FERMAX

MEET KIN PANEL
INSTALLER'S MANUAL

ENGLISH Version

FERMAX ELECTRÓNICA S.A.U.

http://www.fermax.com

Manual and additional information available at https://meet.fermax.com/kin-panel-en/

INDEX

1. Product Introduction

1.1   Overview

High definition camera 1,2 Mpx
Lighting for night vision with LEDs
Speaker

TFT and touch screen

Motion sensor
Microphone
Mifare reader

Slider
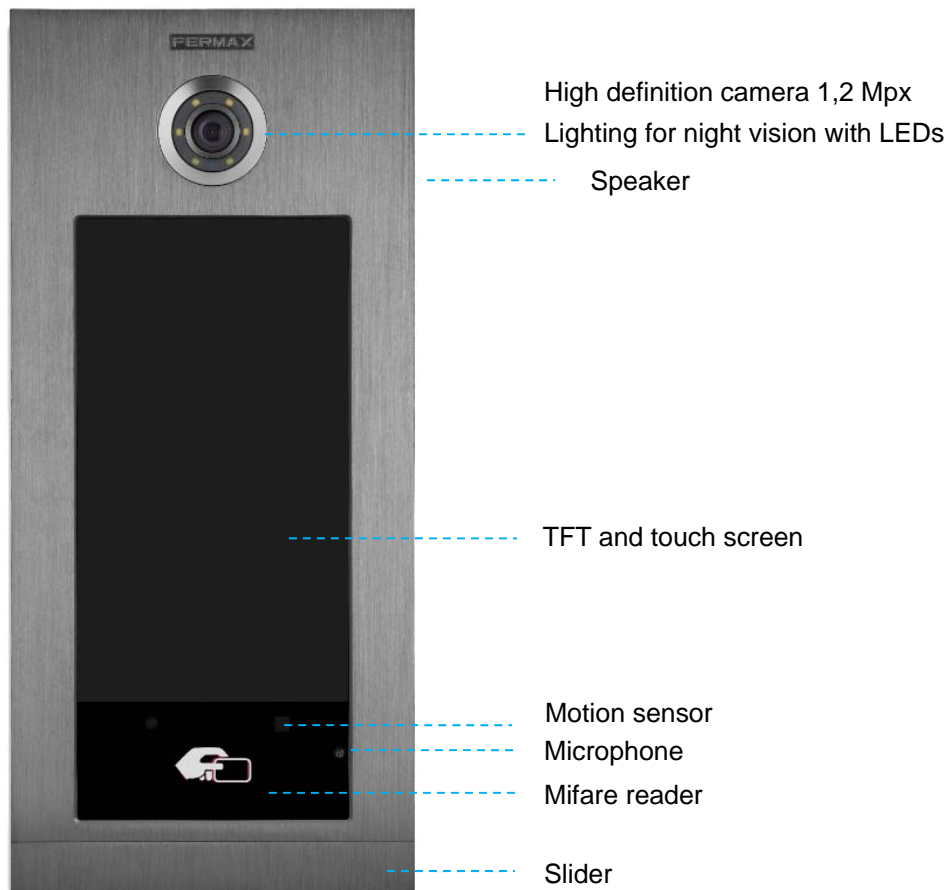
1.2   Panel Display Screen

Network Status(*)
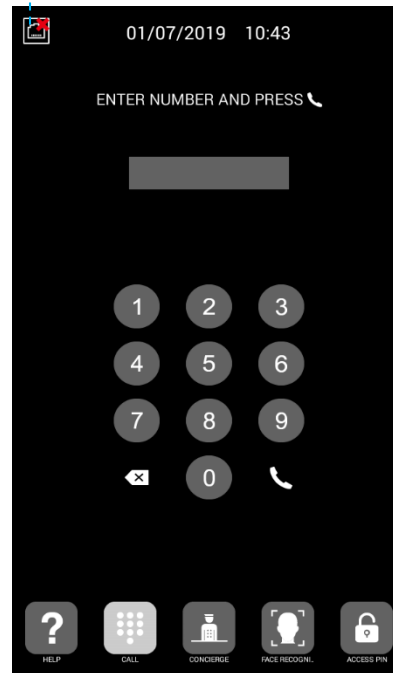
(*) with red blade: not connected, the icon disappears as soon as the panel is connected to the network.

