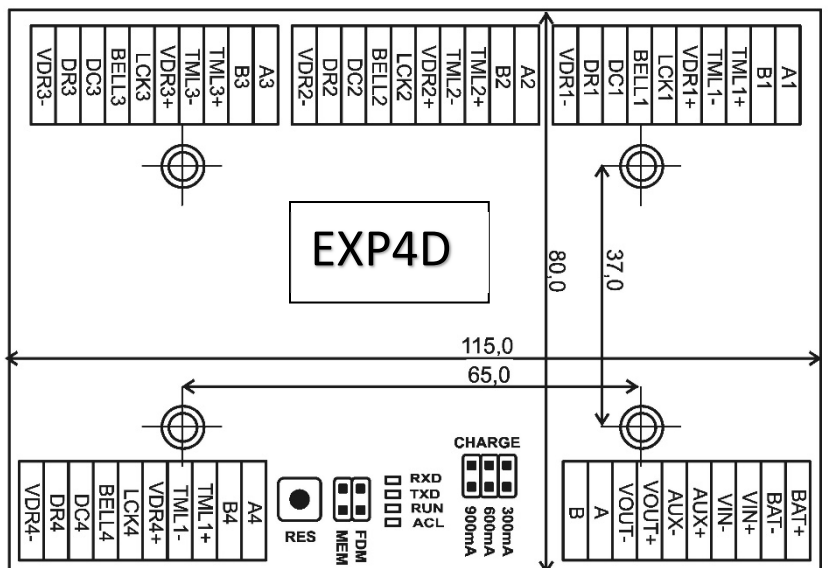
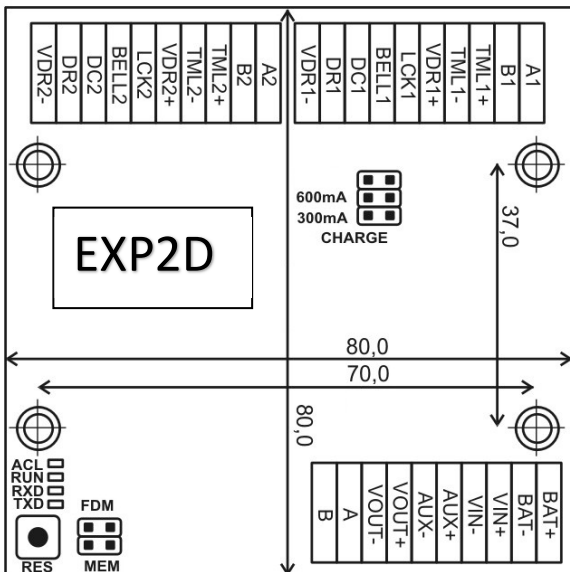
Precableado interno del kit.

El kit viene con el siguiente precableado.

- Alimentación V+V- al VIN+ VIN- del Expansor.
- Alimentación del expansor VOUT+, VOUT- a la entrada de alimentación AUX+, AUX- de la unidad de control.
- Cableado de datos A y B del expansor al A1 B1 del controlador.



-La utilización de batería es opcional y se conectaría al Expansor en BAT+, BAT-, cables ya conectados.



Pasos de instalación-Cableado.

Paso 1: Conectar alimentación a los diferentes lectores.

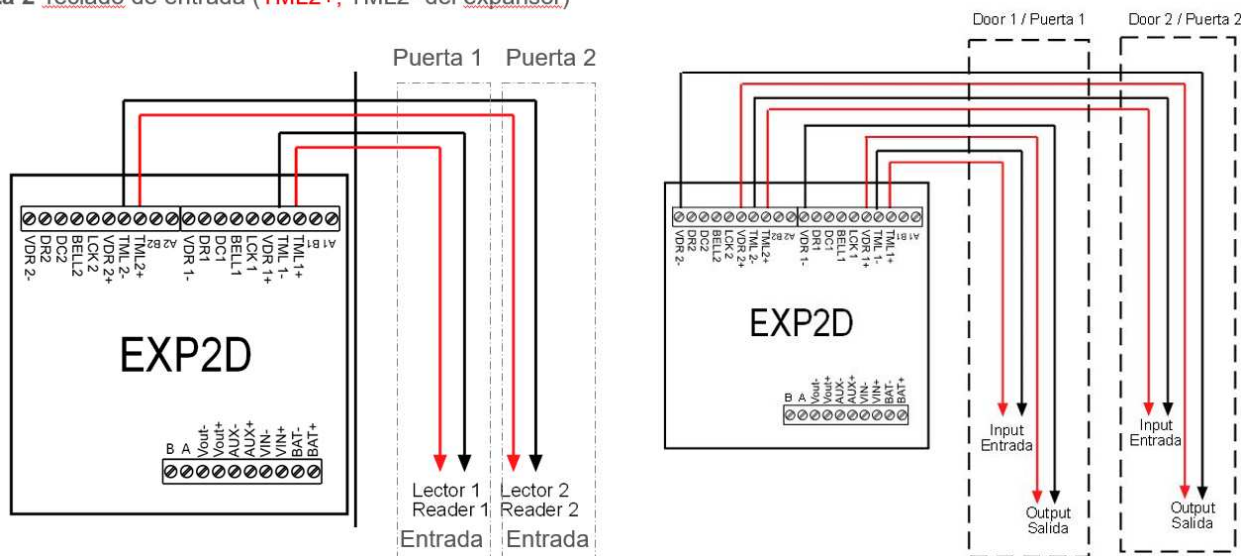
LECTORES WIEGAND: Se recomienda manguera ref. 5922 (6 hilos x 0,5mm²) o UTP CAT5 (1 par para D0, D1 y otro par para negativo, hasta 100mts. Utilizar CAT6 para instalaciones industriales.

LECTORES HUELLA RS-485 FPAC-MAX: Se recomienda UTP CAT5 (1 par para A, B y otro par para negativo, hasta 100mts. Utilizar CAT6 para instalaciones industriales.

Distancia máxima RS-485, hasta 1.200m entre UC y lector de huella más alejado. Dependiendo del cable y las fuentes de alimentación de la instalación.

Advertencia: No instale los cables cerca de otros cables de alta tensión o de alta corriente, especialmente de 230V o más. Utilice el mismo par para las líneas A,B o D0,D1.

- **Puerta 1** Lector de huella de entrada (**TML1+**, TML1- del expansor)
- **Puerta 1** Lector de huella de salida (**VDR1+**, VDR1- del expansor)
- **Puerta 2** Teclado de entrada (**TML2+**, TML2- del expansor)

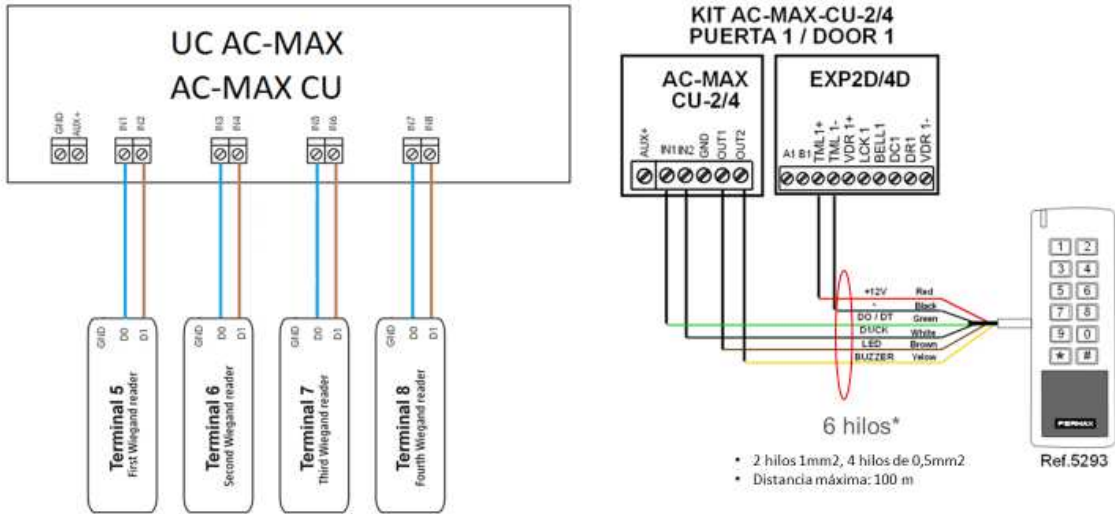


Paso2: Conexión DATOS, de los diferentes lectores.

- a) **LECTORES WIEGAND:** Cablear los datos de los diferentes lectores wiegand D0 y D1 directamente a la unidad de control.

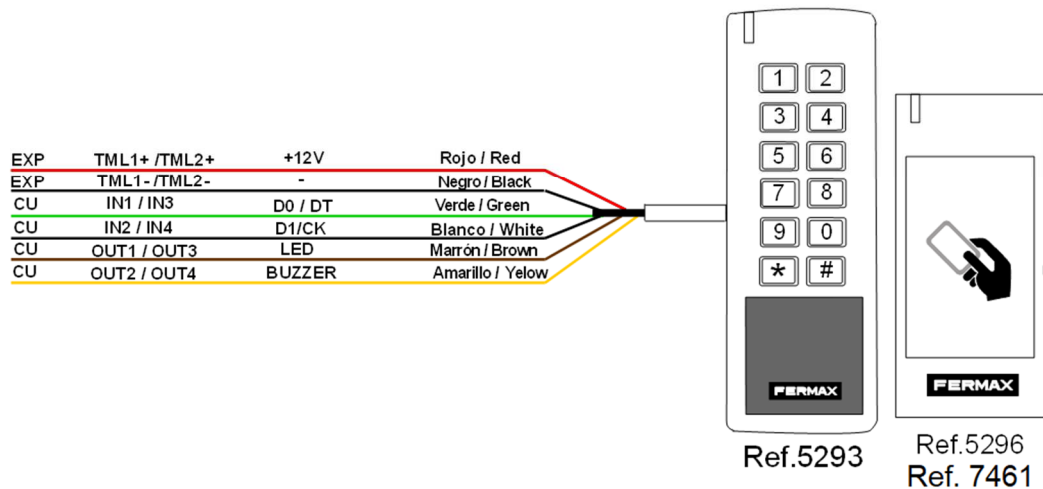
Terminal 5 (Lector WG 1)	D0, D1	IN1, IN2
Terminal 6 (Lector WG 2)	D0, D1	IN3, IN4
Terminal 7 (Lector WG 3)	D0, D1	IN5, IN6
Terminal 8 (Lector WG 4)	D0, D1	IN7, IN8

Los lectores wiegand. En el software se llaman Terminal 5, 6, 7 y 8.

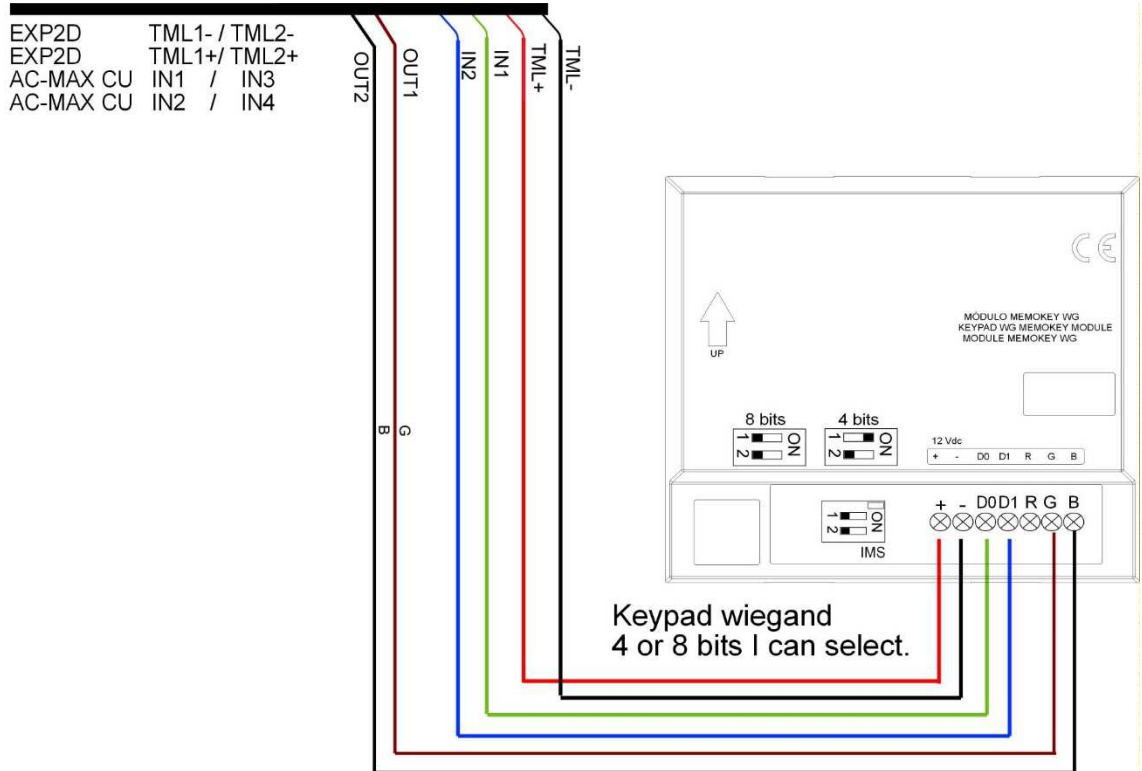


Dependiendo del tipo de lector seleccionado el cableado es como sigue:

INSTALACIÓN LECTOR ENTRADA 1 (TML1) Y LECTOR DE ENTRADA 2 (TML2)

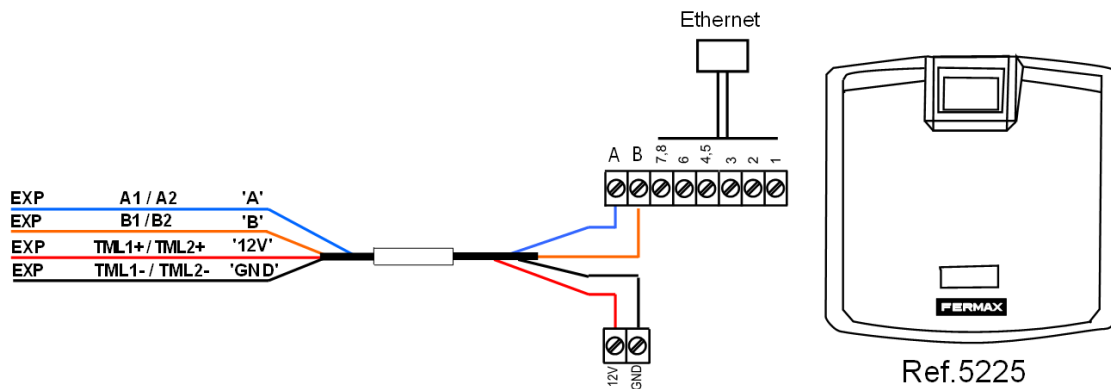


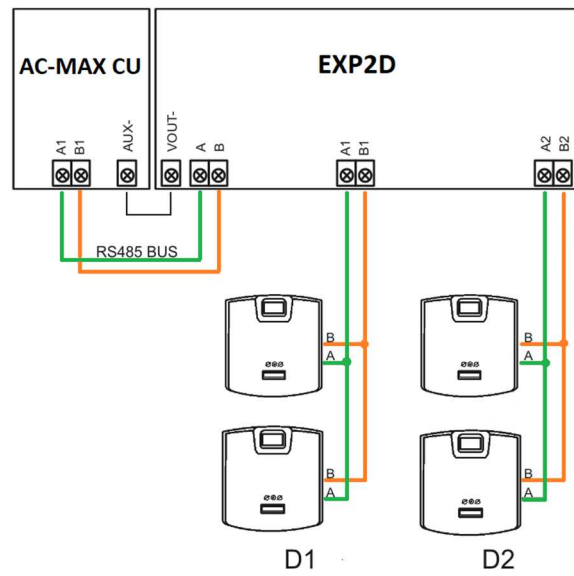
Esquema 1. Instalación Lector o Teclados Resistant Wiegand y proximidad Mifare Skyline, cityline.



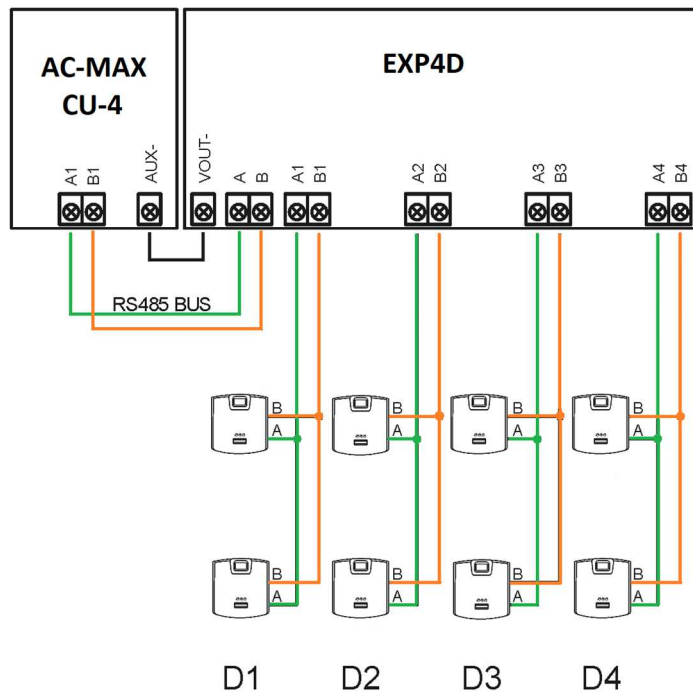
Esquema 2. Instalación de Teclados City, Skyline y Marine Wiegand.

- b) **LECTORES DE HUELLA RS-485:** Si los lectores son lectores de huella FPAC-MAX RS485, cablear al bus de datos correspondiente dependiendo a la puerta que se quiera conectar.





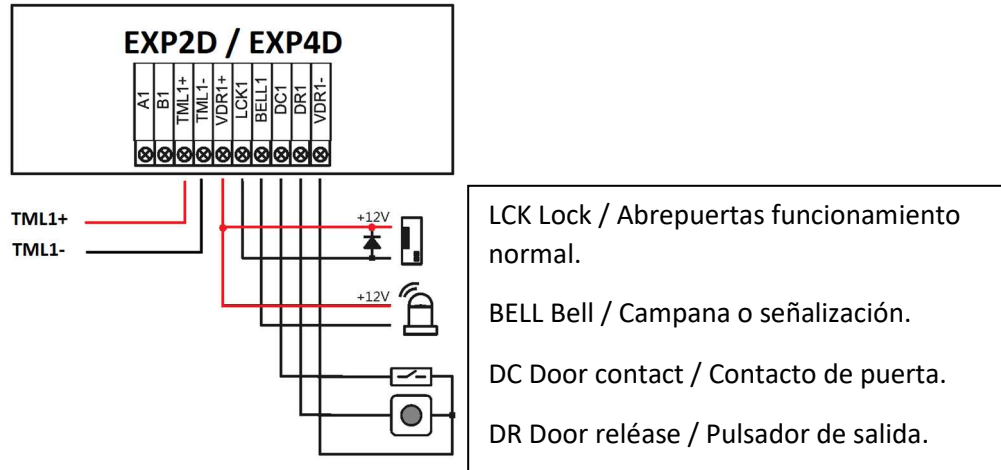
Esquema 3. Ejemplo de instalación de 4 lectores de huella en kit de 2 puertas. D1-Puerta 1 y D2-Puerta 2. Con lector de huella de entrada y lector de huella de salida, por puerta.



Esquema 4. Ejemplo de instalación de 8 lectores de huella en kit de 4 puertas. D1-Puerta 1, D2-Puerta 2.... Con lector de huella de entrada y lector de huella de salida, por puerta.

Paso3: Conectar los accesorios de cada puerta.

Cablear los accesorios al expansor. Abrepuertas, contacto de puerta, pulsador de salida. Etc. A la puerta correspondiente.



Esquema 5. Ejemplo de instalación de accesorios en puerta 1

TABLAS DE SECCIONES:

Según consumo del equipo a alimentar y distancia máxima.

Supply current	2 x 0,5mm ²	2 x 0,75 mm ²	2 x 1,0 mm ²	2 x 1,5mm ²	2 x 2,5 mm ²
50mA	240m	360m	480m	720m	1110m
100mA	120m	180m	240m	360m	590m
150mA	80m	120m	160m	240m	380m
200mA	60m	90m	120m	180m	290m
300mA	40m	60m	80m	120m	200m
400mA	30m	45m	60m	90m	150m
500mA	25m	35m	50m	70m	120m
600mA	20m	30m	40m	60m	100m
700mA	17m	26m	34m	50m	85m

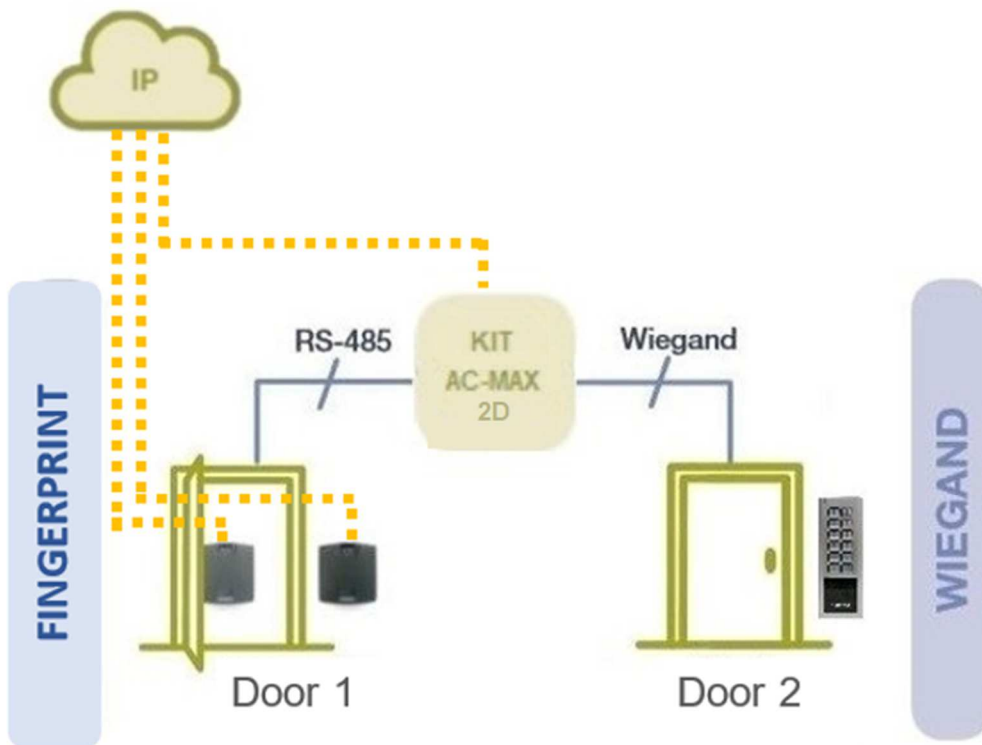
Distancia máxima en relación a la cantidad de pares según consumo del dispositivo a alimentar.