2. Functions Introduction

- Call apartment
- Call guard unit => Concierge
- Call volume settings
- Door opening, relay delay settings
- Exit button connector
- Voice Synthesizer
- Door opened and tamper alarm
- Lift control (Only when installed)
- PIN Access Code
- Mifare reader
- Tamper Alarm
- Face Recognition
- Electronic Directory

2.1 Call Apartment

2.1.1 Block Panel. Call to apartment

Visitors must touch CALL icon and enter apartment number followed by 📞 to confirm.
For example, if the resident lives in apartment 2601, the visitor should enter: 2601 and press 📞
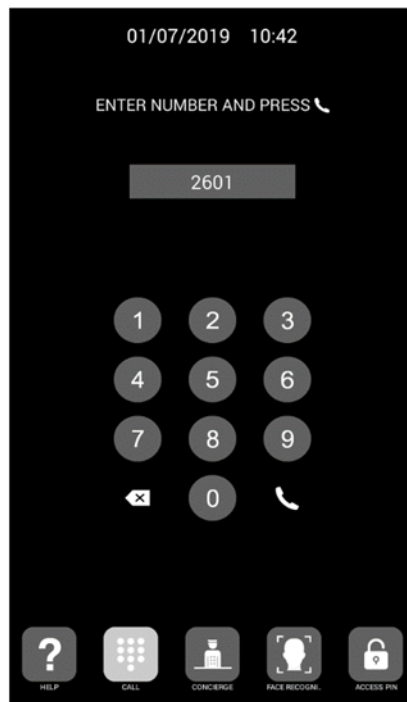
2.1.2 General Entry Panel. Call to apartment

Visitors must touch CALL icon and enter block number (up to 3 digits) followed by a 4 digits apartment number, then 📞 to confirm. For example, if the resident lives in block 3 apartment 2601, the visitor shall enter: 32601 and press 📞
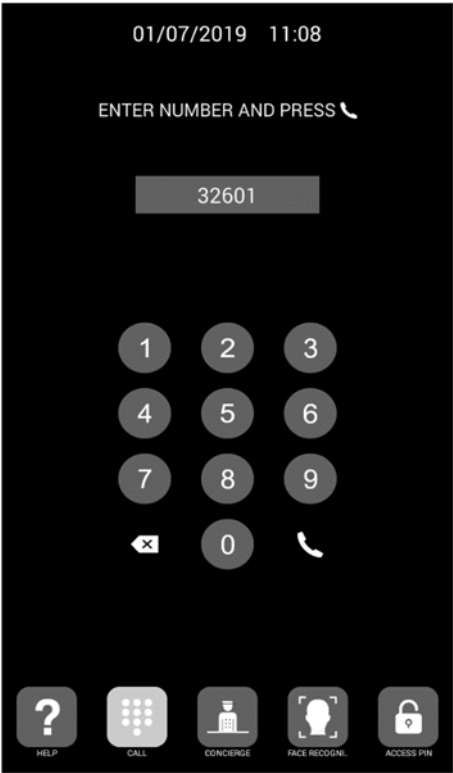
2.1.3   1 Pushbutton Mode. Call to apartment

Visitors must press directly 📞 to call the apartment linked to the panel.
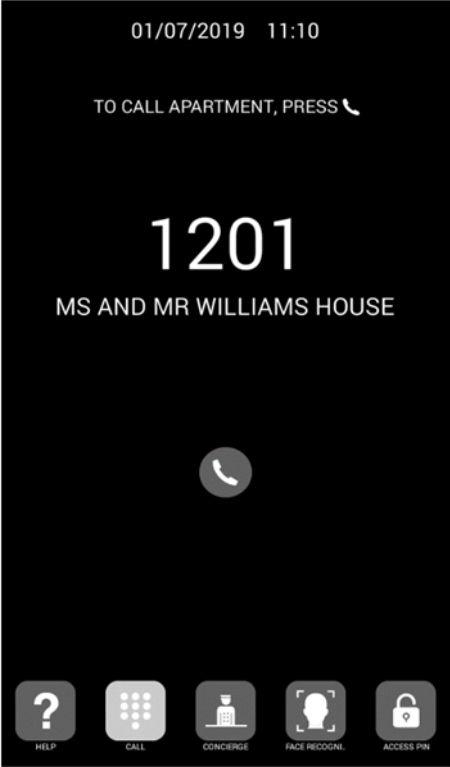
2.2 Call Guard Unit (Concierge)

2.2.1 Block Panel. Call to Guard Unit

The visitor or resident can call the guard unit by touching CONCIERGE icon, then select the concierge that they want to call. This call can be done from all Block Entry Panels.