Supply current	1 pair	2 pairs	3 pairs	4 pairs
50mA	100m	200m	300m	400m
100mA	50m	100m	150m	200m
150mA	33m	66m	99m	131m
200mA	25m	50m	75m	100m
300mA	17m	34m	51m	68m
400mA	12m	24m	36m	48m
500mA	10m	20m	30m	40m
600mA	8m	16m	24m	32m
700mA	7m	14m	21m	28m
800mA	6m	12m	18m	24m
900mA	5m	10m	15m	20m
1000mA	4m	8m	12m	16m

Tab. 2 Maximal UTP cable length in relation to the number of wire pairs and required current

GUIDE-1 AC-MAX KITS INSTALLATION-WIRING GUIDE

Note: This document refers to this AC-MAX installation example.



Introduction

This document indicates step by step how to start up a two/four door AC-MAX installation using both Wiegand readers and ref. 5225 FPAC-MAX RS485 fingerprint readers.

For this we will use for the guide a kit of 2 doors and 3 readers. In door 1 we will use 2 readers one entrance for another one exit, and in door 2 an entrance reader.

Using the following elements.

- Access controller AC-MAX-CU-KIT-2 (kit ref. 5223)
- 2 x RS485 FINGERPRINT readers FPAC-MAX (Ref. 5225) (As input reader and output reader for Door 1).
- 1 x WIEGAND reader (Resistant keyboard 5293) (As door 2 input reader)

Installation-wiring

The following wiring diagrams show how 2 or 4 door kits can be wired. We made the example with a system of two doors with a door with reader of entry and another one with reader of entry / exit.

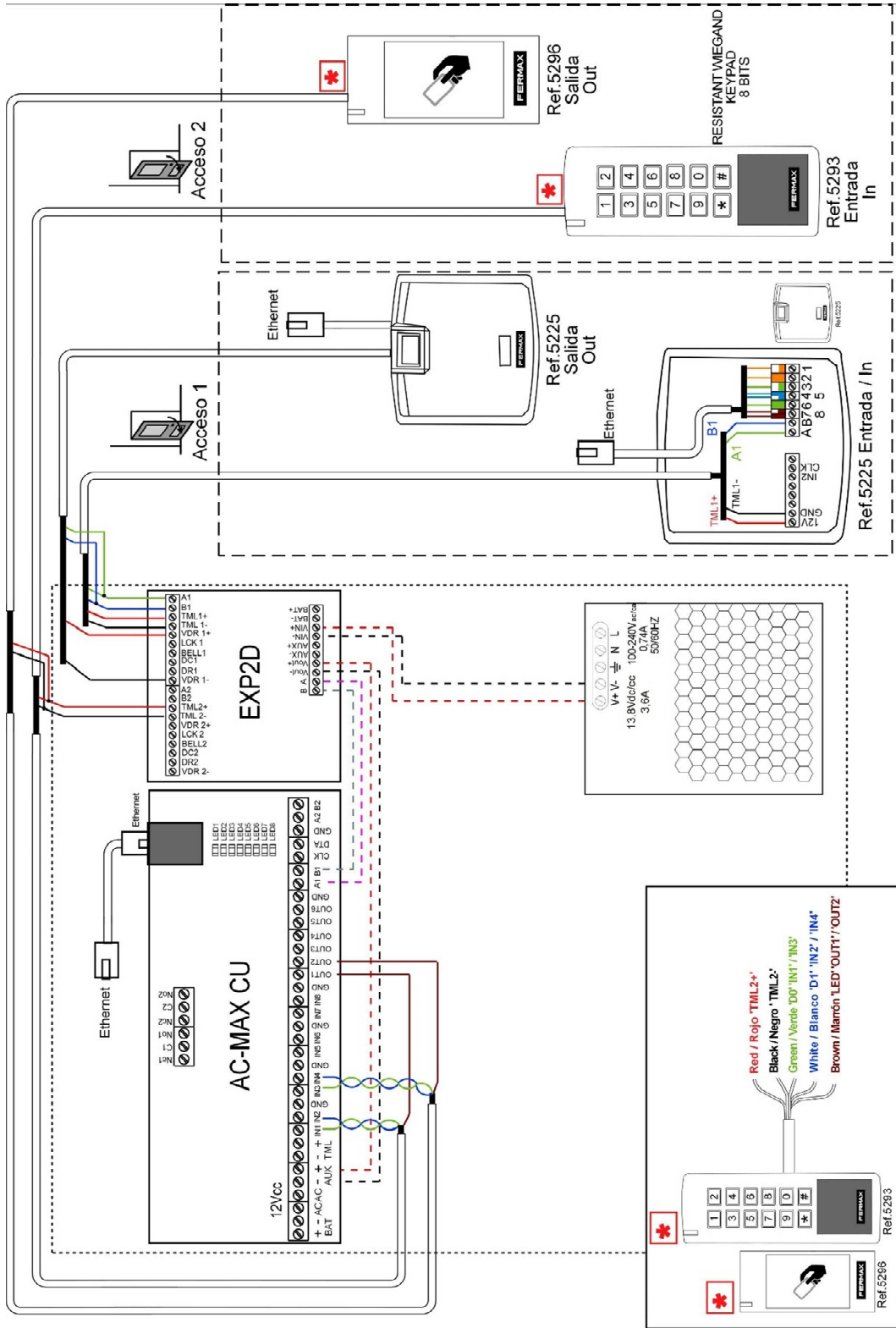


Diagram Example: of an installation whose commissioning is set out in this guide.

Internal prewiring kit

Connection of the power supply to the expander and the expander to the control unit. The use of the battery is optional and would be connected to the expander in BAT +, BAT-.

Connection of the data bus from terminals A and B of the expander to terminals A1 B1 of the control unit. As in Diagram 1.

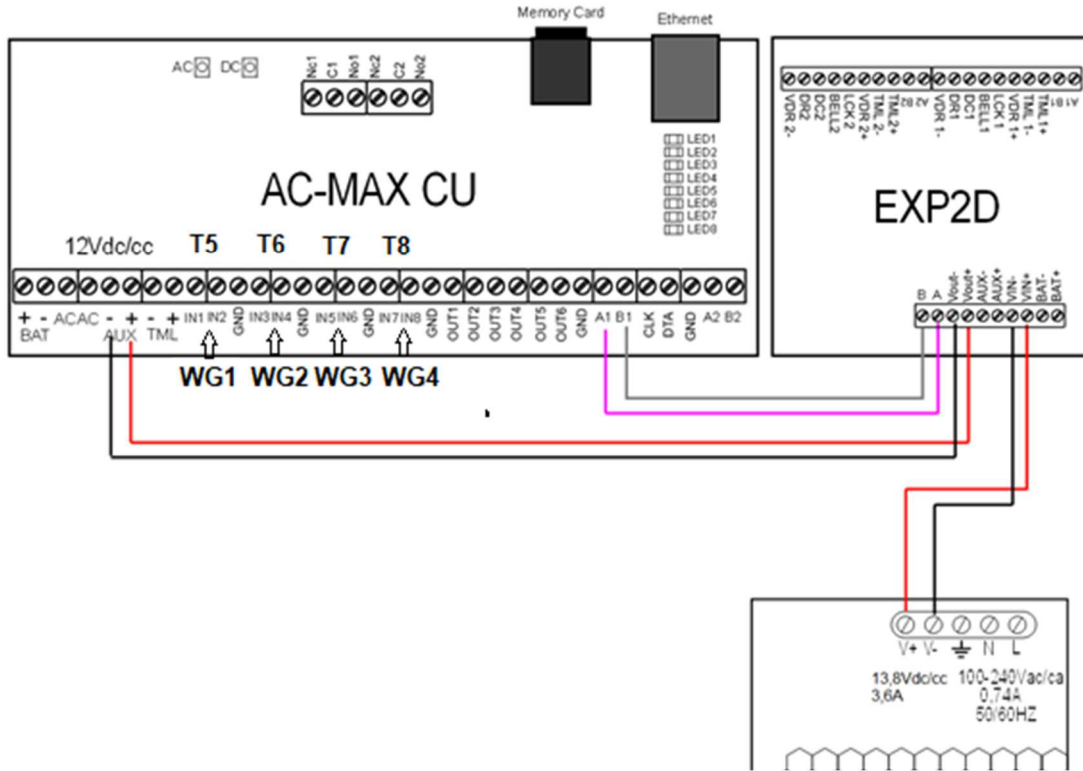
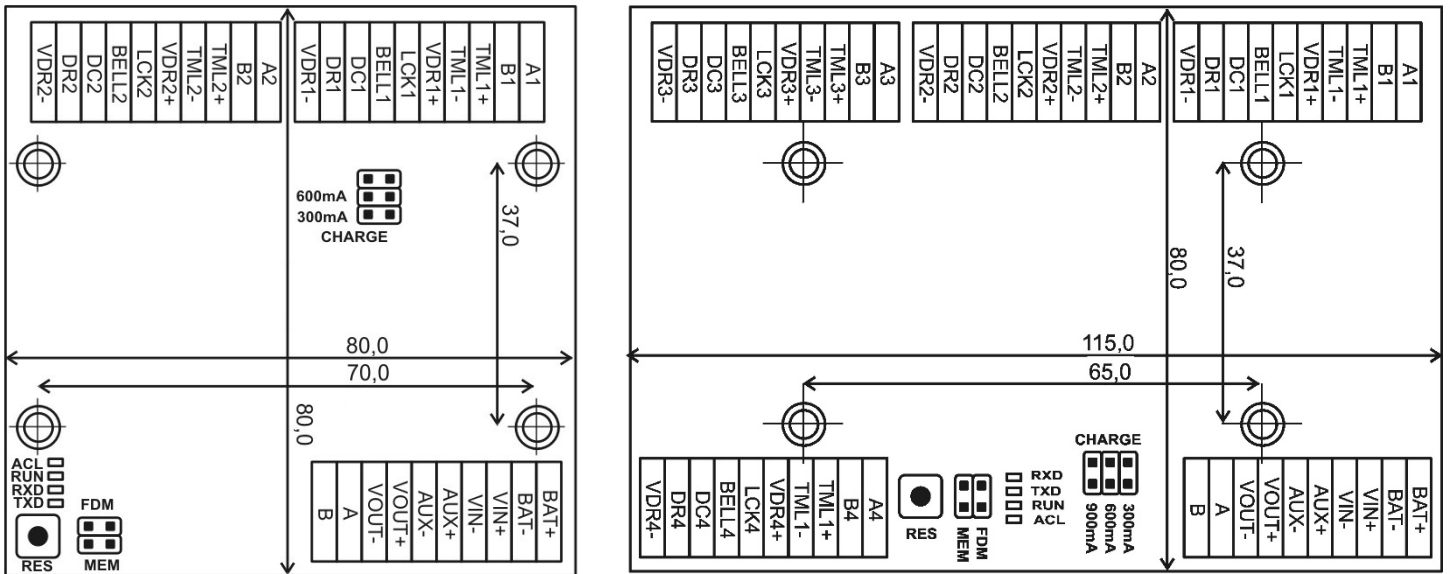


Diagram 1. RS485 data wiring and power supply kit.



Installation steps-Wiring.

Step 1: Connect power to the different readers.

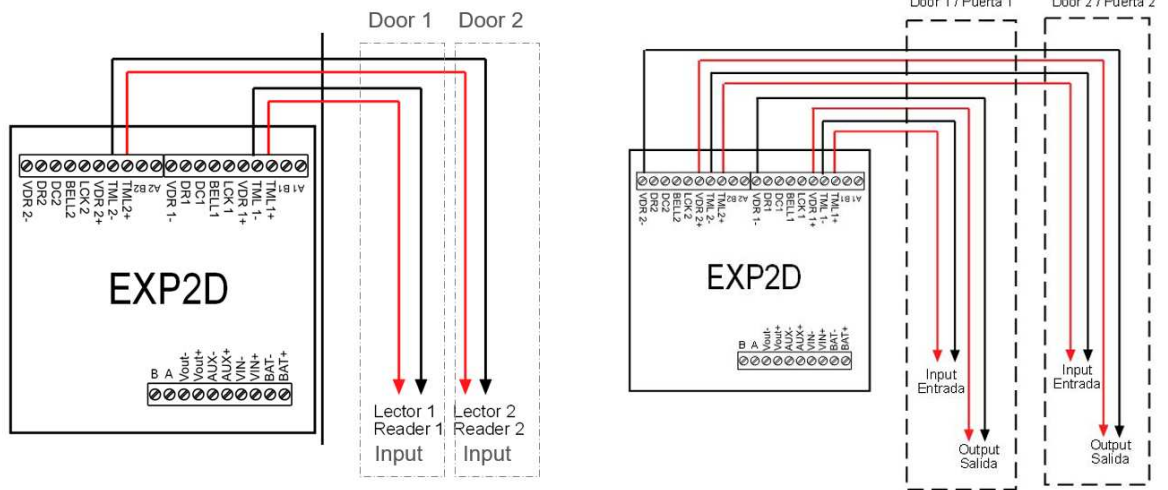
WIEGAND READERS: Hose ref. 5922 (6 wires x 0.5mm²) or UTP CAT5 (1 pair for D0, D1 and another pair for negative, is recommended up to 100m. Use CAT6 for industrial installations.

READERS RS-485 FPAC-MAX: UTP CAT5 (1 pair for A, B and another pair for negative, up to 100mts, is recommended. Use CAT6 for industrial installations.

Maximum RS-485 distance, up to 1.200m between UC and further fingerprint reader.
Depending on the cable and the power supplies of the installation.

Warning: Do not install the cables near other high voltage or high current cables, especially 230V or more. Use the same pair for lines A, B or D0, D1.

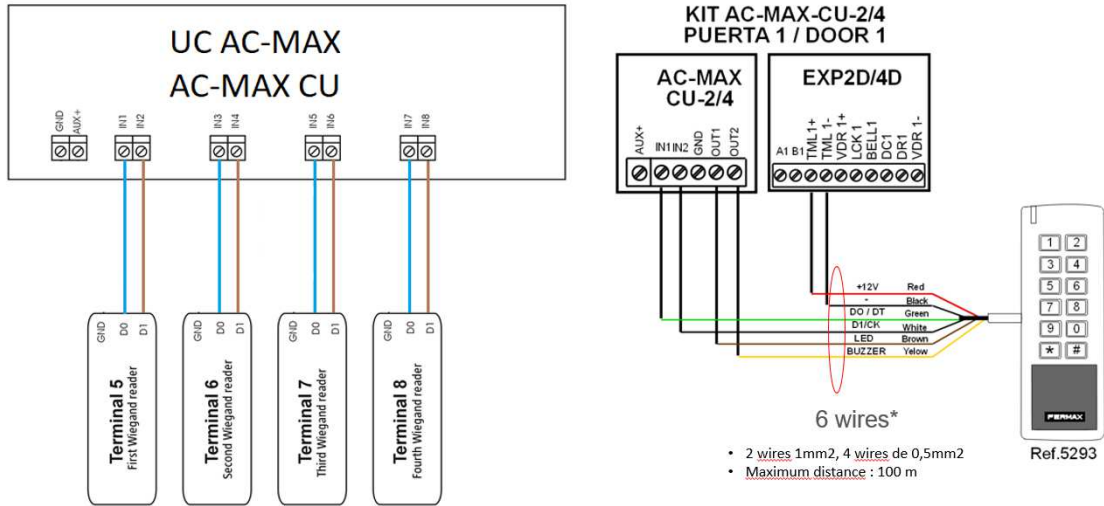
- Door 1 Input fingerprint reader (TML1 +, TML1- of the expander)
- Door 1 Output fingerprint reader (VDR 1 +, VDR 1- of the expander)
- Door 2 Input keypad (TML2 +, TML2- of the expander)



Step2: Connection DATA, of the different readers.

- a) **WIEGAND READERS:** Wire the data of the different wiegand Do and D1 readers directly to the control unit.

Terminal 5 (First Wiegand reader 1)	D0, D1	IN1, IN2
Terminal 6 (Second Wiegand reader 2)	D0, D1	IN3, IN4
Terminal 7 (Third Wiegand reader 3)	D0, D1	IN5, IN6
Terminal 8 (Fourth Wiegand reader 4)	D0, D1	IN7, IN8



Example of installation of 4 wiegand readers.

Depending on the type of reader selected the wiring is as follows:

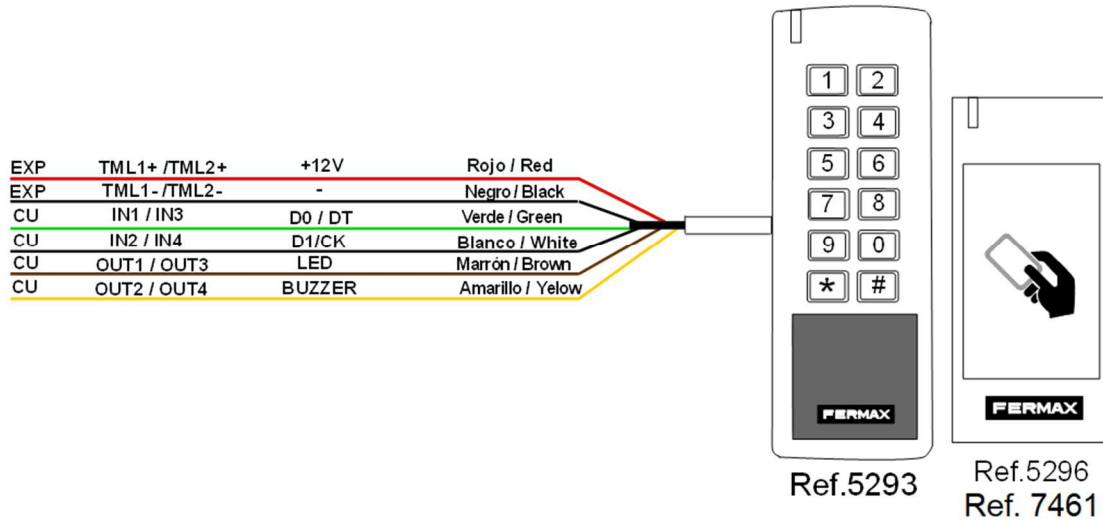


Diagram 2. Readers or keypad Resistant Wiegand y proximidad Mifare Skyline, cityline.

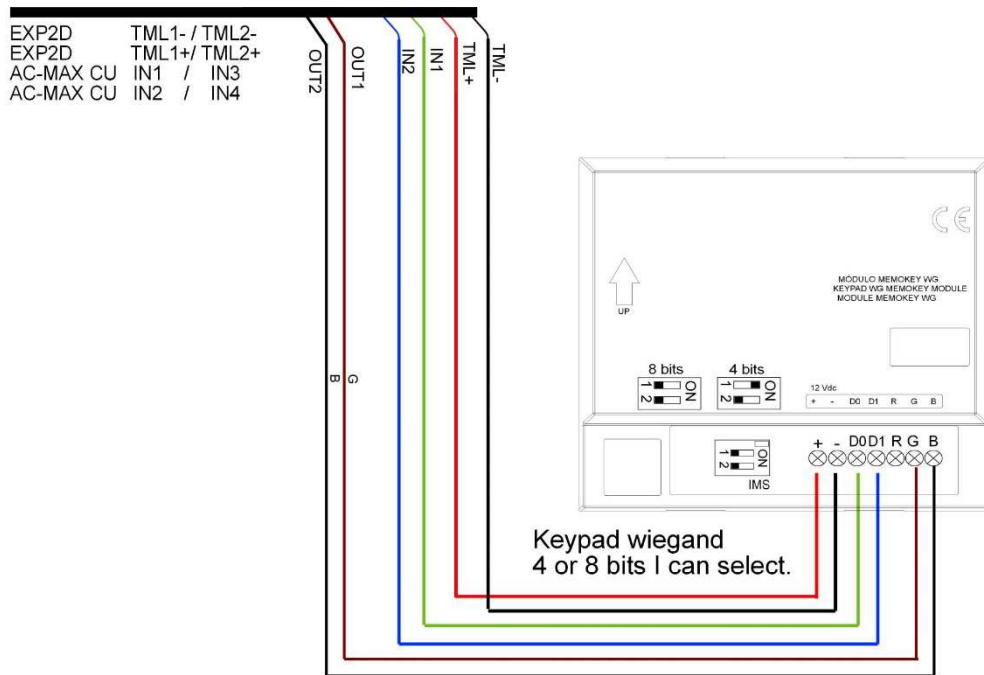
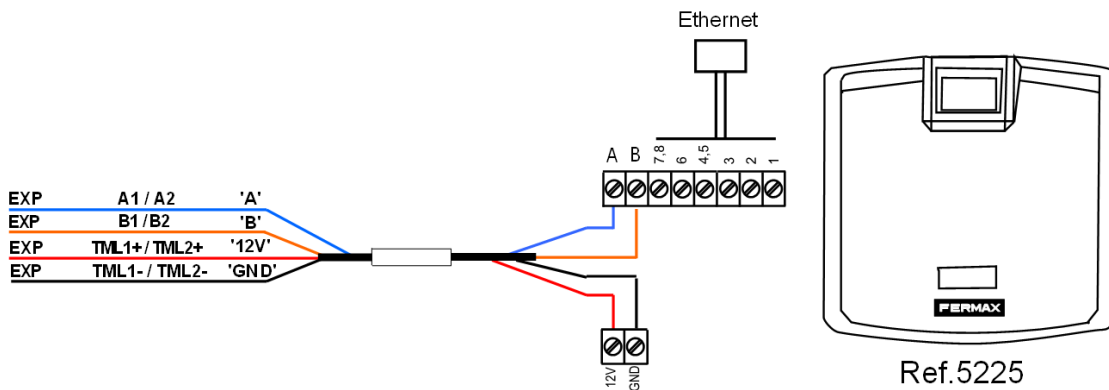


Diagram 3. Keypad City, Skyline y Marine Wiegand ref. 5190, 5191 and 5192.

- a) **RS-485 FINGERPRINT READER FPAC-MAX:** If the readers are FPAC-MAX RS485 fingerprint readers, wire to the corresponding data bus depending on the door to be connected.



Installation Fingerprint Reader FPAC-MAX RS485.

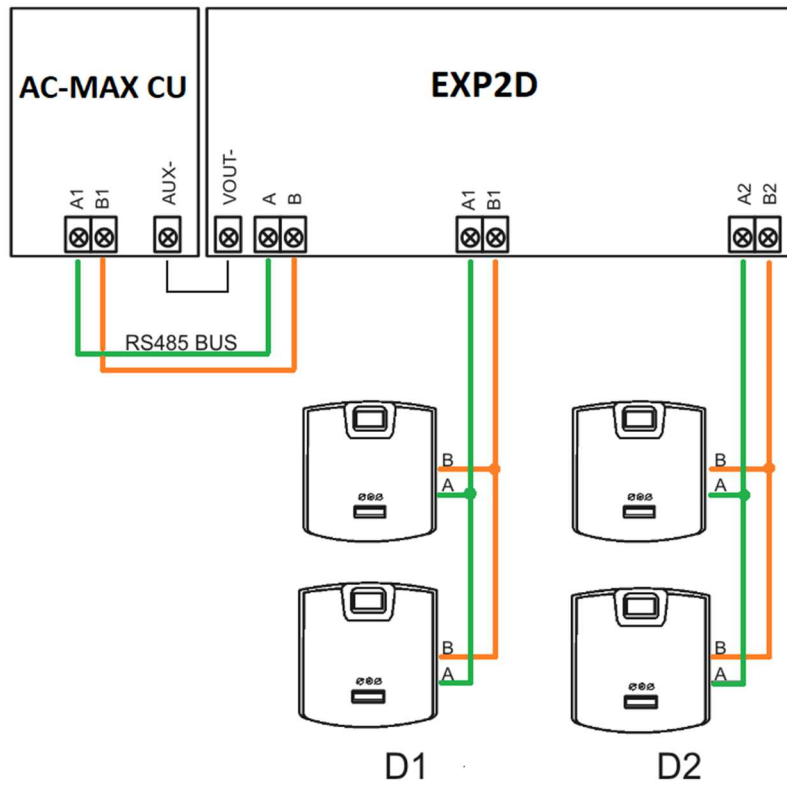


Diagram 4. Example of the installation of 4 fingerprint readers in a 2-door kit. D1-Door 1 and D2-Door 2. With input fingerprint reader and output fingerprint reader, per door.

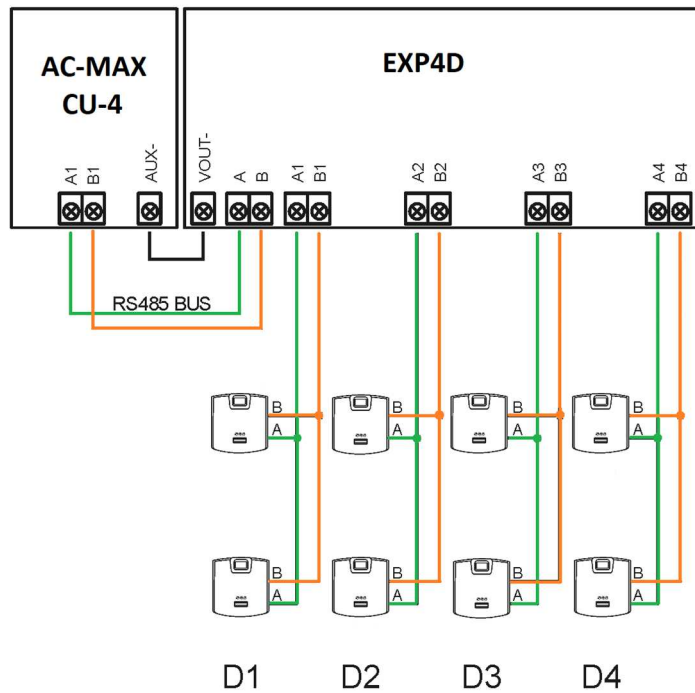


Diagram 5. Example of the installation of 8 fingerprint readers in a 4-door kit. D1-Door 1, D2-Door 2. With input fingerprint reader and output fingerprint reader, per door.

Step3: Connect the accessories of each door.

b) Wire accessories to the expander. Door opener, door contact, exit button. Etc.

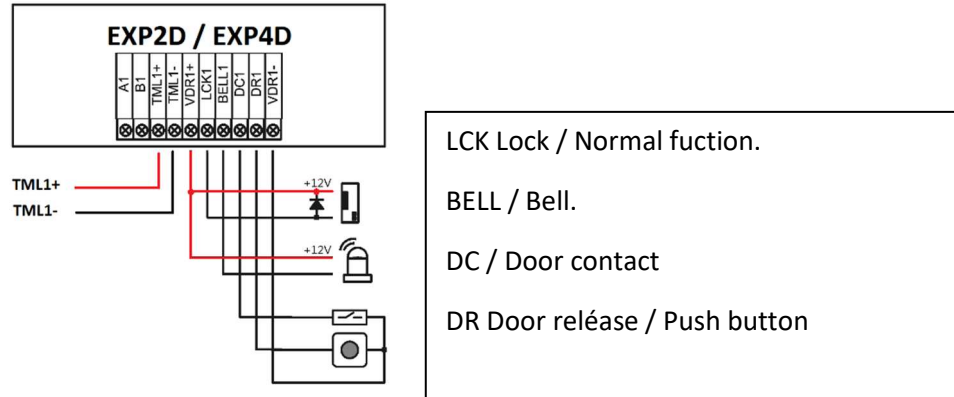


Diagram 6. Example of installation of accessories on door 1.

SECTION TABLES:

Depending on the consumption of the equipment to be powered and maximum distance.

Supply current	2 x 0,5mm ²	2 x 0,75 mm ²	2 x 1,0 mm ²	2 x 1,5mm ²	2 x 2,5 mm ²
50mA	240m	360m	480m	720m	1110m
100mA	120m	180m	240m	360m	590m
150mA	80m	120m	160m	240m	380m
200mA	60m	90m	120m	180m	290m
300mA	40m	60m	80m	120m	200m
400mA	30m	45m	60m	90m	150m
500mA	25m	35m	50m	70m	120m
600mA	20m	30m	40m	60m	100m
700mA	17m	26m	34m	50m	85m

Maximum distance relative to the number of pairs according to the consumption of the device to be powered.

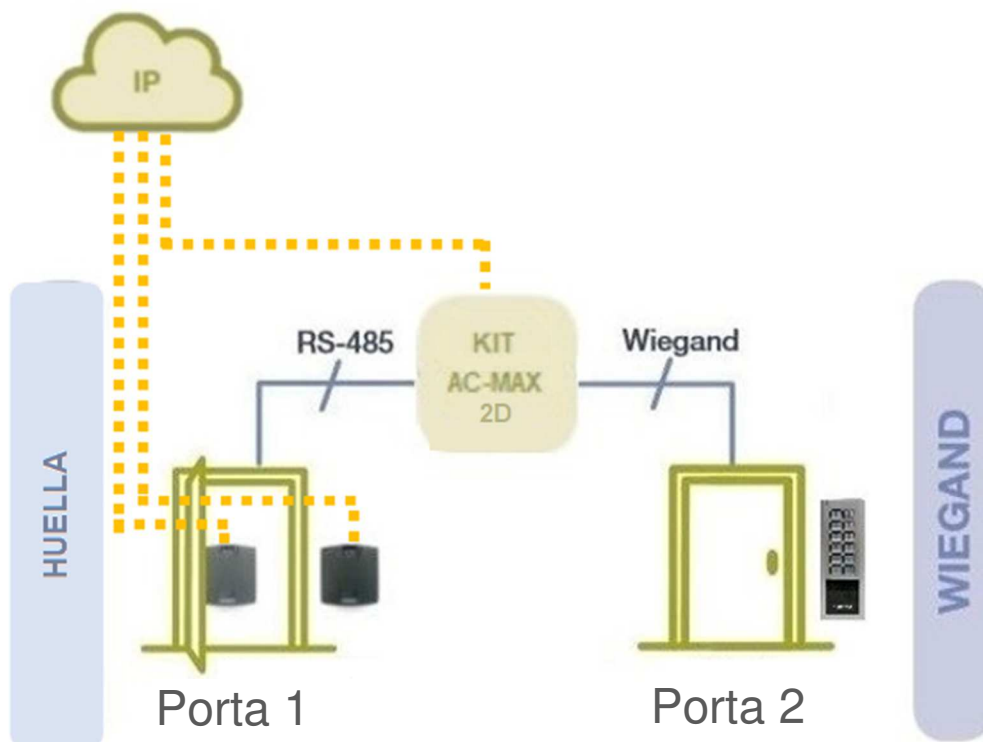
Supply current	1 pair	2 pairs	3 pairs	4 pairs
50mA	100m	200m	300m	400m
100mA	50m	100m	150m	200m
150mA	33m	66m	99m	131m
200mA	25m	50m	75m	100m
300mA	17m	34m	51m	68m
400mA	12m	24m	36m	48m
500mA	10m	20m	30m	40m
600mA	8m	16m	24m	32m
700mA	7m	14m	21m	28m
800mA	6m	12m	18m	24m
900mA	5m	10m	15m	20m
1000mA	4m	8m	12m	16m

Tab. 2 Maximal UTP cable length in relation to the number of wire pairs and required current

GUIA-1 INSTALAÇÃO-CABLAGEM

KITS DE INSTALAÇÃO-CABLAGEM AC-MAX

Nota: Este documento refere-se a este exemplo de instalação AC-MAX.



Introdução

Este documento indica passo a passo como iniciar uma instalação AC-MAX de duas ou quatro portas, utilizando tanto leitores tipo Wiegand, como leitores de digitais RS485 ref. 5225 FPAC-MAX.

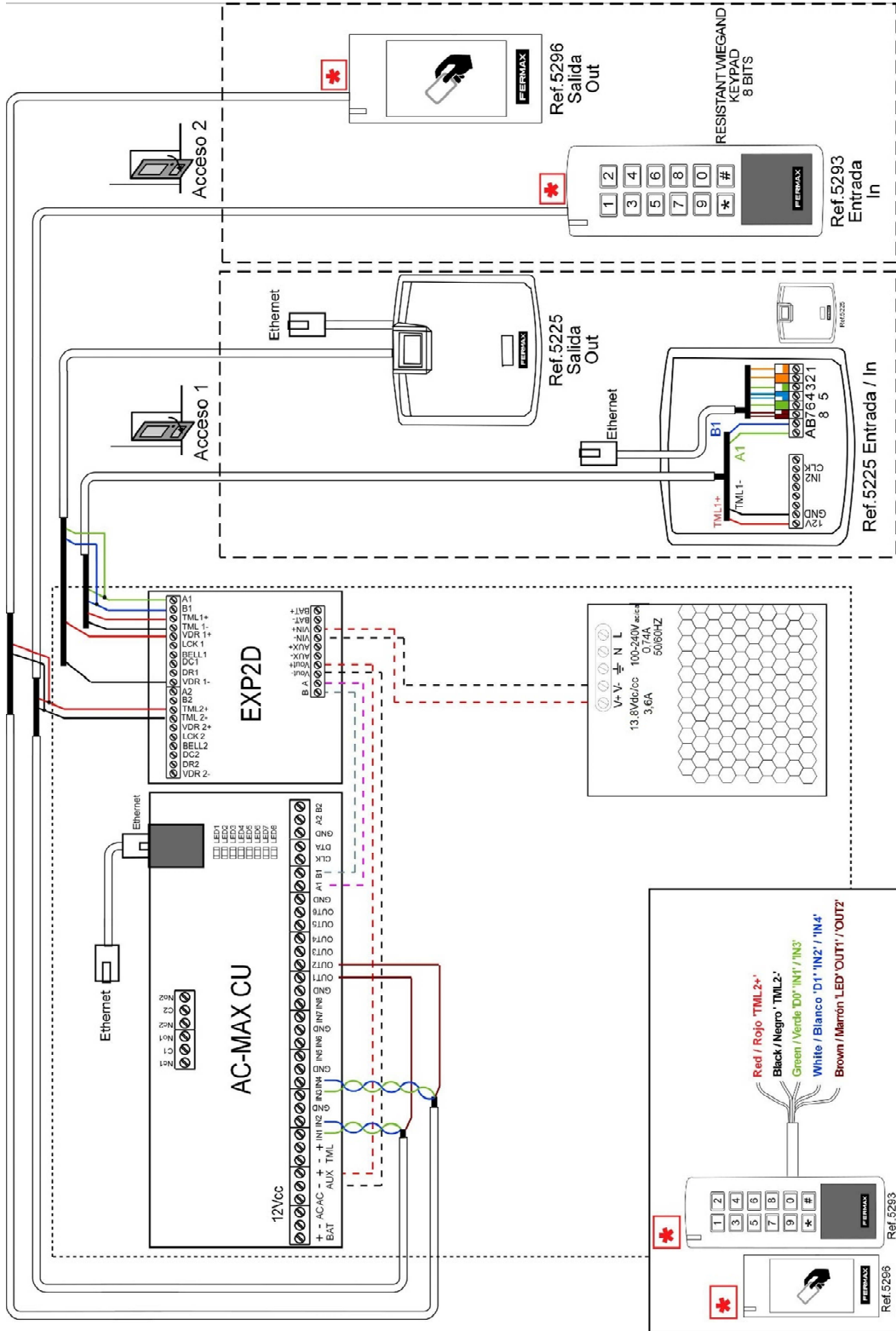
Para tal, utilizaremos na guia um kit de 2 portas e 3 leitores. Na porta 1, utilizaremos 2 leitores, um de entrada e outro de saída, e na porta 2 um leitor de entrada.

Utilizando os seguintes elementos.

- Controlador de acesso AC-MAX-CU-KIT-2 (kit ref. 5223)
- 2 leitores de digitais RS485 FPAC-MAX (Ref. 5225) (Como leitor de entrada e leitor de saída da porta 1).
- 1 leitor WIEGAND (Teclado resistente 5293) (Como leitor de entrada da porta 2)

Instalação-Cablagem

Os seguintes esquemas eléctricos representam como se pode ligar os kits de 2 ou 4 portas. O exemplo apresenta um sistema de duas portas, com uma porta com leitor de entrada e outra com leitor de entrada / saída.

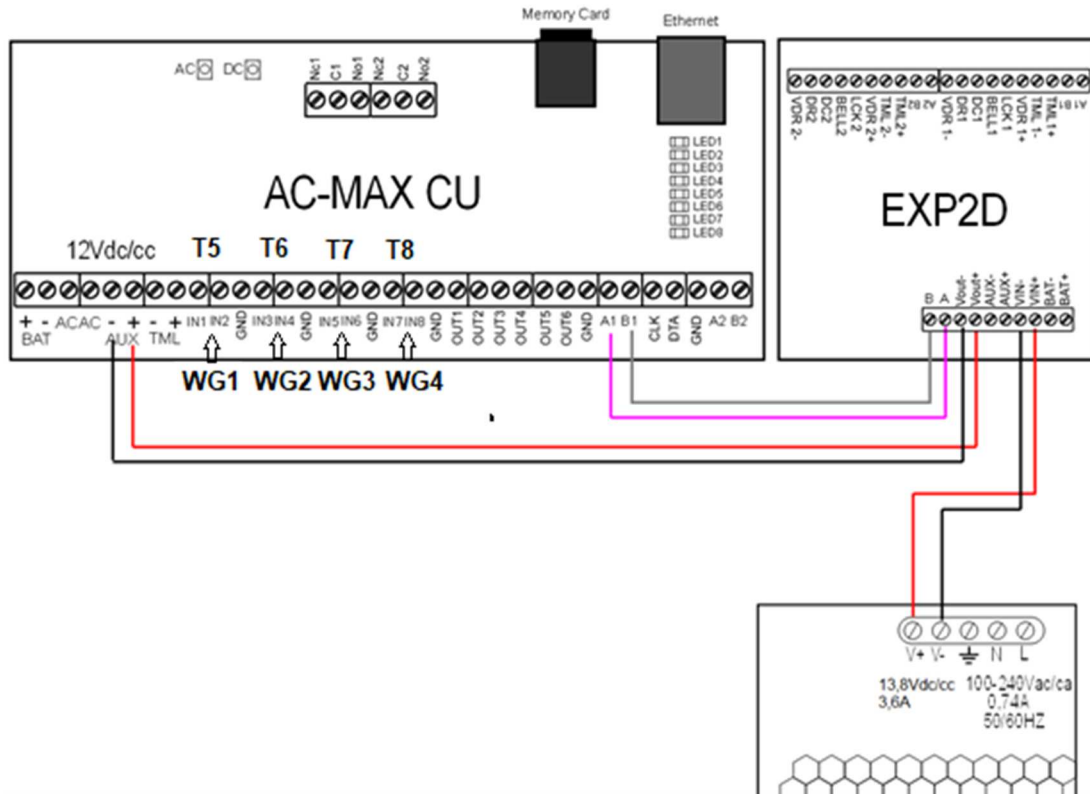


Exemplo de diagrama: de uma instalação cujo arranque é apresentado neste guia.

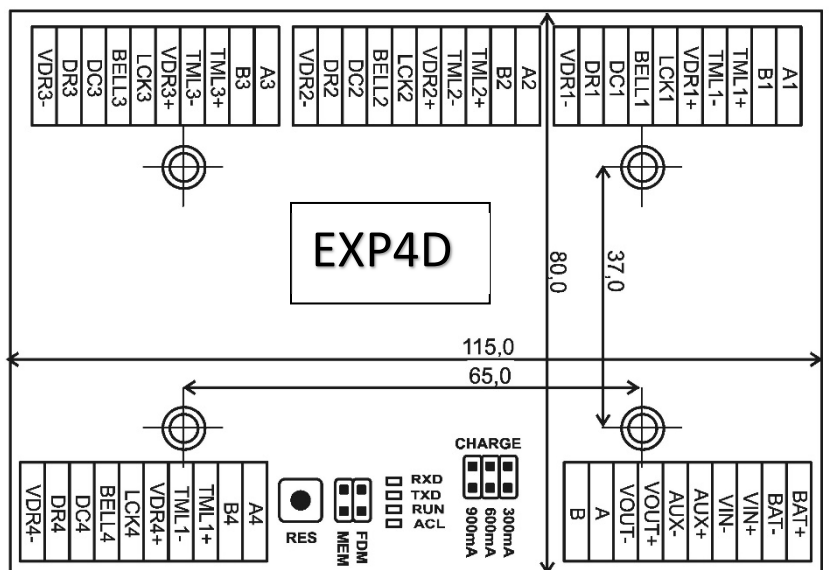
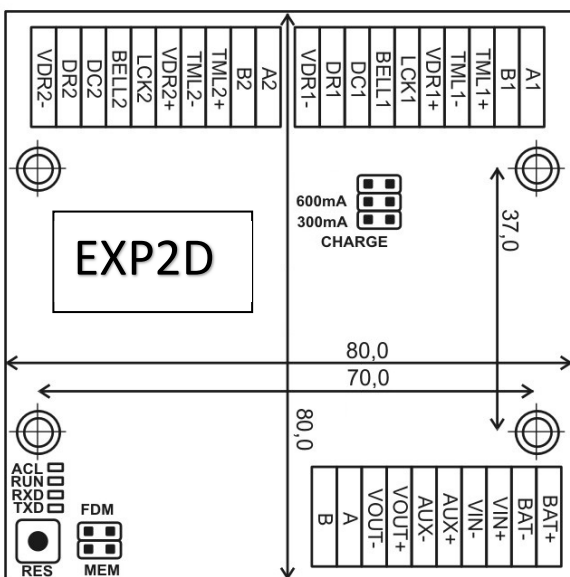
Pré-cablagem interna do kit.

O kit vem com as seguintes pré-cablagens.

- Alimentação V+V- a VIN+ VIN- do Expansor.
- Alimentação do expansor VOUT+, VOUT- à entrada de alimentação AUX+, AUX- da unidade controlador.
- Cablagem de dados A e B do expansor para A1 B1 da controlador.



-O uso da bateria é opcional e seria conectada ao Expansor em BAT+, BAT-, cabos já ligados.



Passos de instalação - Cablagem.

Passo 1: Ligar a alimentação aos diferentes leitores.

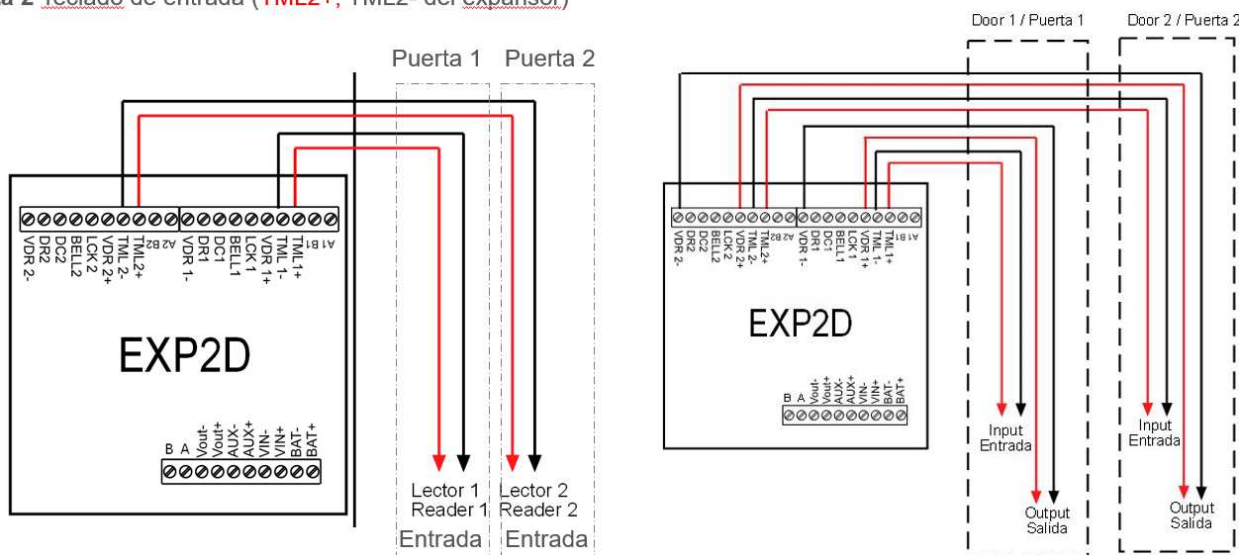
LEITORES WIEGAND: Recomenda-se tubo ref. 5922 (6 fios x 0,5mm²) ou UTP CAT5 (1 par para D0, D1 e outro par para negativo, até 100mts. Utilizar CAT6 para instalações industriais.

leitores de digitais RS-485 FPAC-MAX: Recomenda-se UTP CAT5 (1 par para A, B e outro par para negativo, hasta 100mts. Utilizar CAT6 para instalações industriais.