Note: The CONCIERGE icon will appear if the function is enabled.
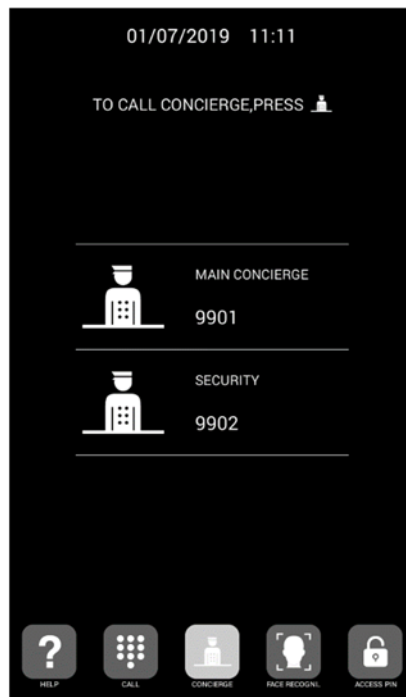
2.2.2 General Entry Panel. Call to Guard Unit

The visitor or resident can call the guard unit by touching CONCIERGE icon, then select the concierge that they want to call. This call can be done from all General Entry Panels.

Note: The CONCIERGE icon will appear only if the function is enabled.

2.2.3 1 Pushbutton Mode. Call to Guard Unit

The visitor or resident can call the guard unit by touching CONCIERGE icon, then select the concierge that they want to call. This call can be made from all 1 Pushbutton mode panels.

Note: The CONCIERGE icon will appear only if the function is enabled.

2.3   Access pin

Touch ACCESS PIN icon to access PIN function, entering the access PIN followed by ⌗–○ icon to confirm. If the access PIN is correct the door will open and release the lock.
The access PIN has to be defined through panel web server. Length of pin code could be from 4 to 6 digits. Maximum access codes: 8.

Note: The ACCESS PIN icon will appear if the function is enabled.
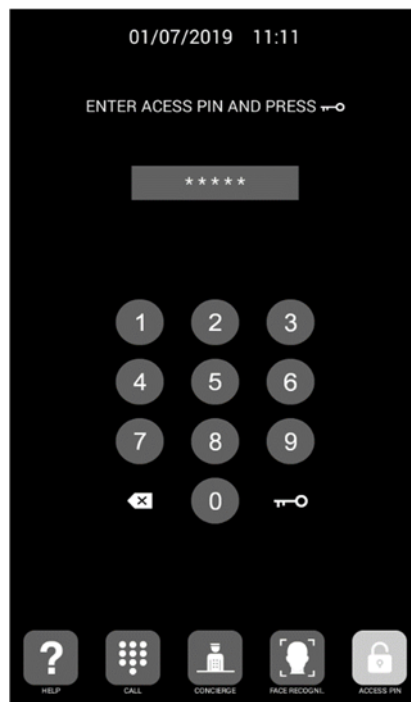
2.4   Face Recognition

Touch FACE RECOGNITION icon to access face recognition function, the camera of the panel will start to read the face information. If the face data is authorized, the door will open and

release the lock. The face data is to be added through the MEET management software. Maximum face images 10000.

Note: The FACE RECOGNITION icon will appear if the function is enabled.

RTSP video streaming will be paused during face recognition operation.
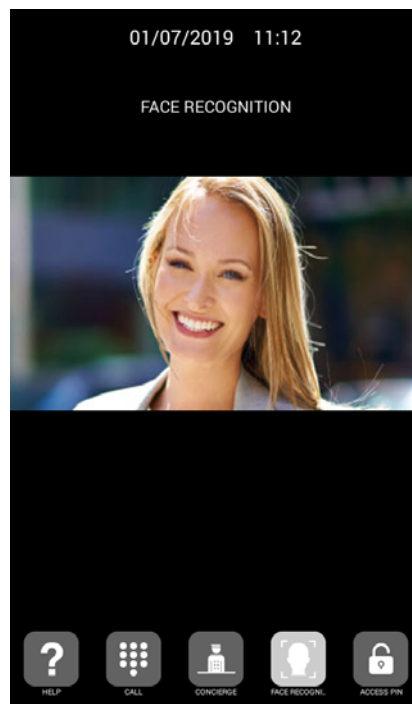
2.5   Mifare Reader

Resident can access to their corresponding entrance by passing their authorized Mifare card, the door will open and release the lock.
The Mifare card data is to be added through management software. Maximum 100.000 Mifare cards.

2.6   Directory

Touch DIRECTORY icon to access electronic directory function. Visitors can call the desired apartment just scrolling the directory or selecting the initial character and selecting the desired resident name.

01/07/2019   11:17

DIRECTORY

Abel Shelton	163	A
Adelina Merlo	337	B
Aisha Mccarvill	146	C
Alaina Vanbrunt	349	D
Alan Candanoza	91	E
Alanna Behan	97	F
Alecia Holley	218	G
Alena Buterbaug	200	H
Alesia Pareja	15	I
Alessandra Walt	30	J
Alexander Holtz	196	K
Alfreda Heimbac	242	L
Allie Harryman	188	M
Amada Fucci	150	N
Amanda Gessner	157	O
Amira Brazel	366	P
		Q
		R
		S
		T
		U
		V
		W
		X
		Y
		Z

CALL   CONCIERGE   FACE RECOGNI.   ACCESS PIN   DIRECTORY

2.7 Panel Information

Touch CALL icon and enter the code 9999 followed by 📞 to confirm. The ABOUT information will be displayed with information about the device number, firmware version, IP address and MAC address.

Note: in the case the panel is configured as a 1-Line panel, it is not possible to access the information screen from the panel since with that configuration the panel does not allow to dial 9999, it only admits calls to the assigned apartment.

3. Configuration via Web Server

The panel has an integrated web server, which allows to configure the parameters. The access to web server is via the panel's IP address.

To access the Web Server, open the used browser and introduce the configured IP address of the panel. A window will open requesting username and password.

Default Parameters:
Default IP: 10.1.0.1
Username: admin
Password: 123456

3.1 Device Information

The following information is displayed: the device number, firmware version, MAC address, IP address.

DEVICE
GENERAL
NETWORK
ACCESS
FACIAL RECOG.
IP CAMERA
SIP
SIP TRUNK
SIP CALL
ADVANCED
PINCODE
QR ACCESS

LOG OUT

DEVICE INFO

FERMAX KIN PANEL
FIRMWARE: V02.02
DEVICE:G.E. PANEL 01
MAC:BC:F8:11:0E:45:E3
IP:192.168.1.157
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www.fermax.com

3.2   General Settings

Configures the panel type: General entrance panel , block panel or 1 Line panel.

3.2.1 General Entrance Panel

TYPE: For General Entrance select G.E.PANEL. The panel can communicate with all devices of the installation.

DEVICE NO.: General entrance panel number, between 1 and 9000.

ALPHABETICAL KEYPAD: An additional alphabetical keypad will show in the panel if this function is be enabled.

The available characters are A to H.

The panel will convert character A to 1,   B is equivalent to 2, C is equivalent to 3 and so on .

For example, if you call 80A, the monitor that programmed with address 801 will ring.

LANGUAGE: select the desired language in the dropdown options. (default option ENGLISH). Refresh the webpage after change the language.

PANEL VOLUME: Select the desired value between 1 and 6, default option 4.

The conversation volume is common for uplink and downlink.

VOICE SYNTH：Enables or disables the speech when door lock is released.

If the speech is disabled,no speech in the panel will sound when the lock is released .

VIDEO RESOLUTION: In order to fit the different types of monitor. The default value 640×480 is to be used usually.