Distância máxima RS-485, até 1.200m entre UC e leitor de digitais mais afastado. Dependente do cabo e das fontes de alimentação da instalação.

Atenção: Não instale os fios perto de outros fios de alta tensão ou de alta corrente, especialmente 230V ou mais. Use o mesmo par para as linhas A,B ou D0,D1.

- **Puerta 1** Lector de huella de entrada (**TML1+**, TML1- del expansor)
- **Puerta 1** Lector de huella de salida (**VDR1+**, VDR1- del expansor)
- **Puerta 2** Teclado de entrada (**TML2+**, TML2- del expansor)

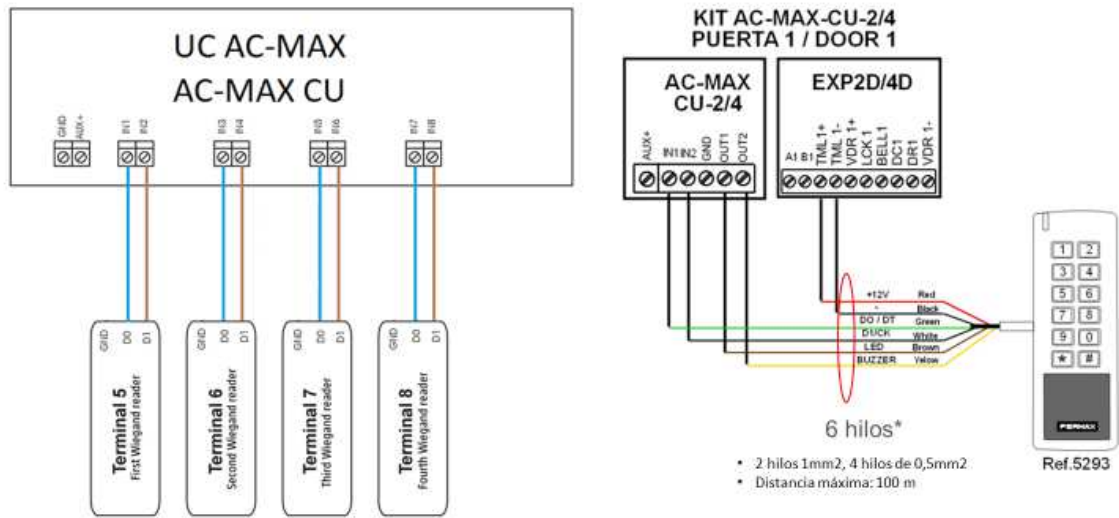


Passo 2: Ligação DADOS, a partir dos diferentes leitores.

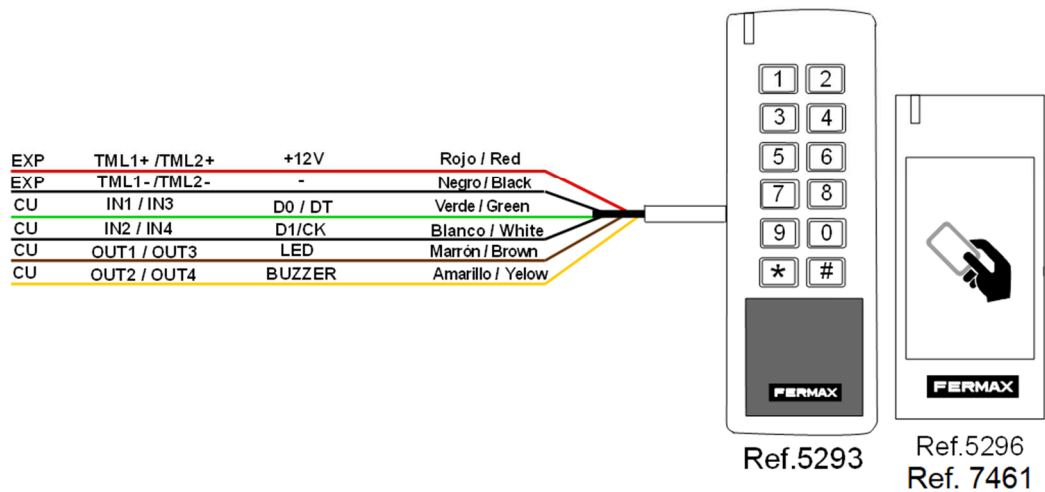
a) **LEITORES WIEGAND:** Transmita os dados dos diferentes leitores wiegand Do e D1 directamente para a unidade controlador.

Terminal 5 (leitor WG 1)	D0, D1	IN1, IN2
Terminal 6 (leitor WG 2)	D0, D1	IN3, IN4
Terminal 7 (leitor WG 3)	D0, D1	IN5, IN6
Terminal 8 (leitor WG 4)	D0, D1	IN7, IN8

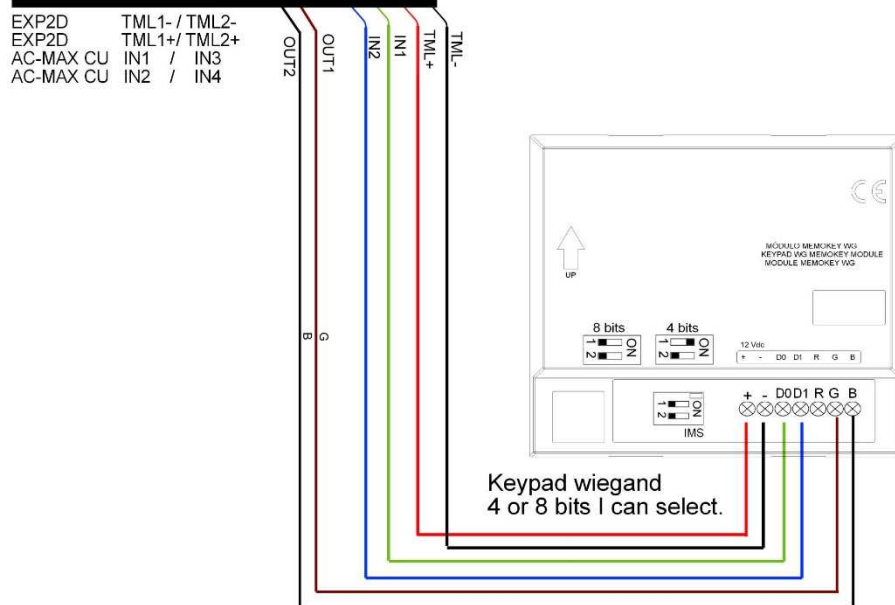
Leitores Wiegand. No software, são designados terminais 5, 6, 7 e 8.



INSTALACIÓN LECTOR ENTRADA 1 (TML1) Y LECTOR DE ENTRADA 2 (TML2)

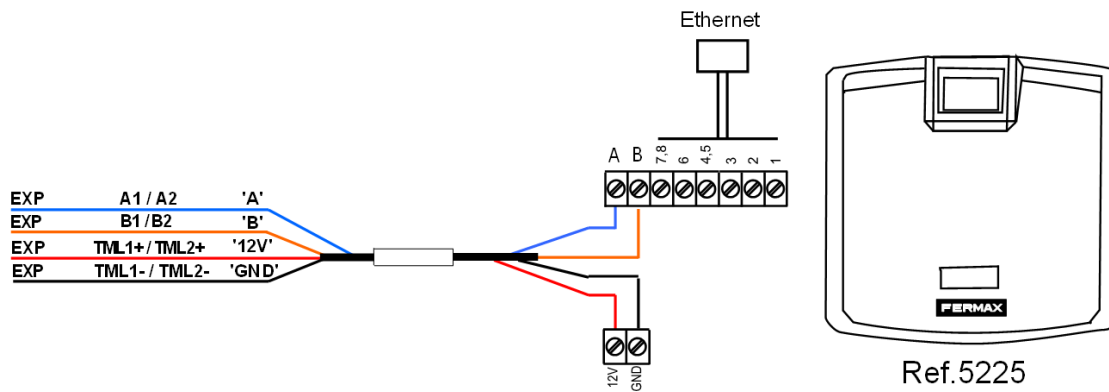


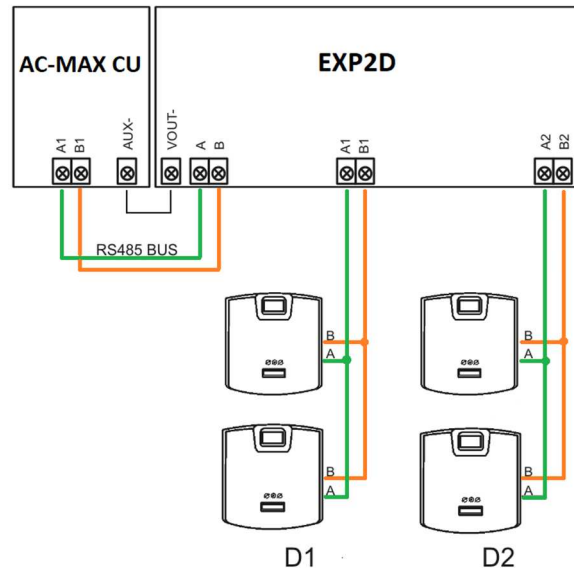
Esquema 1. Instalação Leitor ou Teclados Resistant Wiegand e proximidade Mifare Skyline, cityline.



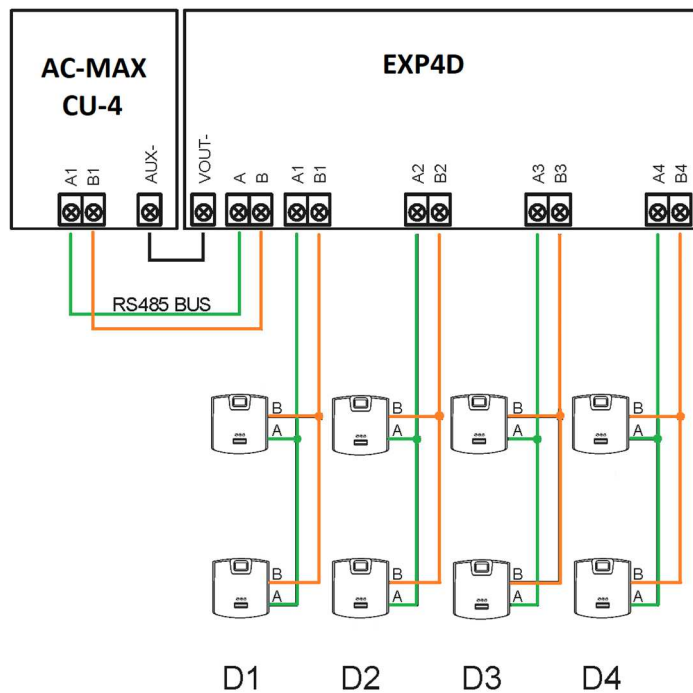
Esquema 2. Instalação de Teclados City, Skyline e Marine Wiegand.

- b) **LEITORES DE DIGITAIS RS-485:** Se os leitores forem leitores de digitais FPAC-MAX RS485, cablar ao bus de dados correspondente, dependendo da porta que se queira ligar.





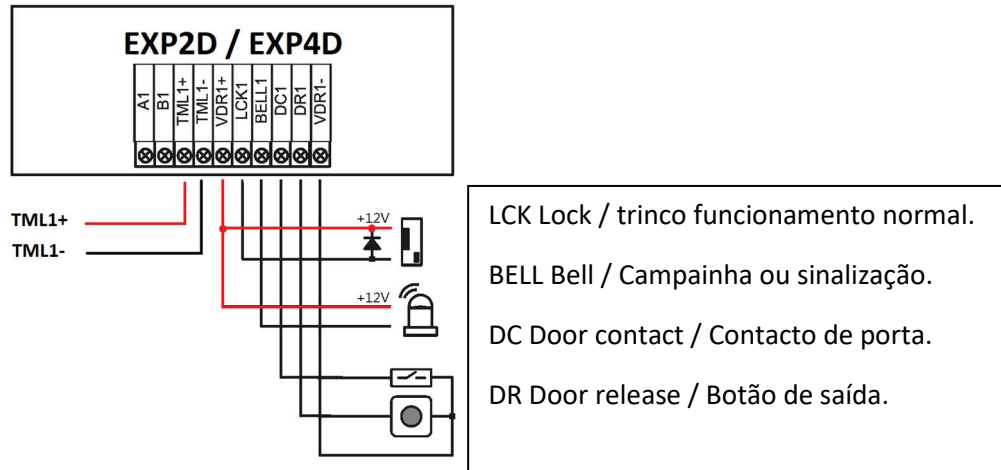
Esquema 3. Exemplo de instalação de 4 leitores de digitais em kit de 2 portas. D1-Porta 1 e D2-Porta 2. Com leitor de digitais de entrada e leitor de digitais de saída, por porta.



Esquema 4. Exemplo de instalação de 8 leitores de digitais em kit de 4 portas. D1-Porta 1, D2-Porta 2.... Com leitor de digitais de entrada e leitor de digitais de saída, por porta.

Passo 3: Ligar os acessórios de cada porta.

Ligar os acessórios ao expansor. Abertura de porta, contacto de porta, botão de saída, etc. Para a porta correspondente.



Esquema 5: Exemplo de instalação de acessórios na porta 1

TABELAS DE SECÇÕES:

Dependendo do consumo do equipamento a alimentar e da distância máxima.

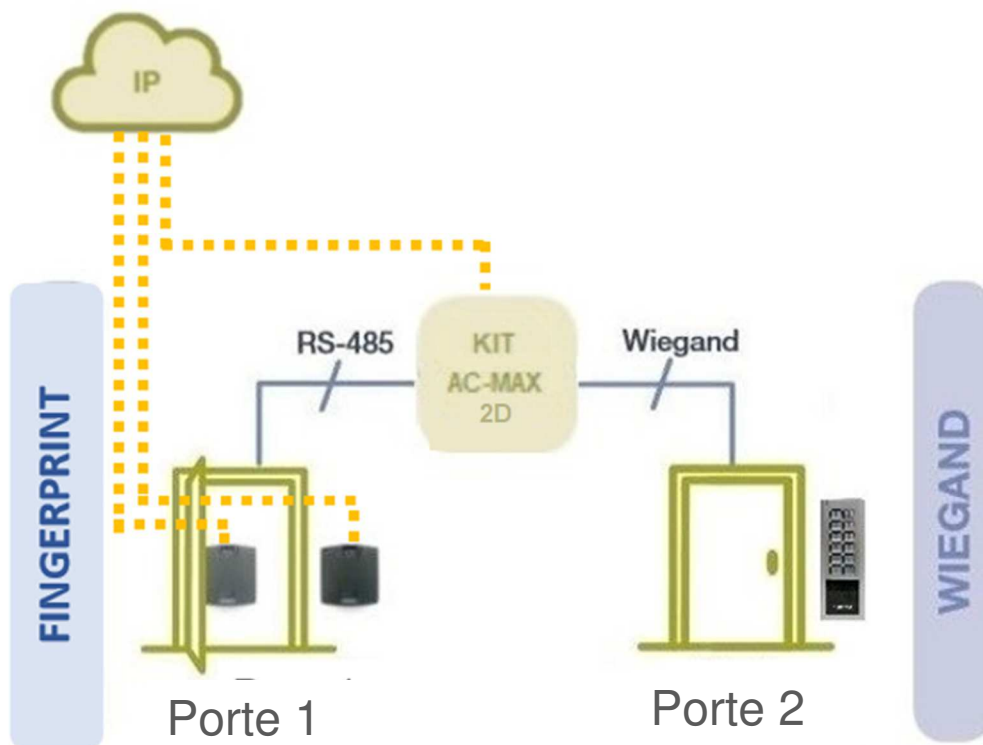
Supply current	2 x 0,5mm ²	2 x 0,75 mm ²	2 x 1,0 mm ²	2 x 1,5mm ²	2 x 2,5 mm ²
50mA	240m	360m	480m	720m	1110m
100mA	120m	180m	240m	360m	590m
150mA	80m	120m	160m	240m	380m
200mA	60m	90m	120m	180m	290m
300mA	40m	60m	80m	120m	200m
400mA	30m	45m	60m	90m	150m
500mA	25m	35m	50m	70m	120m
600mA	20m	30m	40m	60m	100m
700mA	17m	26m	34m	50m	85m

Distância máxima em relação ao número de binários de acordo com o consumo do dispositivo a alimentar.

Supply current	1 pair	2 pairs	3 pairs	4 pairs
50mA	100m	200m	300m	400m
100mA	50m	100m	150m	200m
150mA	33m	66m	99m	131m
200mA	25m	50m	75m	100m
300mA	17m	34m	51m	68m
400mA	12m	24m	36m	48m
500mA	10m	20m	30m	40m
600mA	8m	16m	24m	32m
700mA	7m	14m	21m	28m
800mA	6m	12m	18m	24m
900mA	5m	10m	15m	20m
1000mA	4m	8m	12m	16m

Tab. 2 Maximal UTP cable length in relation to the number of wire pairs and required current

GUIDE-1 KITS AC-MAX GUIDE D'INSTALLATION- CÂBLAGE



Note : Le présent document fait référence à cet exemple d'installation de l'AC-MAX.

Introduction

Le présent document indique, étape par étape, comment mettre en service une installation AC-MAX à deux/quatre portes en utilisant les lecteurs Wiegand et les lecteurs d'empreintes digitales avec la référence 5225 FPAC-MAX RS485.

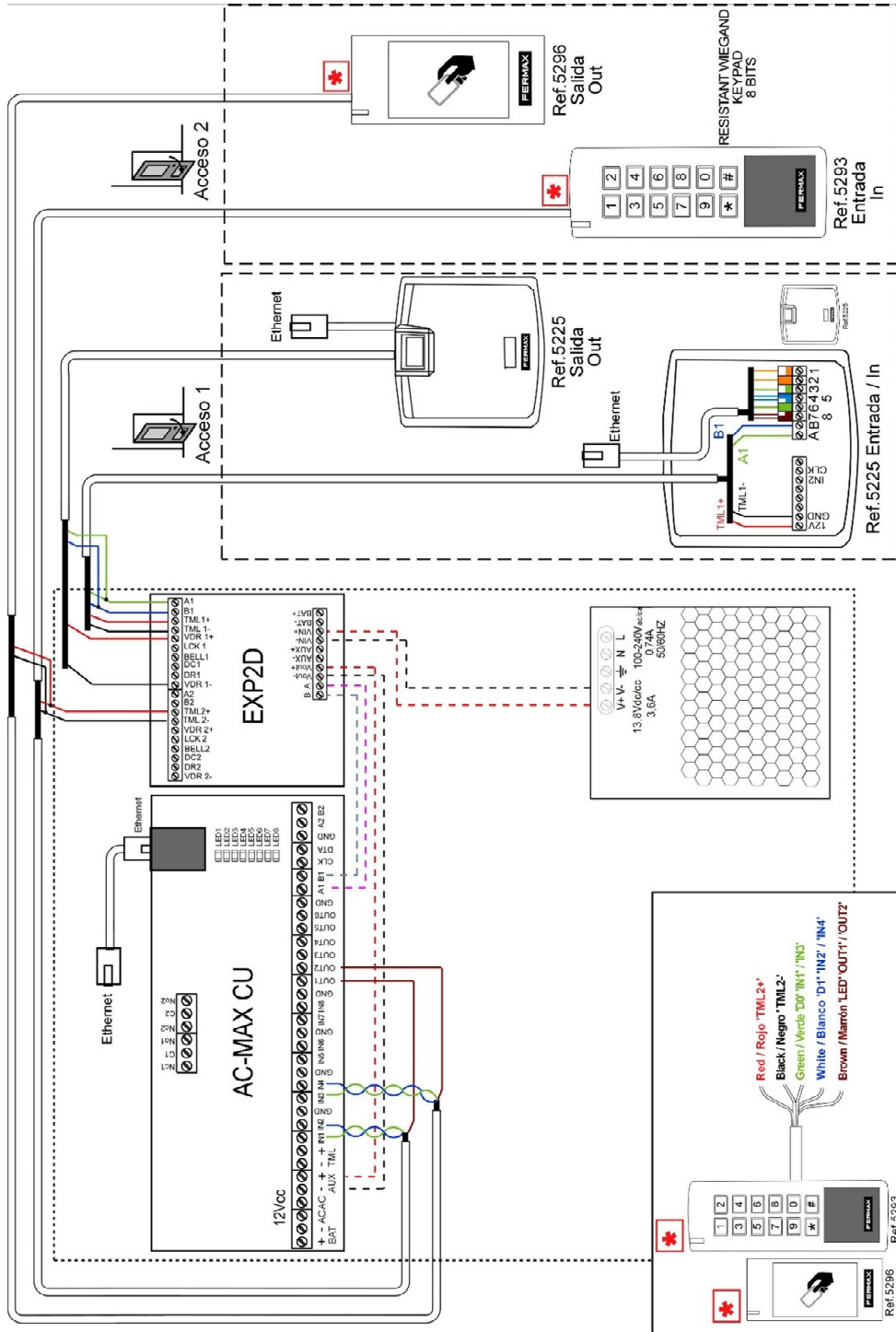
Pour cela, nous utiliserons pour le guide un kit de 2 portes et 3 lecteurs. Dans la porte 1, nous utiliserons 2 lecteurs, une entrée pour une autre sortie, et dans la porte 2, un lecteur d'entrée.

En utilisant les éléments suivants.

- Contrôleur d'accès AC-MAX-CU-KIT-2 (réf. kit 5223)
- 2 x lecteurs D'EMPREINTES DIGITALES RS485 FPAC-MAX (Réf. 5225) (Comme lecteur d'entrée et lecteur de sortie pour la Porte 1).
- 1 x lecteur WIEGAND (Clavier résistant 5293) (Comme lecteur d'entrée de la porte 2)

Installation-câblage

Les schémas de câblage suivants montrent comment les kits de 2 ou 4 portes peuvent être câblés. Nous avons pris l'exemple avec un système de deux portes comprenant une porte avec lecteur d'entrée et une autre avec lecteur d'entrée/sortie.



Exemple de schéma : d'une installation dont la mise en service est présentée dans le présent guide.

Kit de précâblage interne

Connexion de l'alimentation électrique à l'extenseur et de l'extenseur à l'unité contrôle.
L'utilisation de la batterie est en option et serait connectée à l'extenseur en BAT +, BAT-.

Connexion du bus de données des terminaux A et B de l'extenseur aux terminaux A1 B1 de l'unité de contrôle. Comme dans le Schéma 1.

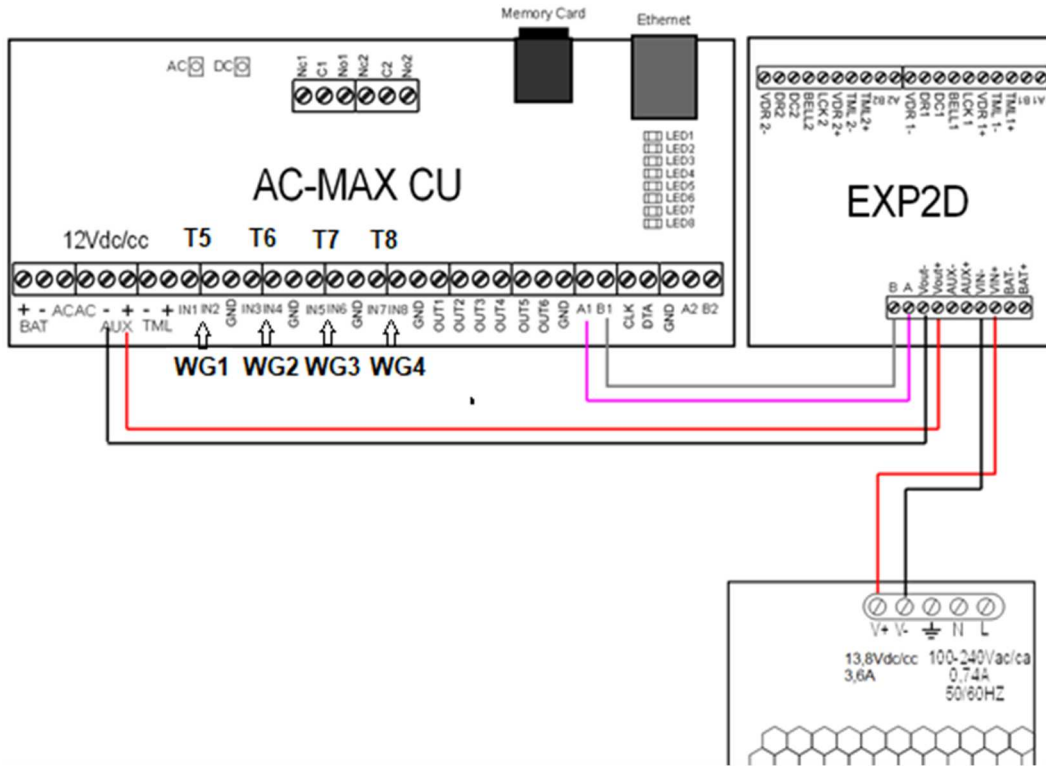
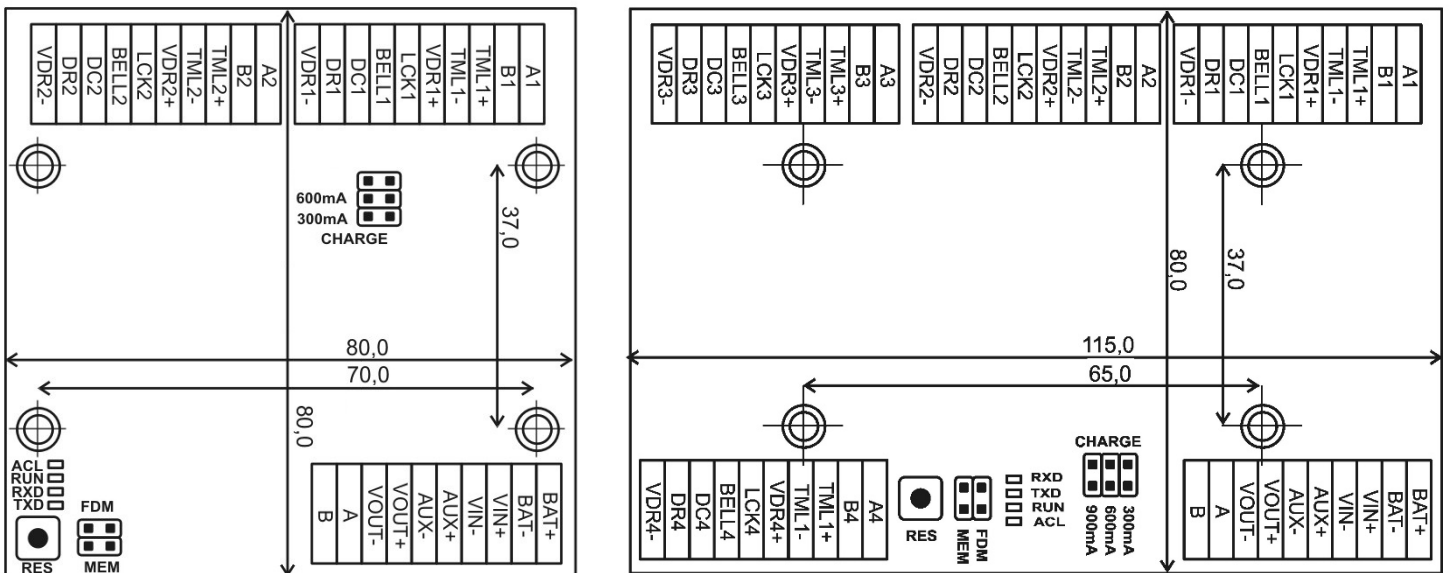


Schéma 1. Câblage de données RS485 et kit d'alimentation électrique.



Étapes d'installation-Câblage.

Étape 1 : Connectez l'alimentation aux différents lecteurs.

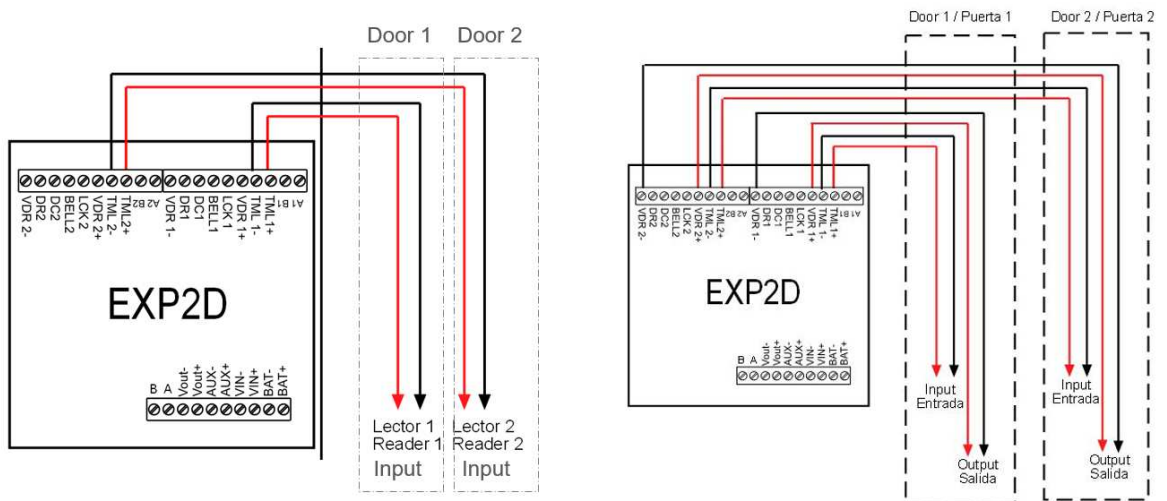
LECTEURS WIEGAND : Tube réf. 5922 (6 câbles x 0,5 mm²) ou UTP CAT5 (1 paire pour D0, D1 et une autre paire pour le négatif, sont recommandés jusqu'à 100 m. Utilisez la CAT6 pour les installations industrielles.

LECTEURS RS-485 FPAC-MAX : UTP CAT5 (1 paire pour A, B et une autre paire pour le négatif, jusqu'à 100 mts) est recommandée. Utilisez la CAT6 pour les installations industrielles.

Distance maximale RS-485, jusqu'à 1 200 m entre l'UC et un autre lecteur d'empreintes digitales. En fonction du câble et des alimentations électriques de l'installation.

Mise en garde : N'installez pas les câbles à proximité d'autres câbles à haute tension ou à courant élevé, en particulier à 230 V ou plus. Utilisez la même paire pour les lignes A, B ou D0, D1.

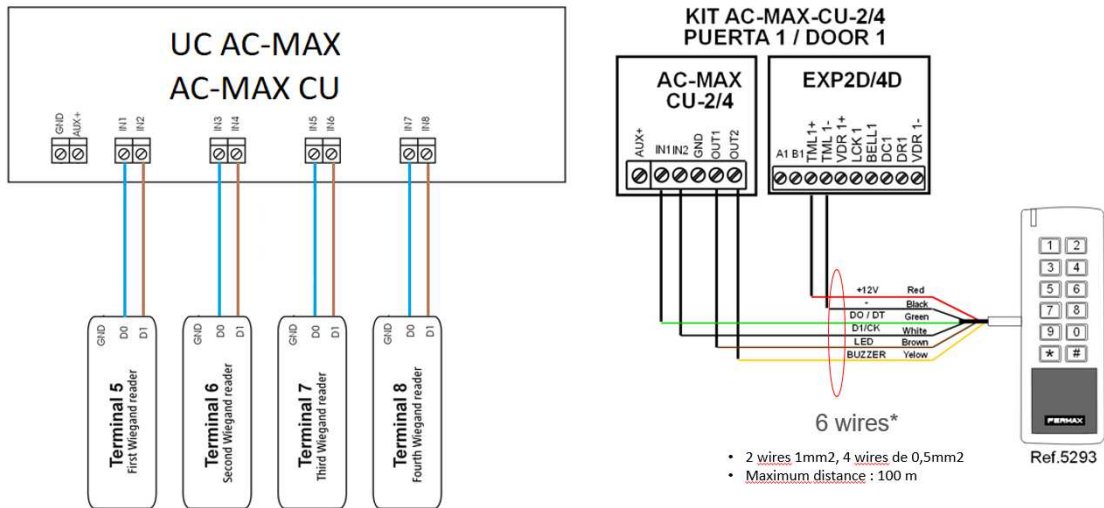
- Door 1 Input fingerprint reader (**TML1 +**, TML1- of the expander)
- Door 1 Output fingerprint reader (**VDR 1 +**, VDR 1- of the expander)
- Door 2 Input keypad (**TML2 +**, TML2- of the expander)



Étape2 : Connexion des DONNÉES, des différents lecteurs.

- a) **LECTEURS WIEGAND** : Reliez les données des différents lecteurs wiegand Do et D1 directement à l'unité controle.

Terminal 5 (Premier lecteur Wiegand 1)	D0, D1	IN1, IN2
Terminal 6 (Deuxième lecteur Wiegand 2)	D0, D1	IN3, IN4
Terminal 7 (Troisième lecteur Wiegand 3)	D0, D1	IN5, IN6
Terminal 8 (Quatrième lecteur Wiegand 4)	D0, D1	IN7, IN8



Exemple d'installation de 4 lecteurs wiegand.

Selon le type de lecteur choisi, le câblage est le suivant :

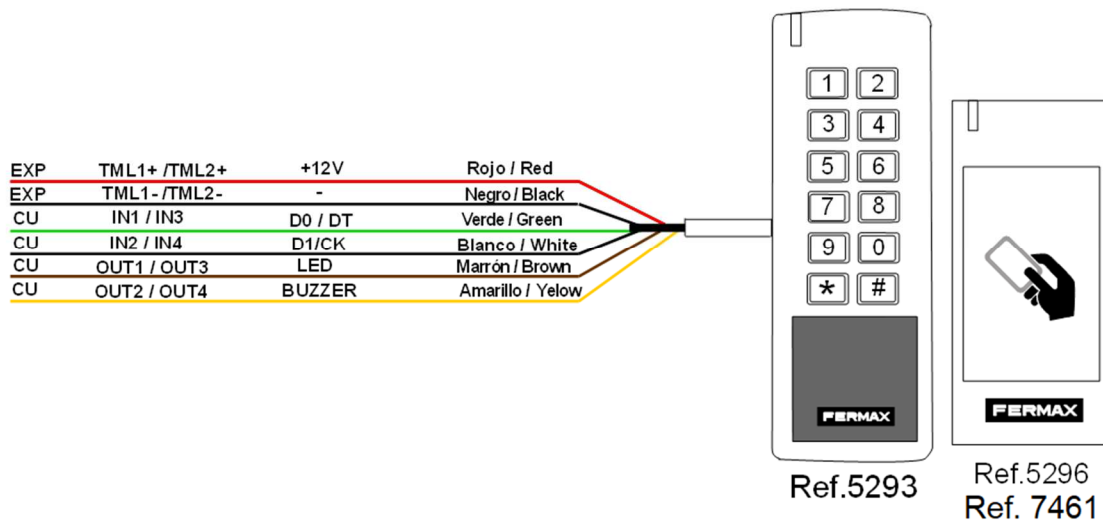


Schéma 2. Lecteurs ou clavier Résistant Wiegand et de proximité Mifare Skyline, cityline.

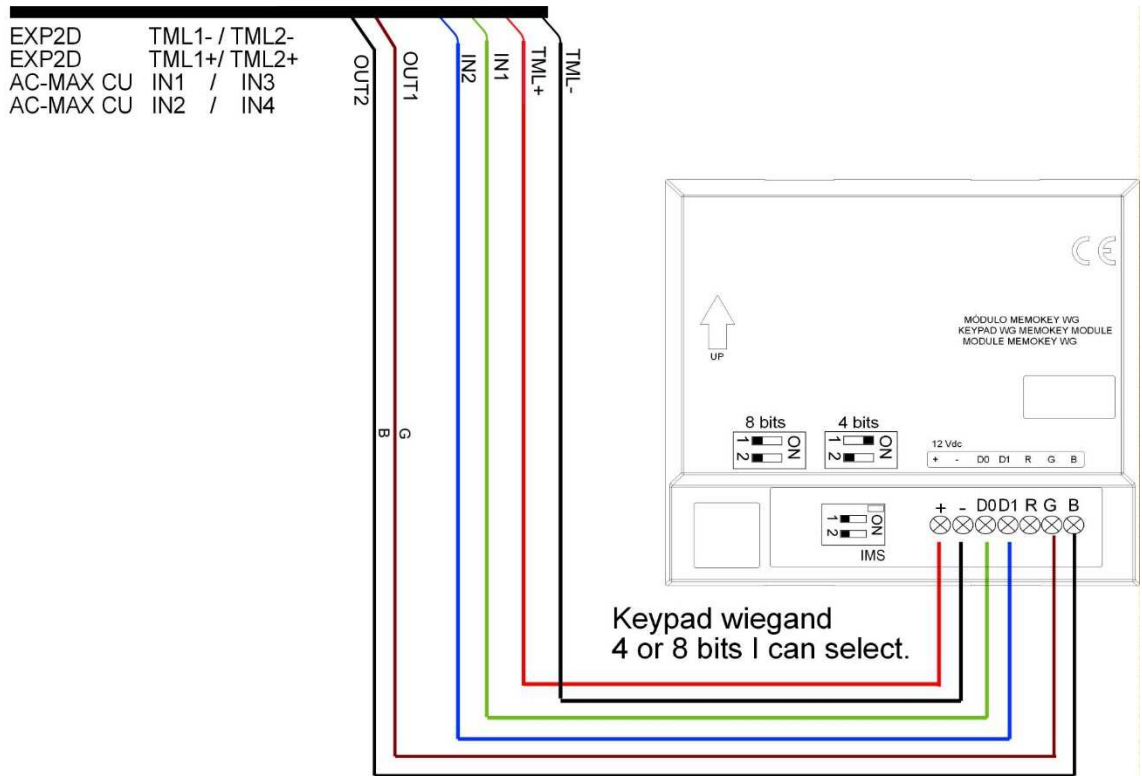
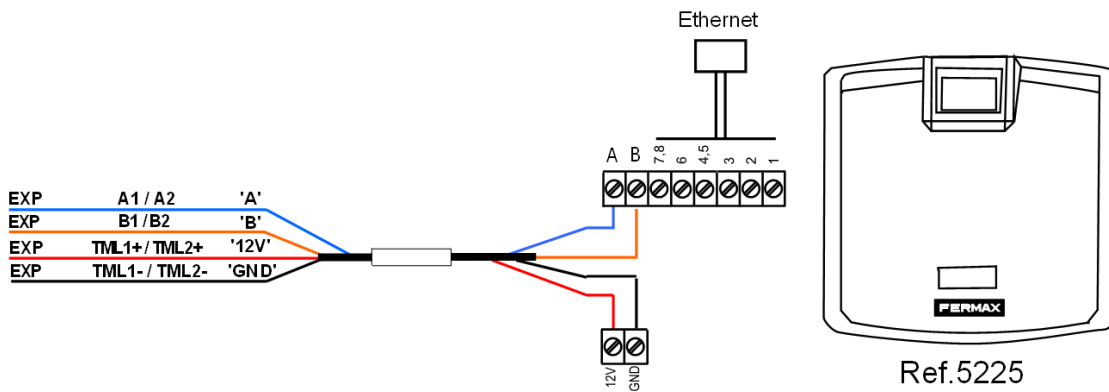


Schéma 3. Clavier City, Skyline et Marine Wiegand réf. 5190, 5191 et 5192.

- a) **LECTEUR D'EMPREINTES DIGITALES FPAC-MAX RS-485** : Si les lecteurs sont des lecteurs d'empreintes digitales FPAC-MAX RS485, il faut les relier au bus de données correspondant en fonction de la porte à connecter.



Installation Lecteur d'empreintes digitales FPAC-MAX RS485.

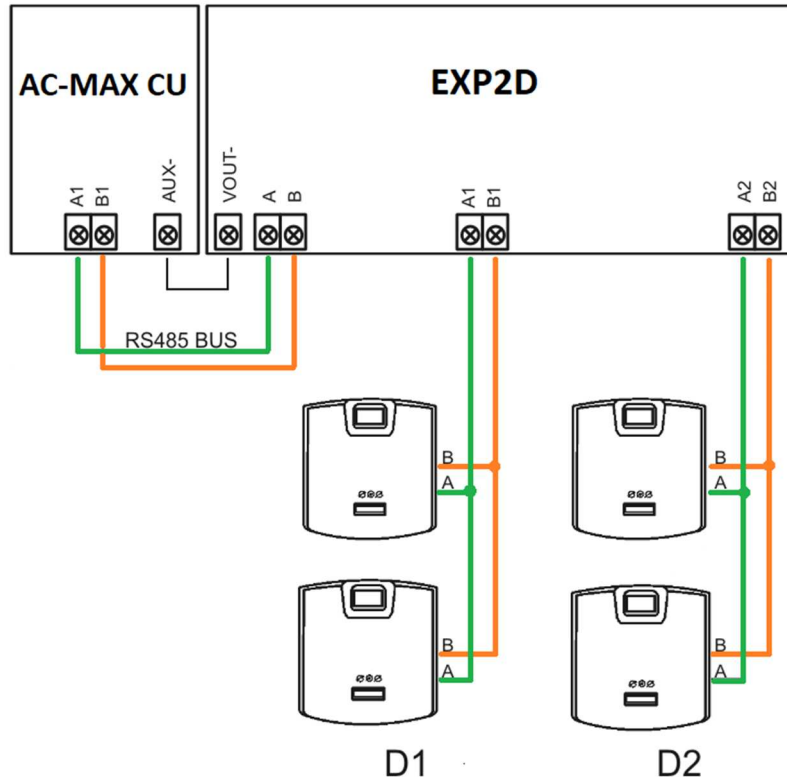


Schéma 4. Exemple d'installation de 4 lecteurs d'empreintes digitales dans un kit pour 2 portes. D1-Porte 1 et D2-Porte 2. Avec lecteur d'empreintes digitales d'entrée et lecteur d'empreintes digitales de sortie, par porte.

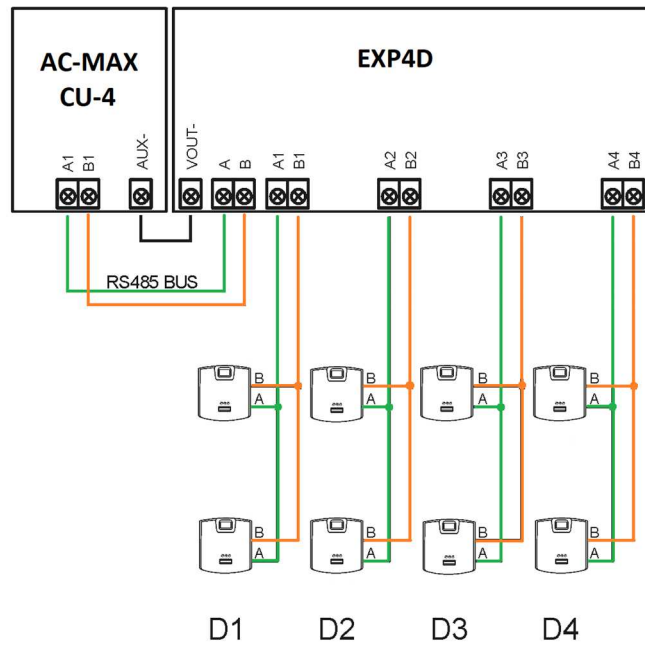


Schéma 5. Exemple d'installation de 8 lecteurs d'empreintes digitales dans un kit pour 4 portes. D1-Porte 1, D2-Porte 2. Avec lecteur d'empreintes digitales d'entrée et lecteur d'empreintes digitales de sortie, par porte.

Étape3 : Reliez les accessoires de chaque porte.

- b) Reliez les accessoires à l'extenseur. Dispositif d'ouverture de porte, contact de porte, bouton de sortie. Etc.