SIP DIVERT MODE: (this feature may not be available at the time of releasing this manual)
PARALLEL CALL: When the panel calls the resident, the monitor and the call divert APP ring at the same time. Once one terminal answers the call the other one stops ringing.
SEQUENTIAL CALL: When the panel calls the resident, the monitor will ring 30s, if no answer, the call divert APP will start to ring
CONCIERGES: You can select 0,1 or 2 in the dropdown options. There will be no CONCIERGE icon if in the panel the selected parameter is 0. Visitor can call one concierge if you select 1. Visitor can call two concierges if you select 2.
The number of concierge can be assigned to each concierge from 9901 to 9910. In addition a concierge tag can be added for description.Such as Lobby Concierge or SOS Concierge call.
DATE FORMAT: Date format.
DATE: Setting the date of panel.
TIME: Setting the time of panel.
TIME ZONE: Setting the time zone of panel.
Select local time zone and save.
DAYLIGHT SAVING TIME: According to local date. Can be enabled or disabled.
If the project has no management software the installer can set date, time and time zone manually. If the project has management software, the date and time of panel will synchronizes automatically with the management software. If the panel has access to internet, the date and time of panel will also synchronize with internet time server.

Note: Date and time can't be saved after power loss, the time zone, date format and daylight saving time can be saved.

Pay attention to the SAVE button related to panel settings or date/time settings since they are different and independent.

DEVICE
GENERAL
NETWORK
ACCESS
FACIAL RECOG.
IP CAMERA
SIP
SIP TRUNK
SIP CALL
ADVANCED
PINCODE
QR ACCESS
LOG OUT

TYPE: G.E. PANEL

DEVICE NO.: 1

ALPHABETICAL KEYPAD: ☑

LANGUAGE: ENGLISH

PANEL VOLUME: 4

VOICE SYNTH.: ☑

VIDEO RESOLUTION: 640x480

SIP DIVERT MODE: SEQUENTIAL CALL

CONCIERGES: 2

CONCIERGE 1: 9901   MAIN CONCIER

CONCIERGE 2: 9902   SECURITY

SAVE

DATE FORMAT: DD/MM/YYYY

DATE: 01 / 07 / 2019

TIME: 10 : 35 : 21

TIME ZONE: GMT+01:00

DAYLIGHT SAVING TIME: ☑

SAVE

3.2.2 Block Panel

TYPE: For block entrance, choose BLOCK PANEL. The panel can communicate with all devices on the same block.

BLOCK: Block number, between 001 and 999 (default option 1).

DEVICE NO.: Panel Number, between:01-99 (default option 1).

ALPHABETICAL KEYPAD: This alphabetical keypad will be displayed in the panel if this function is enabled.

The available characters are A to H.

The panel will convert character A to 1,   B is equivalent to 2, C is equivalent to 3 and so on .

For example, if you call 80A, the monitor that programmed with address 801 will ring.

LANGUAGE: select the desired language in the dropdown options. (default option ENGLISH). Refresh the webpage after change the language.

PANEL VOLUME: Select the desired value between 1 and 6, default option 4.

The conversation volume is common for uplink and downlink.

VOICE SYNTH：Enables or disables the speech when door lock is released. If the speech is disabled,no speech in the panel will sound when the lock is released .

VIDEO RESOLUTION: In order to fit the different types of monitor. The default value 640×480.

SIP DIVERT MODE: (this feature may not be available at the time of releasing the manual)

PARALLEL CALL: When the panel calls the resident, the monitor and the call divert APP ring at the same time. Once one terminal answers the call the other one stops ringing.

SEQUENTIAL CALL: When the panel calls the resident, the monitor will ring ~~about~~ 30s, if no answer, the call divert APP will start to ring

CONCIERGES: You can select 0,1 or 2 in the dropdown options. There will be no CONCIERGE icon if in the panel the selected parameter is 0. Visitor can call one concierge if you select 1. Visitor can call two concierges if you select 2.

The number of concierge can be assigned to each concierge from 9901 to 9910. In addition a concierge tag can be added for description.Such as Lobby Concierge or SOS Concierge call.

DATE FORMAT: Date format.

DATE: Setting the date of panel.

TIME: Setting the time of panel.

TIME ZONE: Setting the time zone of panel.

Select local time zone and save.

DAYLIGHT SAVING TIME: According to local date. Can be enabled or disabled.

If the project has no management software the installer can set date, time and time zone manually. If the project has management software, the date and time of panel will synchronizes automatically with the management software. If the panel has access to internet, the date and time of panel will also synchronize with internet time server.

Note: Date and time can't be saved after power loss, the time zone, date format and daylight saving time can be saved.

Pay attention to the SAVE button related to panel settings or date/time settings since are different and independent.