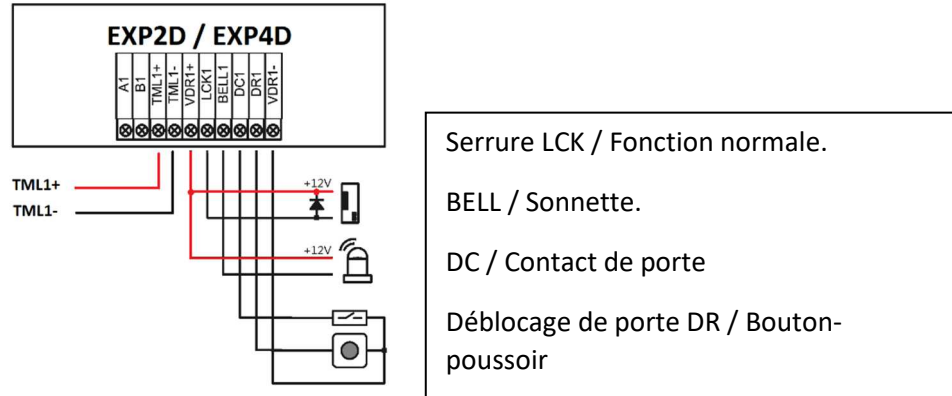


Schéma 6. Exemple d'installation d'accessoires sur la porte 1.

TABLES DE SECTION:

Selon la consommation de l'équipement à nourrir et la distance maximale.

Supply current	2 x 0,5mm ²	2 x 0,75 mm ²	2 x 1,0 mm ²	2 x 1,5mm ²	2 x 2,5 mm ²
50mA	240m	360m	480m	720m	1110m
100mA	120m	180m	240m	360m	590m
150mA	80m	120m	160m	240m	380m
200mA	60m	90m	120m	180m	290m
300mA	40m	60m	80m	120m	200m
400mA	30m	45m	60m	90m	150m
500mA	25m	35m	50m	70m	120m
600mA	20m	30m	40m	60m	100m
700mA	17m	26m	34m	50m	85m

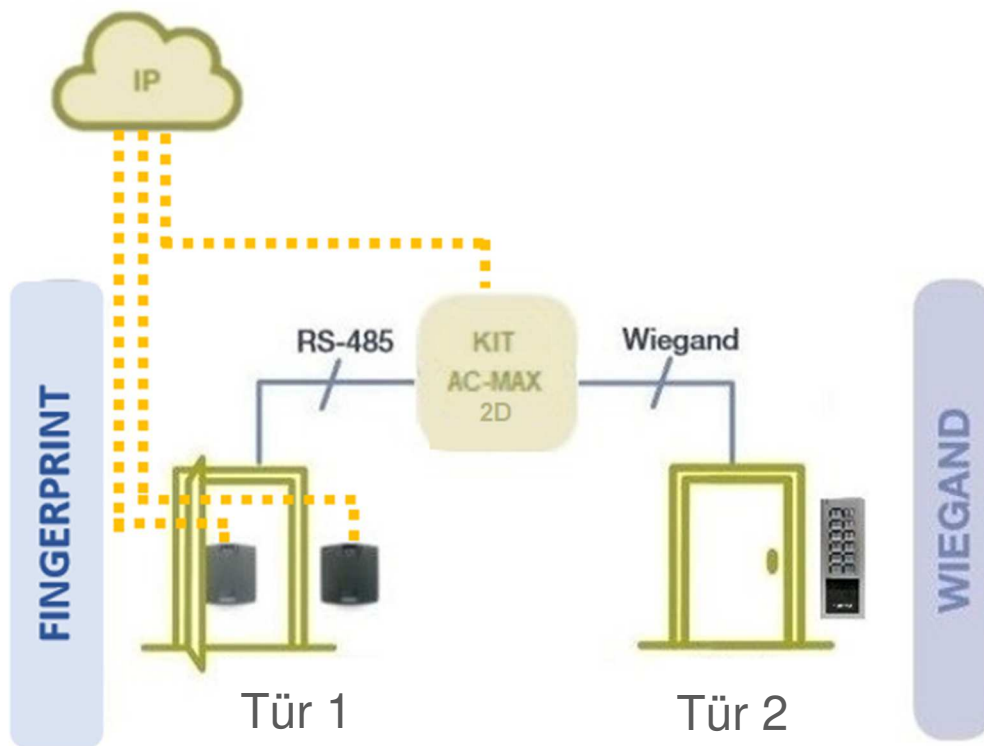
Distance maximale par rapport au nombre de tuques en fonction de la consommation de l'appareil à nourrir.

Supply current	1 pair	2 pairs	3 pairs	4 pairs
50mA	100m	200m	300m	400m
100mA	50m	100m	150m	200m
150mA	33m	66m	99m	131m
200mA	25m	50m	75m	100m
300mA	17m	34m	51m	68m
400mA	12m	24m	36m	48m
500mA	10m	20m	30m	40m
600mA	8m	16m	24m	32m
700mA	7m	14m	21m	28m
800mA	6m	12m	18m	24m
900mA	5m	10m	15m	20m
1000mA	4m	8m	12m	16m

Tab. 2 Maximal UTP cable length in relation to the number of wire pairs and required current

ANLEITUNG-1 AC-MAX KITS INSTALLATION- VERDRAHTUNGSANLEITUNG

Hinweis: Dieses Dokument bezieht sich auf dieses AC-MAX-Installationsbeispiel.



Einführung

Dieses Dokument zeigt Schritt für Schritt, wie man eine AC-MAX-Installation mit zwei/vier Türen in Betrieb nimmt, die sowohl Wiegand-Leser als auch Ref. 5225 FPAC-MAX RS485 Fingerabdruckleser verwenden.

Hierfür wird ein Kit mit 2 Türen und 3 Lesern verwendet. In Tür 1 werden wir 2 Leser verwenden, einen für den Eingang und einen für den Ausgang, und in Tür 2 einen Eingangsleser.

Verwenden Sie die folgenden Elemente.

- Zutrittskontroller AC-MAX-CU-KIT-2 (Kit Ref. 5223)
- 2 x RS485 FINGERABDRUCK-Leser FPAC-MAX (Ref. 5225) (Als Eingangsleser und Ausgangsleser für Tür 1).
- 1 x WIEGAND-Leser (widerstandsfähige Tastatur 5293) (Als Tür-2-Eingangsleser)

Installation-Verdrahtung

Die folgenden Verdrahtungspläne zeigen, wie 2 oder 4 Türsets verdrahtet werden können. Wir haben das Beispiel anhand eines Systems mit zwei Türen gestaltet, mit einer Tür mit Eingangsleser und einer anderen Tür mit Eingangs- / Ausgangsleser.

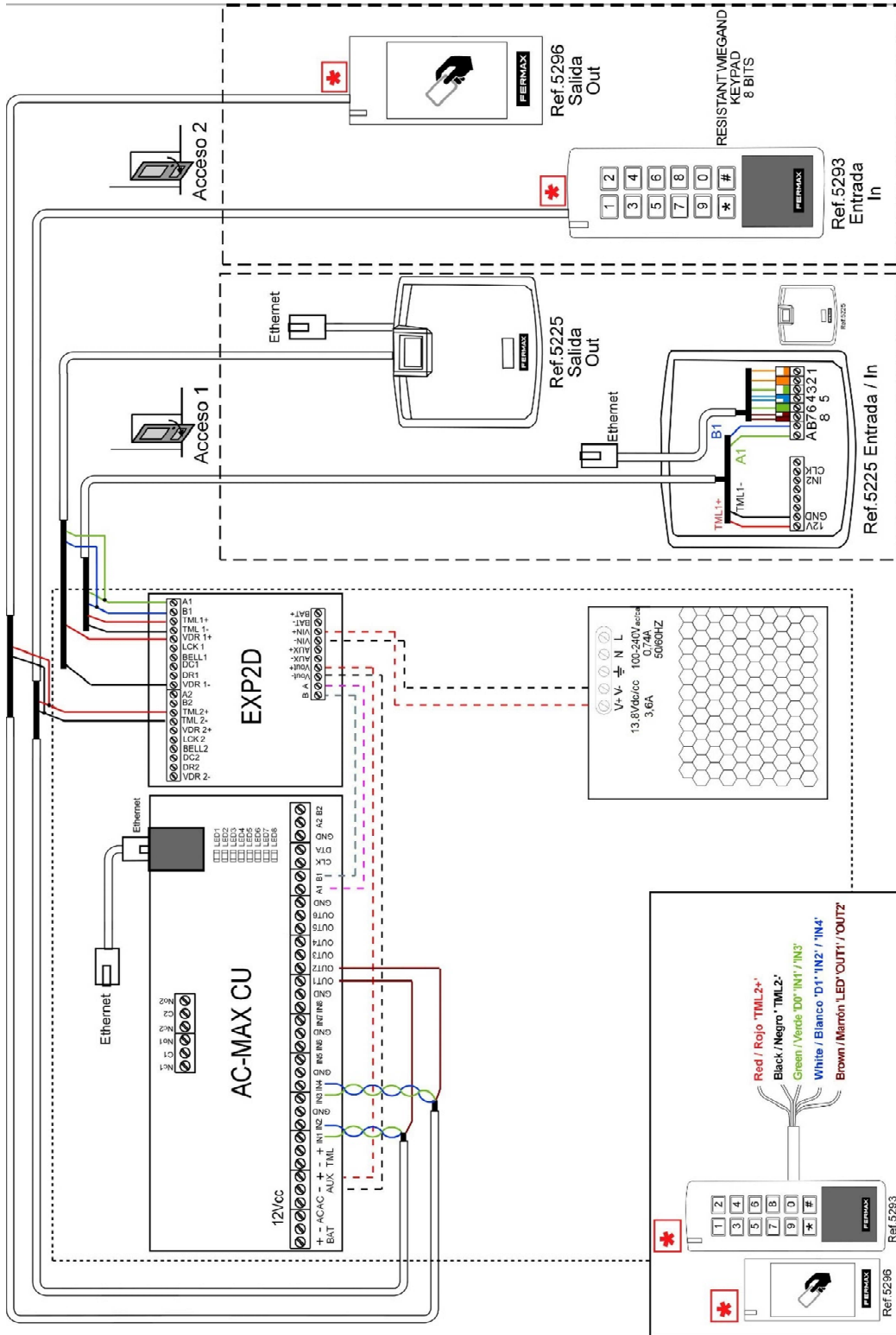


Diagramm: Beispiel einer Installation, deren Inbetriebnahme in dieser Anleitung beschrieben wird.

Interner Vorverdrahtungssatz

Anschluss der Spannungsversorgung an den Expander und des Expanders an die Zentraleinheit. Die Verwendung der Batterie ist optional und würde an den Expander in BAT +, BAT- angeschlossen werden.

Anschluss des Datenbusses von den Terminals A und B des Erweiterungsmoduls an die Terminals A1 B1 der Steuereinheit. Wie in Diagramm 1.

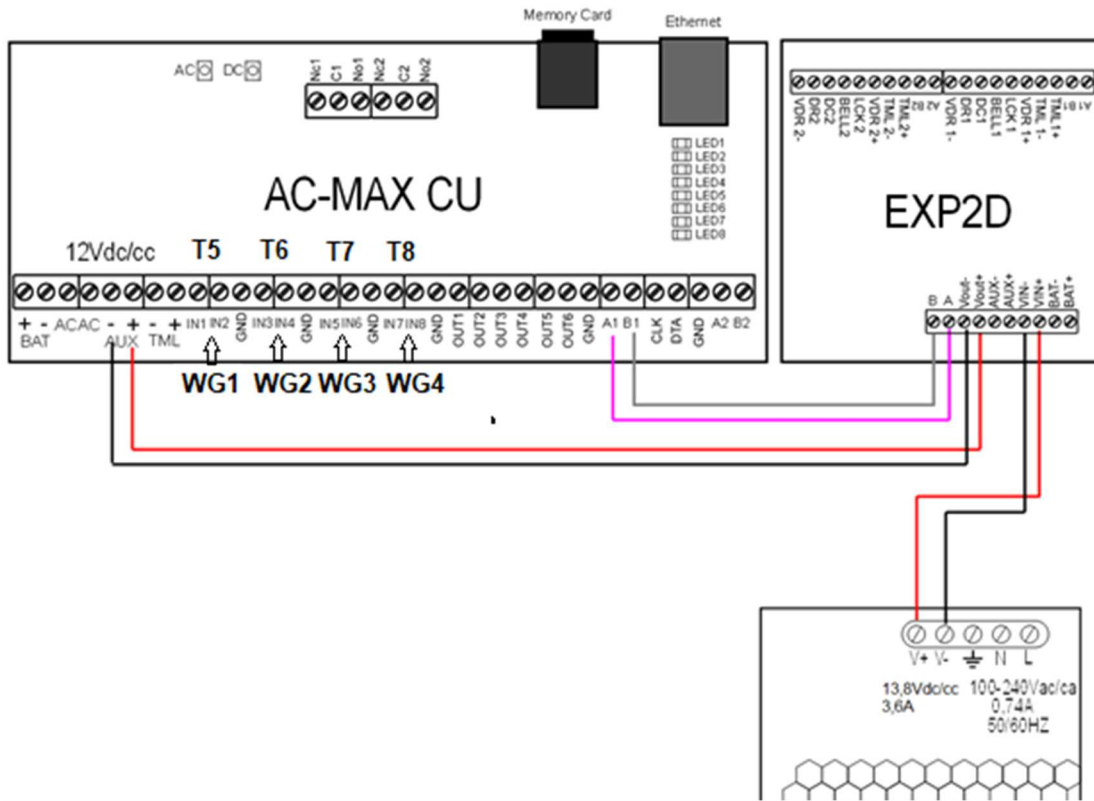
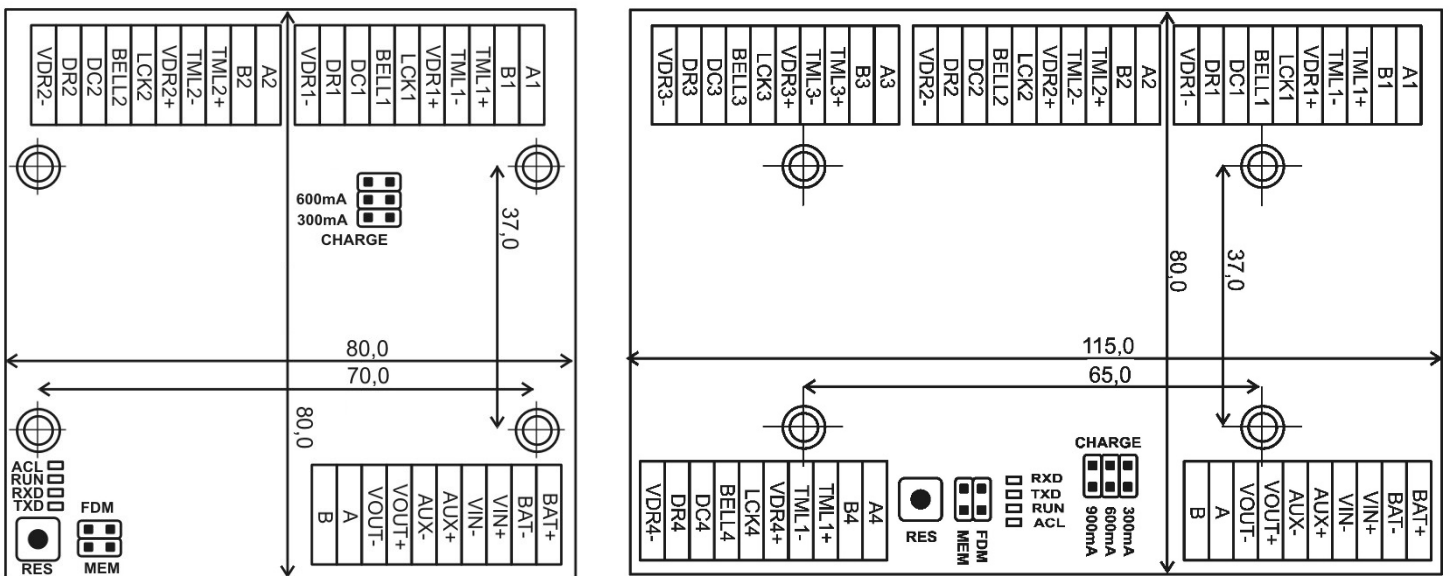


Diagramm 1. RS485 Datenverkabelungs- und Stromversorgungssatz.



Installationsschritte-Verdrahtung.

Schritt 1: Schließen Sie den Strom an die verschiedenen Leser an.

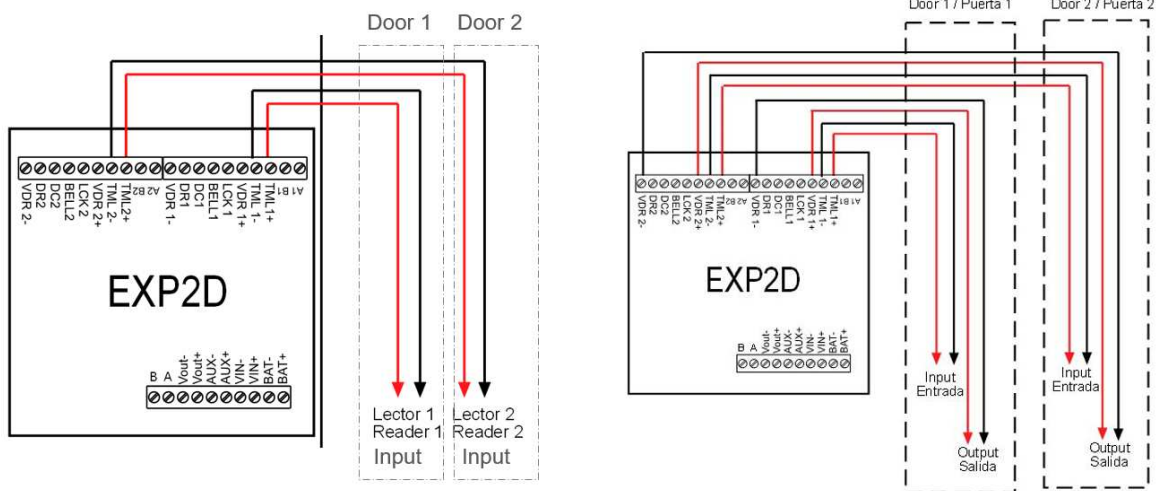
WIEGAND-LESER: Schlauch Ref. 5922 (6 Drähte x 0,5mm²) oder UTP CAT5 (1 Paar für D0, D1 und ein weiteres Paar für negativ, wird bis zu 100m empfohlen. Verwenden Sie CAT6 für industrielle Installationen.

LESER RS-485 FPAC-MAX: UTP CAT5 (1 Paar für A, B und ein weiteres Paar für negativ bis zu 100m wird empfohlen. Verwenden Sie CAT6 für industrielle Installationen.

Maximale RS-485 Entfernung, bis zu 1.200m zwischen UC und weiterem Fingerabdruckleser. Abhängig vom Kabel und den Stromversorgungen der Anlage.

Warnhinweis: Verlegen Sie die Kabel nicht in der Nähe anderer Hochspannungs- oder Hochstromkabel, insbesondere nicht in der Nähe von 230V oder mehr. Verwenden Sie das gleiche Paar für die Leitungen A, B oder D0, D1.

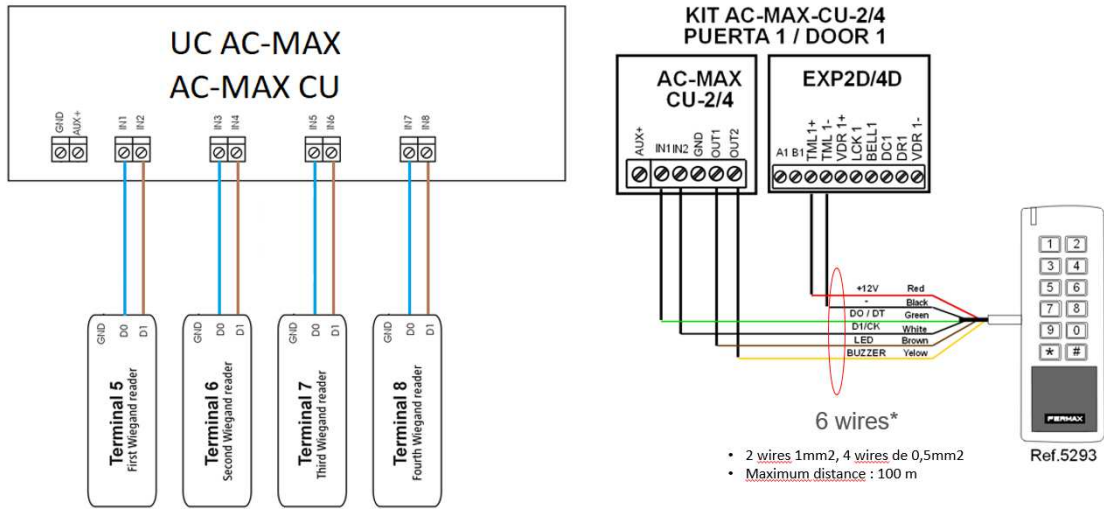
- Door 1 Input fingerprint reader (TML1 +, TML1- of the expander)
- Door 1 Output fingerprint reader (VDR 1 +, VDR 1- of the expander)
- Door 2 Input keypad (TML2 +, TML2- of the expander)



Schritt 2: Anschluss DATA der verschiedenen Leser.

- a) **WIEGAND-LESER:** Verdrahten Sie die Datenein-/ausgänge der verschiedenen Wiegand D0- und D1-Leser direkt mit der Zentraleinheit.

Terminal 5 (Erster Wiegand-Leser 1)	D0, D1	IN1, IN2
Terminal 6 (Zweiter Wiegand-Leser 2)	D0, D1	IN3, IN4
Terminal 7 (Dritter Wiegand-Leser 3)	D0, D1	IN5, IN6
Terminal 8 (Vierter Wiegand-Leser 4)	D0, D1	IN7, IN8



Beispiel für die Installation von 4 Wiegand-Lesern.

Je nach ausgewähltem Lesertyp ist die Verdrahtung wie folgt:

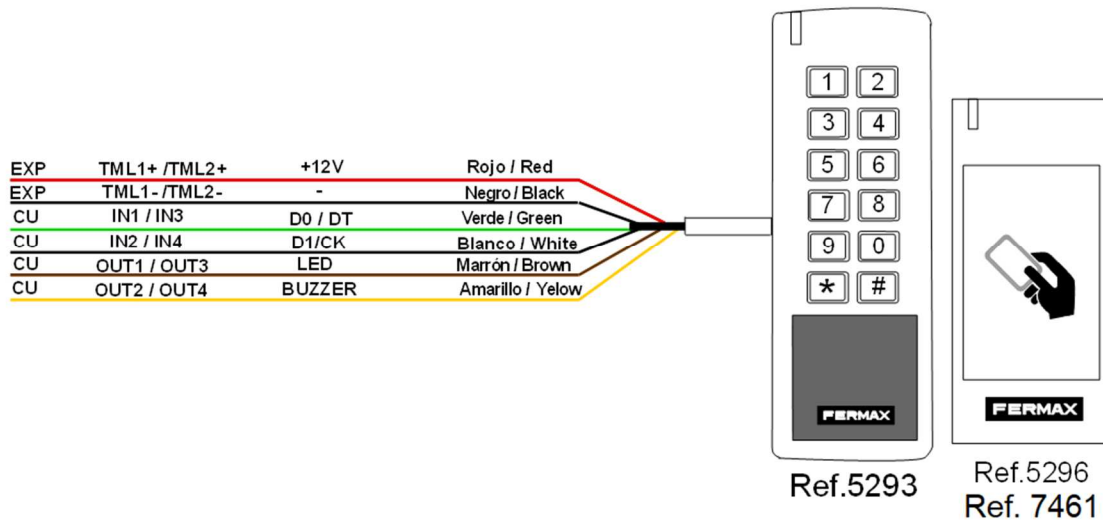


Diagramm 2. Lesegeräte oder widerstandsfähige Tastatur Wiegand y proximidad Mifare Skyline, cityline.

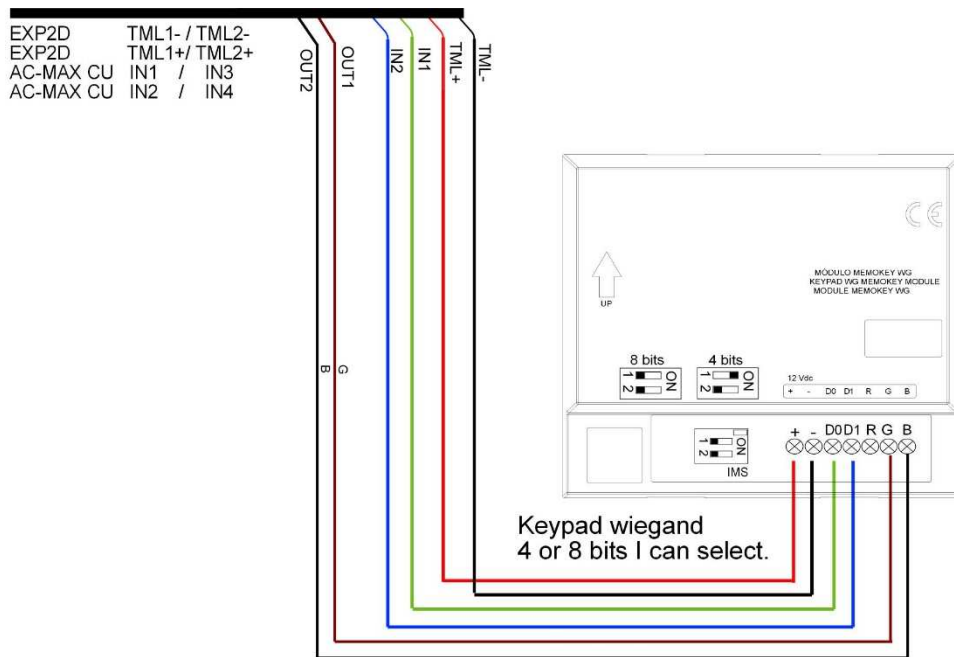
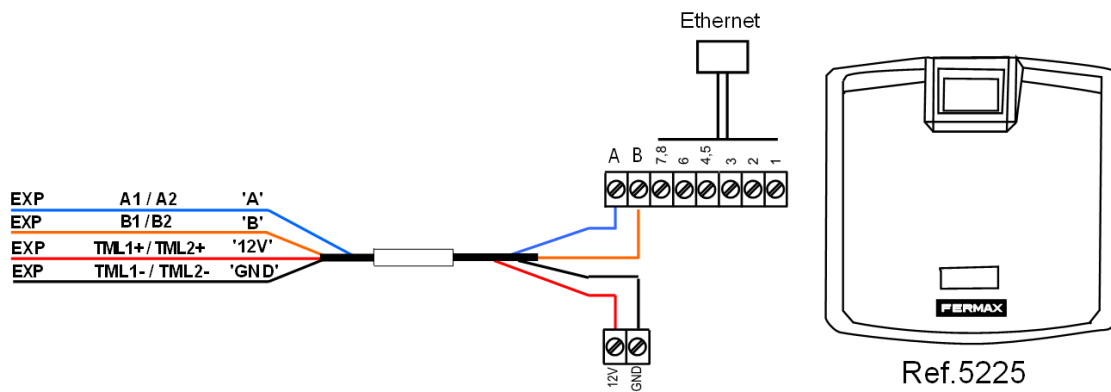


Diagramm 3. Tastatur City, Skyline und Marine Wiegand ref. 5190, 5191 und 5192.

- a) **RS-485 FINGERABDRUCKLESER FPAC-MAX:** Handelt es sich bei den Lesern um FPAC-MAX RS485-Fingerabdruckleser, verdrahten Sie diese je nach anzuschließender Tür mit dem entsprechenden Datenbus.



Installation Fingerabdruckleser FPAC-MAX RS485.

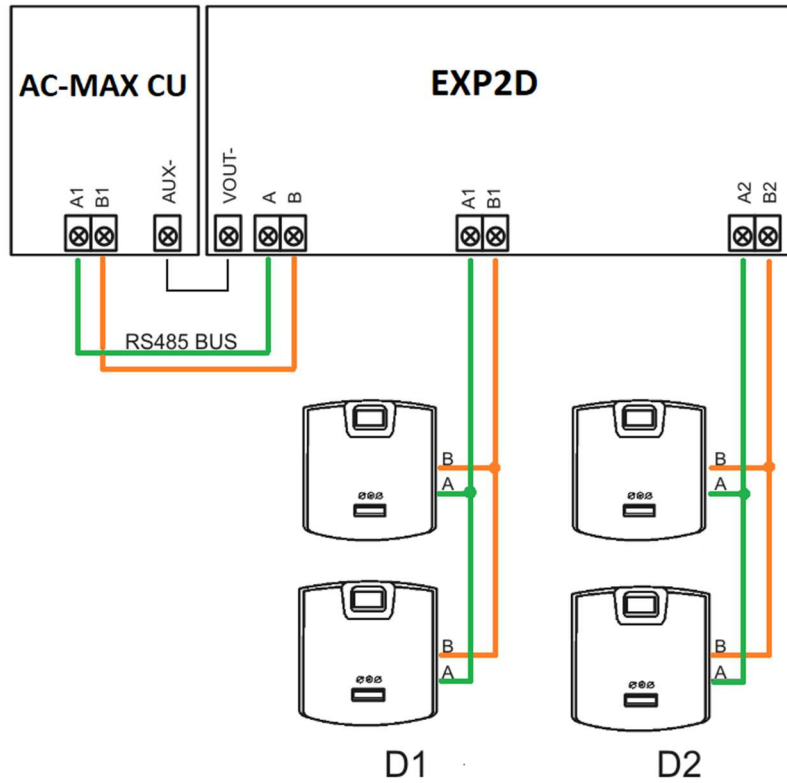


Diagramm 4. Beispiel für die Installation von 4 Fingerabdrucklesern in einem 2-Tür-Bausatz. D1-Tür 1 und D2-Tür 2. Mit Eingangs-Fingerabdruckleser und Ausgangs-Fingerabdruckleser, pro Tür.

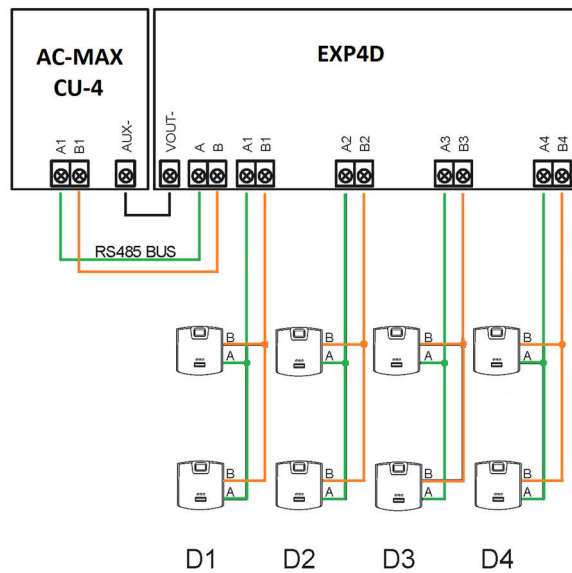


Diagramm 5. Beispiel für die Installation von 8 Fingerabdrucklesern in einem 4-Tür-Bausatz. D1-Tür 1, D2-Tür 2. Mit Eingangs-Fingerabdruckleser und Ausgangs-Fingerabdruckleser, pro Tür.

Schritt 3: Schließen Sie das Zubehör der einzelnen Türen an.

- b) Verdrahten Sie Zubehörteile mit dem Expander. Türöffner, Türkontakt, Ausgangstaster. etc.

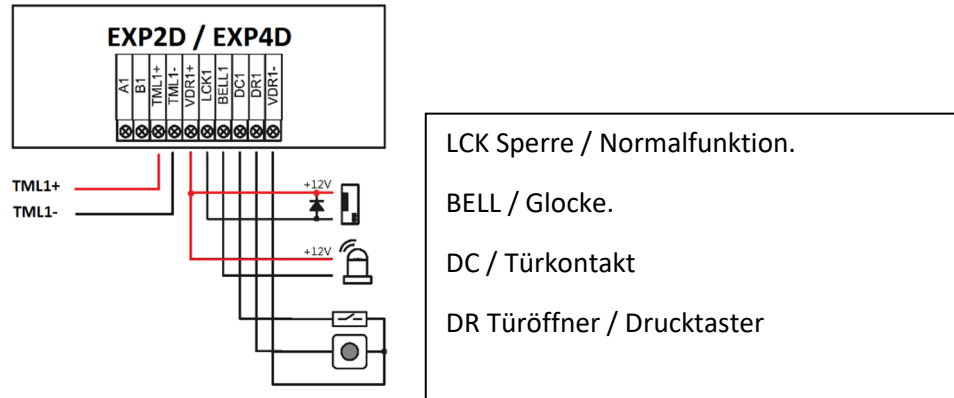


Diagramm 6. Beispiel für die Installation von Zubehör an der Tür 1.

ABSCHNITTSTABELLEN:

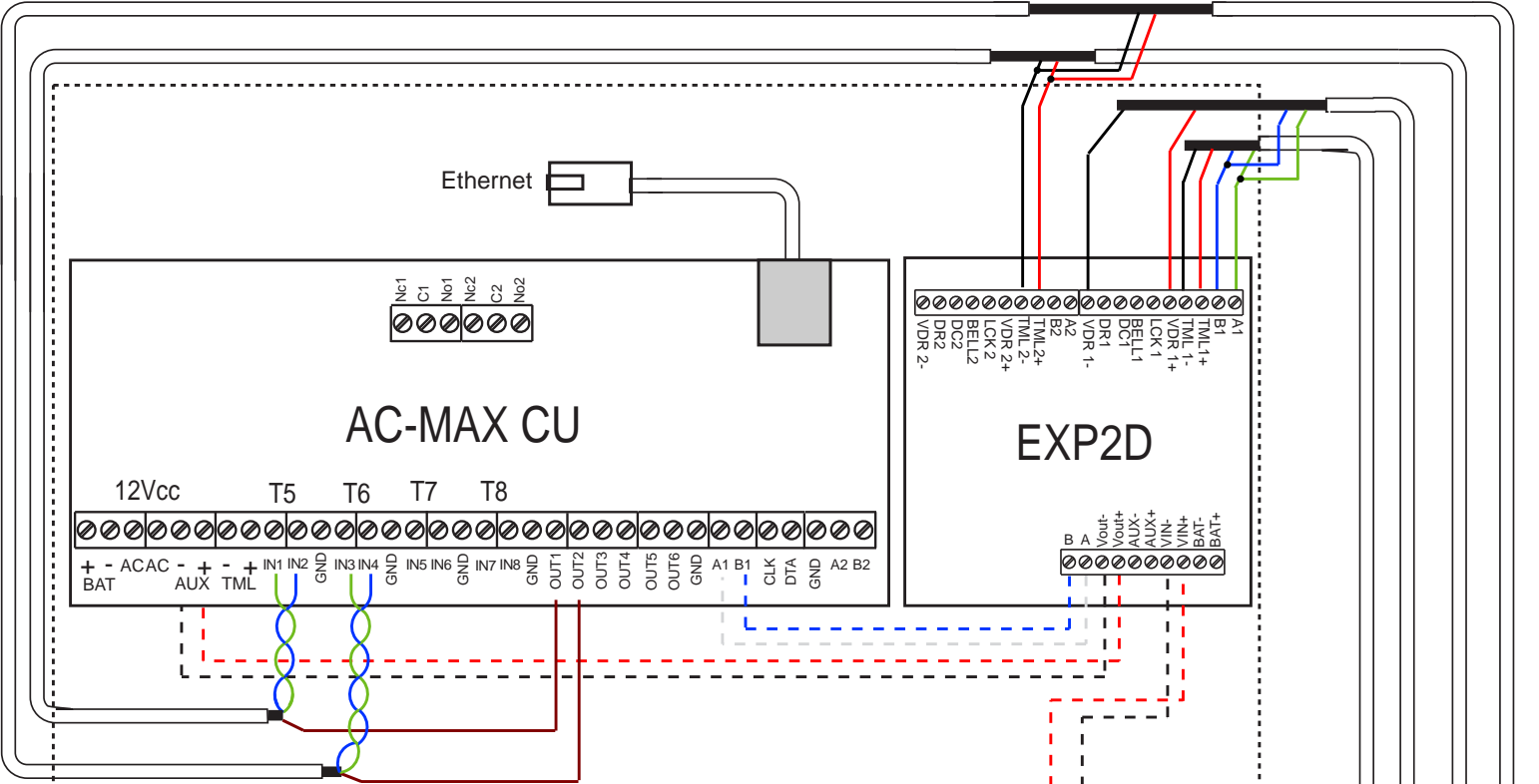
Je nach Verbrauch der zu steuernden Ausrüstung und maximaler Entfernung.

Supply current	2 x 0,5mm ²	2 x 0,75 mm ²	2 x 1,0 mm ²	2 x 1,5mm ²	2 x 2,5 mm ²
50mA	240m	360m	480m	720m	1110m
100mA	120m	180m	240m	360m	590m
150mA	80m	120m	160m	240m	380m
200mA	60m	90m	120m	180m	290m
300mA	40m	60m	80m	120m	200m
400mA	30m	45m	60m	90m	150m
500mA	25m	35m	50m	70m	120m
600mA	20m	30m	40m	60m	100m
700mA	17m	26m	34m	50m	85m

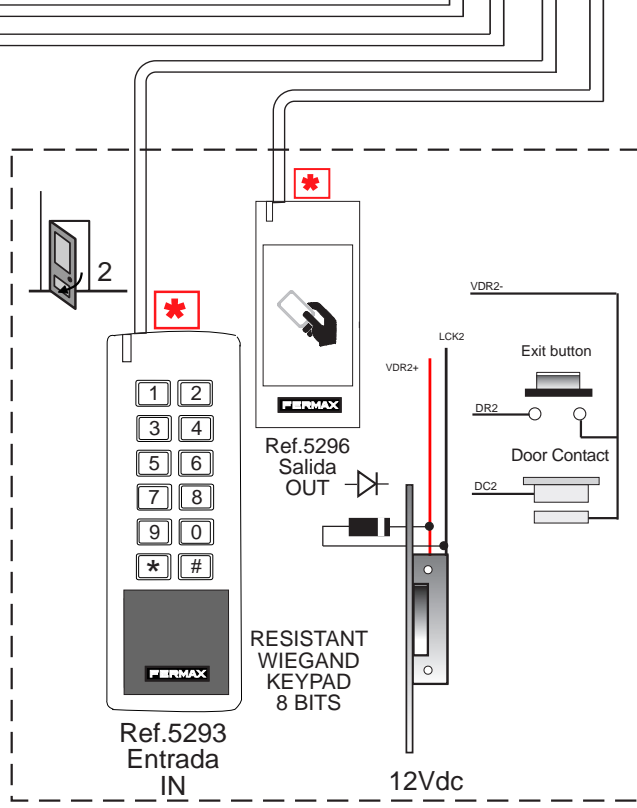
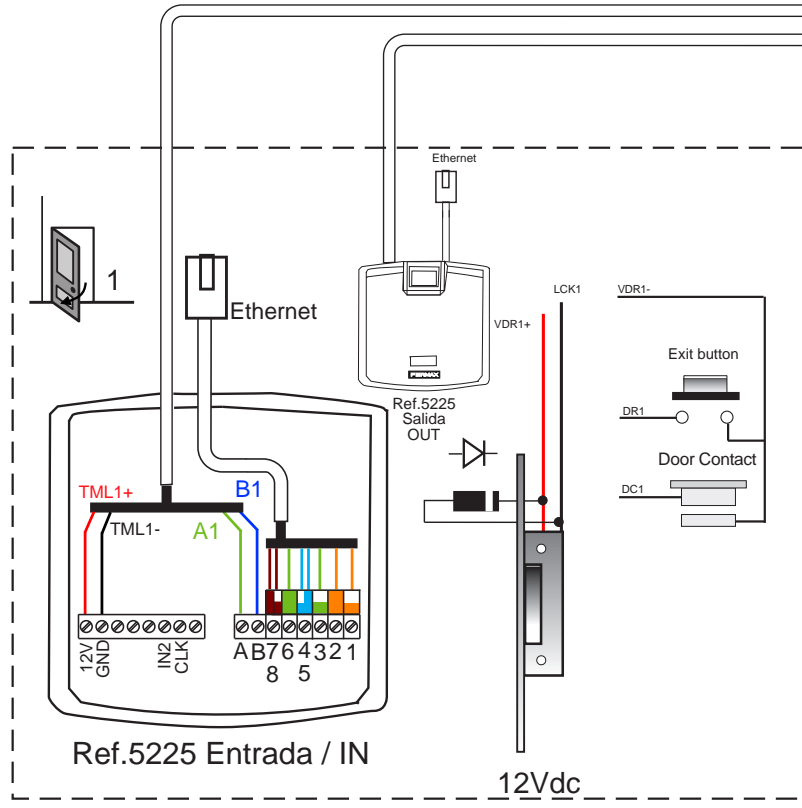
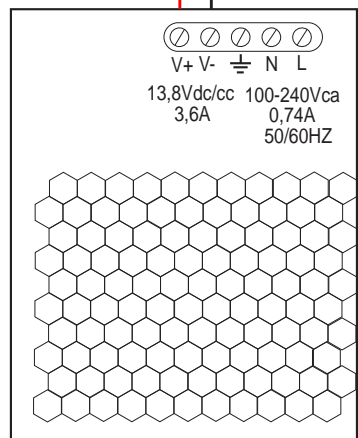
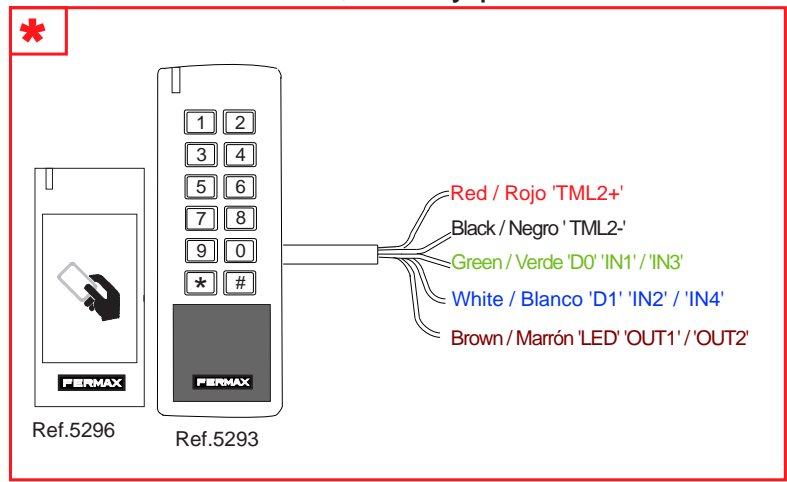
Maximaler Abstand relativ zur Anzahl der Paare entsprechend dem Verbrauch des zu steuernden Geräts.

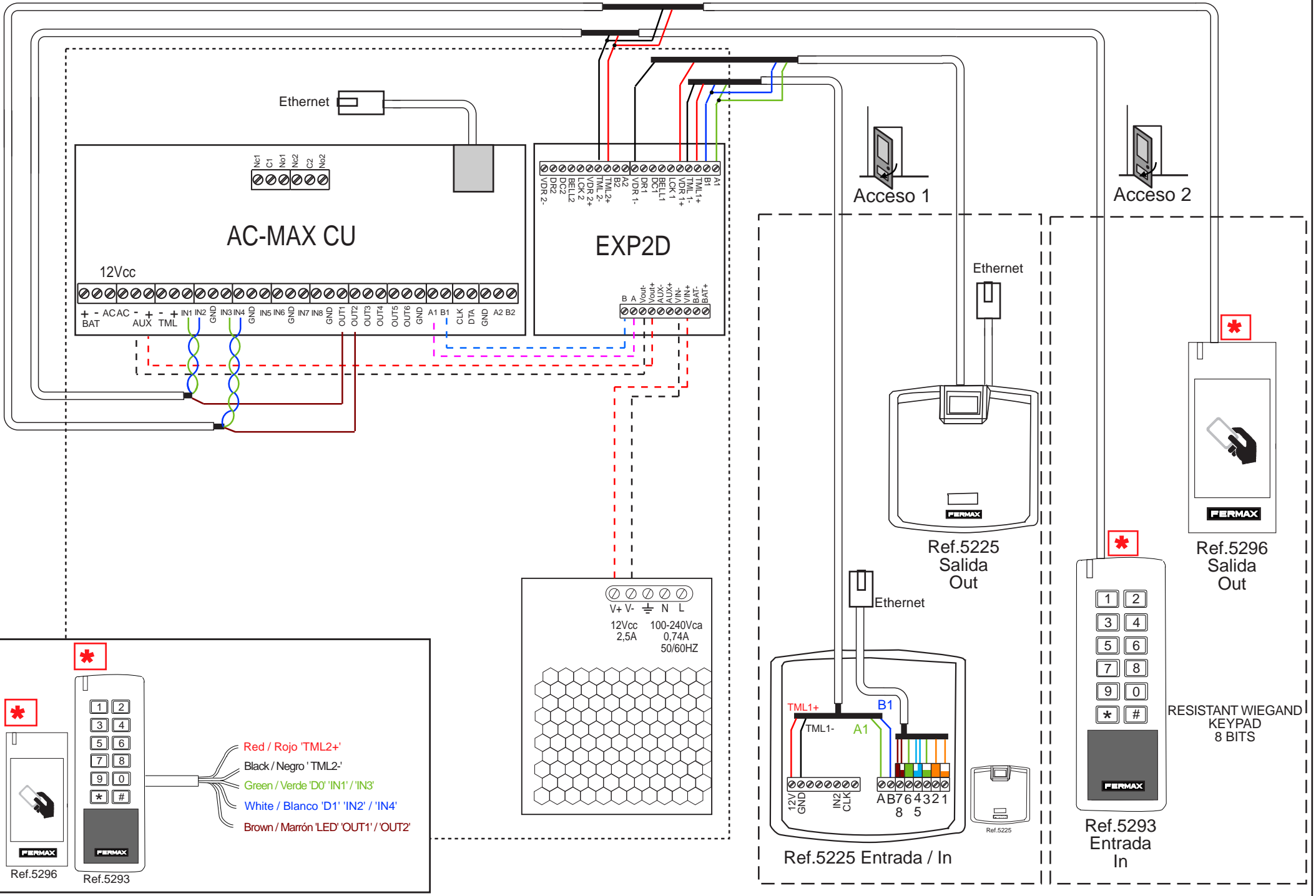
Supply current	1 pair	2 pairs	3 pairs	4 pairs
50mA	100m	200m	300m	400m
100mA	50m	100m	150m	200m
150mA	33m	66m	99m	131m
200mA	25m	50m	75m	100m
300mA	17m	34m	51m	68m
400mA	12m	24m	36m	48m
500mA	10m	20m	30m	40m
600mA	8m	16m	24m	32m
700mA	7m	14m	21m	28m
800mA	6m	12m	18m	24m
900mA	5m	10m	15m	20m
1000mA	4m	8m	12m	16m

Tab. 2 Maximal UTP cable length in relation to the number of wire pairs and required current



--- Líneas discontinuas, precableadas de fábrica.
 - - - Dashed lines, factory prewired.



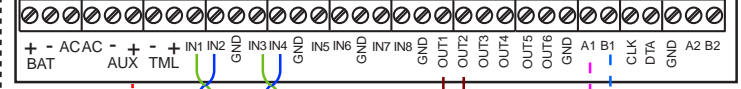


Ethernet

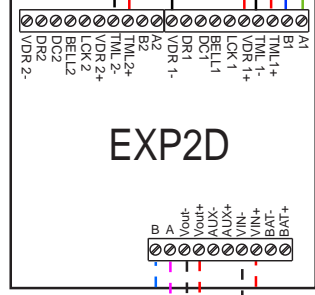


AC-MAX CU

12Vcc



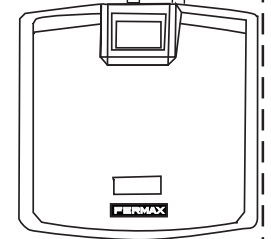
EXP2D



Acceso 1

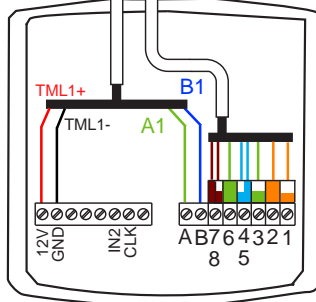
Acceso 2

Ethernet

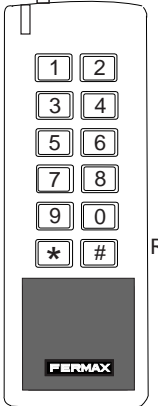


Ref.5225 Salida Out

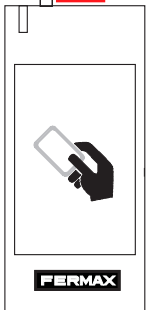
Ethernet



Ref.5225 Entrada / In

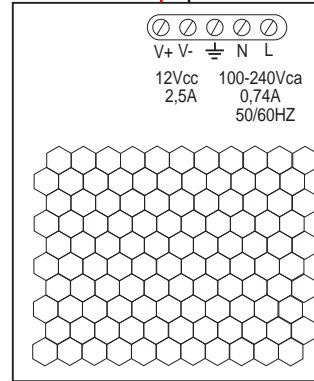


Ref.5293 Entrada In

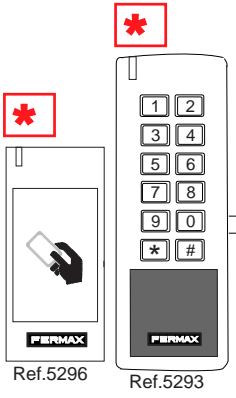


Ref.5296 Salida Out

RESISTANT WIEGAND KEYPAD 8 BITS

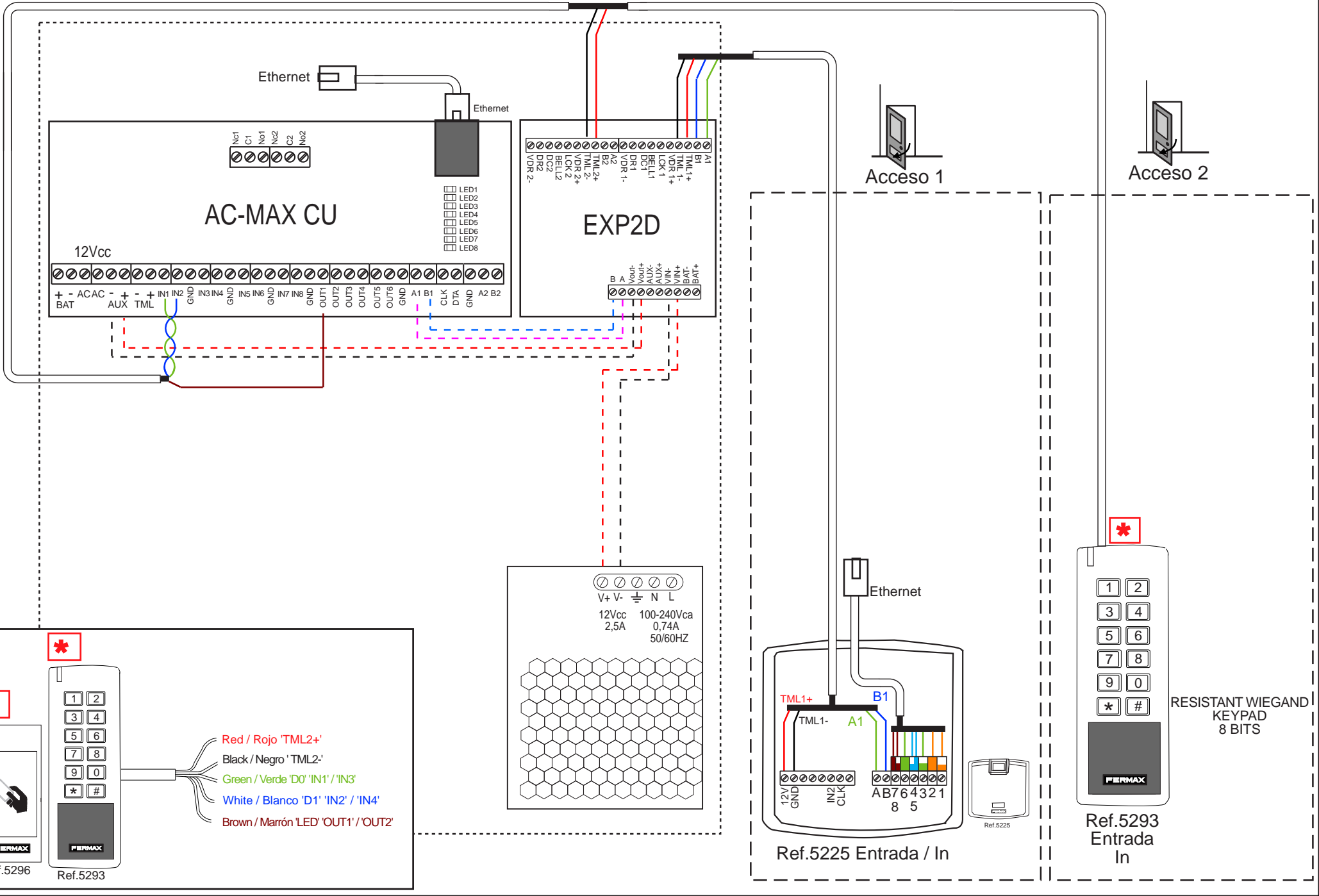


- Red / Rojo 'TML2+'
- Black / Negro 'TML2-'
- Green / Verde 'D0' 'IN1' / 'IN3'
- White / Blanco 'D1' 'IN2' / 'IN4'
- Brown / Marrón 'LED' 'OUT1' / 'OUT2'



Ref.5296





Ethernet

Ethernet

AC-MAX CU

EXP2D

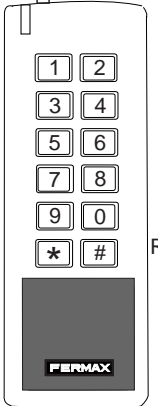
Acceso 1

Acceso 2

12Vcc

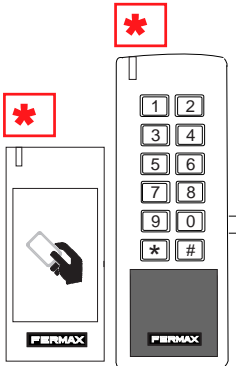
V+ V- N L
 12Vcc 100-240Vca
 2,5A 0,74A
 50/60HZ

Ethernet



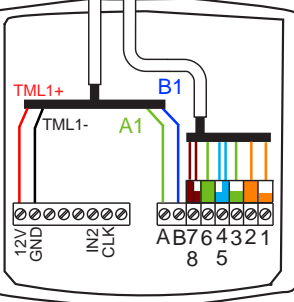
Ref.5293
Entrada
In

RESISTANT WIEGAND
KEYPAD
8 BITS

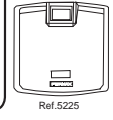


Ref.5296
Ref.5293

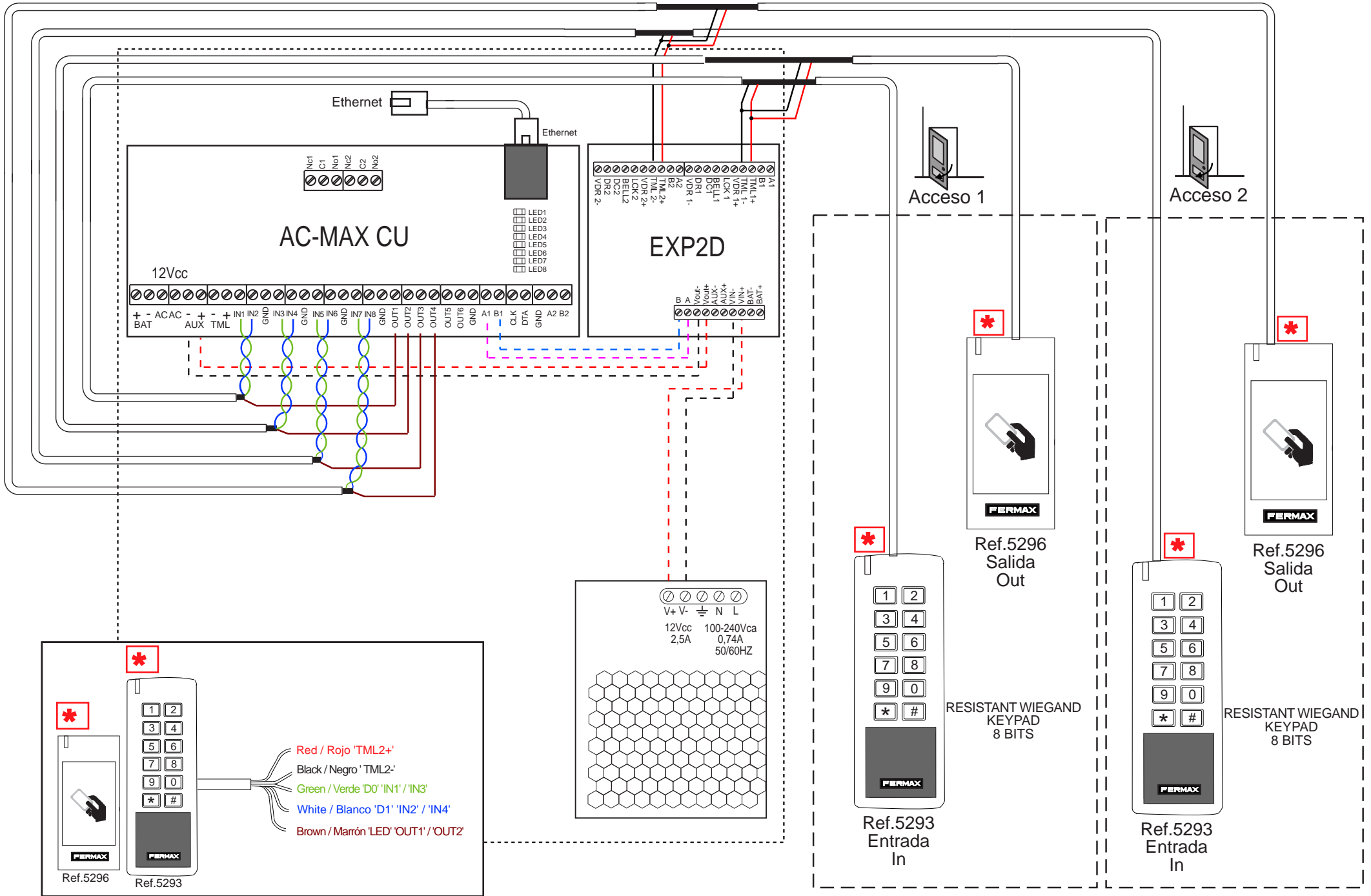
- Red / Rojo 'TML2+'
- Black / Negro 'TML2-'
- Green / Verde 'D0' 'IN1' / 'IN3'
- White / Blanco 'D1' 'IN2' / 'IN4'
- Brown / Marrón 'LED' 'OUT1' / 'OUT2'



Ref.5225 Entrada / In



Ref.5225



AC-MAX CU

EXP2D

Acceso 1

Acceso 2

Ref.5296 Salida Out

Ref.5296 Salida Out

Ref.5293 Entrada In

Ref.5293 Entrada In

RESISTANT WIEGAND KEYPAD 8 BITS

RESISTANT WIEGAND KEYPAD 8 BITS

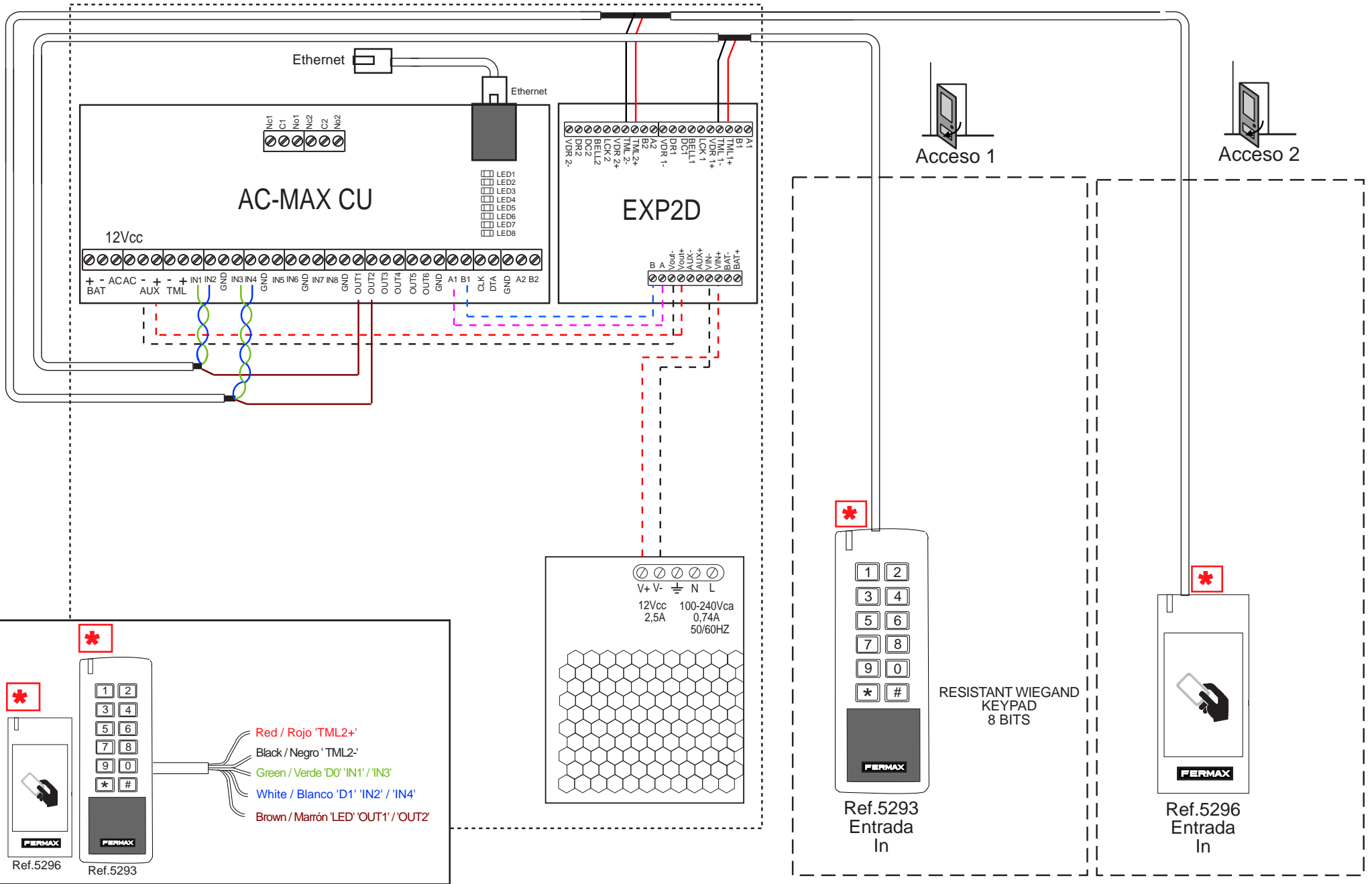
- Red / Rojo 'TML2+'
- Black / Negro 'TML2-'
- Green / Verde 'D0' 'IN1' 'IN3'
- White / Blanco 'D1' 'IN2' 'IN4'
- Brown / Marrón 'LED' 'OUT1' 'OUT2'

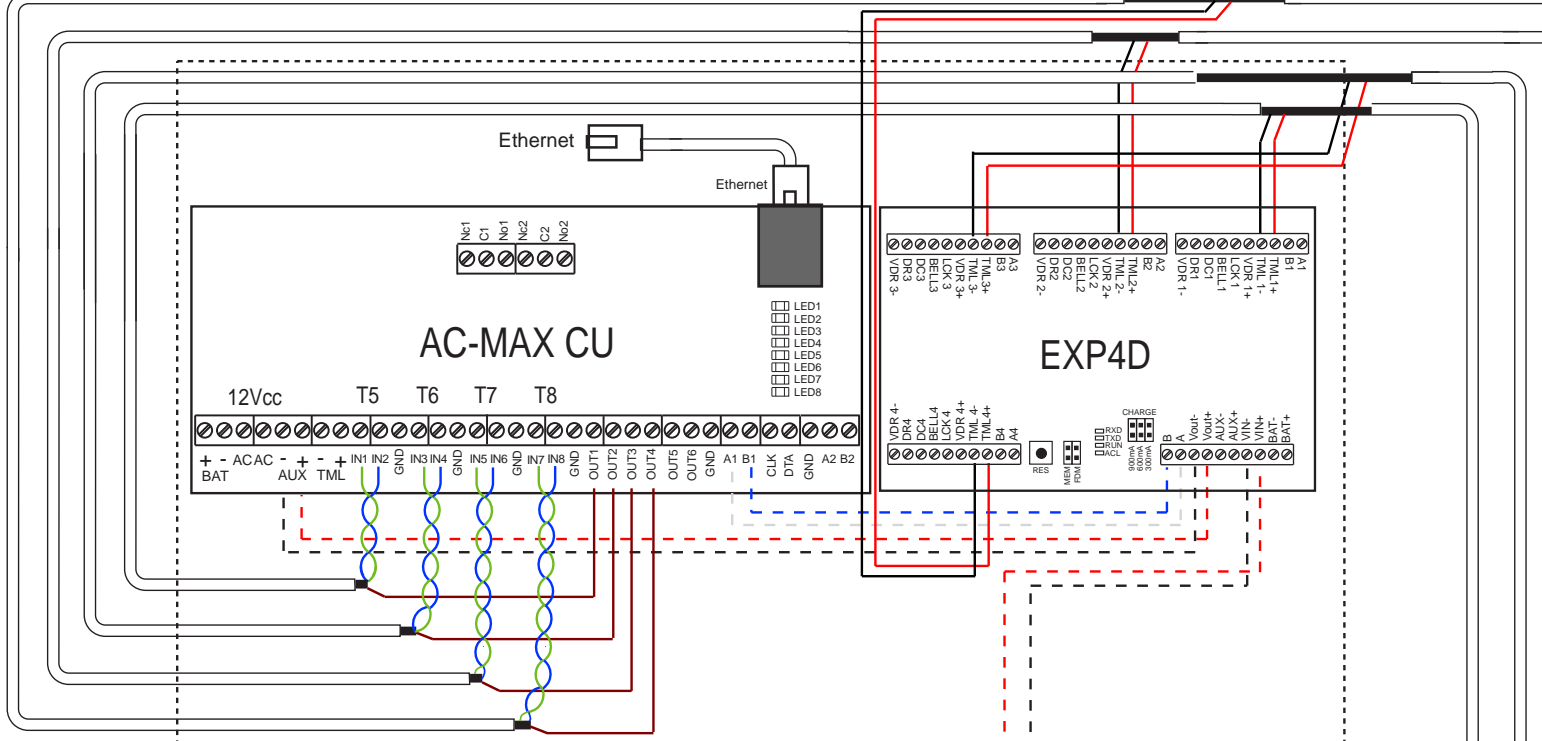
V+ V- N L
12Vcc 100-240Vca
2,5A 0,74A
50/60HZ

Ref.5296 Ref.5293

Ref.5293

Ref.5293





--- Líneas discontinuas, precableadas de fábrica.
 --- Dashed lines, factory prewired.