DEVICE	
GENERAL	
NETWORK	
ACCESS	
FACIAL RECOG.	
IP CAMERA	
SIP	
SIP TRUNK	
SIP CALL	
ADVANCED	
PINCODE	
QR ACCESS	
LOG OUT	

TYPE: BLOCK PANEL-DIGITAL ▼
BLOCK: 20
DEVICE NO.: 1
ALPHABETICAL KEYPAD: ☐
LANGUAGE: ENGLISH ▼
PANEL VOLUME: 4 ▼
VOICE SYNTH.: ☑
VIDEO RESOLUTION: 640x480 ▼
SIP DIVERT MODE: SEQUENTIAL CALL ▼
CONCIERGES: 1 ▼
CONCIERGE 1: 9901 ▼

SAVE

DATE FORMAT: DD/MM/YYYY ▼
DATE: 14 / 03 / 2019
TIME: 04 : 48 : 22
TIME ZONE: GMT-03:30 ▼
DAYLIGHT SAVING TIME: ☐

SAVE

3.2.3 1 Line Panel

TYPE: For one apartment panel or single villa, choose 1W PANEL mode. The panel can communicate with one apartment or villa.

BLOCK: Block number, between 001 and 999 (default option 1).

APARTMENT: Apartment number communicates with 1W panel, between 0001 and 9899 (default option 101).

NAME: You can input some description.

DEVICE NO.: Panel Number, between:1-9 (default option 1).

LANGUAGE: select the desired language in the dropdown options. (default option ENGLISH). Refresh the webpage after changing the language.

PANEL VOLUME: Select the desired value between 1 and 6, default option 4.

The conversation volume is common for uplink and downlink.

VOICE SYNTH：Enables or disables the speech when door lock is released. If the speech is disabled,no speech in the panel will sound when the lock is released .

VIDEO RESOLUTION: In order to fit the different types of monitors. The default value 640×480

SIP DIVERT MODE: (this feature may not be available at the time of releasing the manual)

PARALLEL CALL: When the panel calls the resident, the monitor and the call divert APP rings at the same time. Once one terminal answers the call the other one stops ringing.

SEQUENTIAL CALL: When the panel calls the resident, the monitor will ring 30s if no answer, the call divert APP will start to ring.

CONCIERGES: You can select 0,1 or 2 in the dropdown options. There will be no CONCIERGE icon if in the panel the selected parameter is 0. Visitor can call one concierge if you select 1. Visitor can call two concierges if you select 2.

The number of concierge can be assigned to each concierge from 9901 to 9910. In addition a concierge tag can be added for description.Such as Lobby Concierge or SOS Concierge call.

DATE FORMAT: Date format.

DATE: Setting the date of panel.

TIME: Setting the time of panel.

TIME ZONE: Setting the time zone of panel.Select local time zone and save.

DAYLIGHT SAVING TIME: According to local date. Can be enabled or disabled.

If the project has no management software the installer can set date, time and time zone manually. If the project has management software, the date and time of panel will synchronizes automatically with the management software. If the panel has access to internet, the date and time of panel will also synchronize with internet time server.

Note: Date and time can't be saved after power loss, the time zone, date format and daylight saving time can be saved.

Pay attention to the SAVE button related to panel settings or date/time settings since are different and independent.

3.3   Network Settings

MEET allows the installer to define the IP range according to the project needs and make the network management easier. KIN panel network mode is static mode. Ensure that each device has a unique IP address in same installation. The devices (digital panel, monitor and guard unit) will show IP conflict if there same IP is used on the same LAN.

IP: IP address of the panel (default option 10.1.0.1).

MASK: Subnet mask of the panel (default option 255.0.0.0).

GATEWAY: Default gateway of the panel (default option 10.1.0.254).

DNS: DNS of the panel (default option 8.8.8.8).

SOFTWARE IP: IP address of PC where MEET management software is installed.
  (default option 10.0.0.200).

SW. PIN: The pin code is to be used when the panel is registered in MEET management software.

DEVICE		NETWORK SETTINGS
GENERAL		
NETWORK	IP:	200.200.200.70
ACCESS	MASK:	255.255.255.0
FACIAL RECOG.	GATEWAY:	200.200.200.1
IP CAMERA	DNS:	8.8.8.8
SIP	SOFTWARE IP:	200.200.200.80
SIP TRUNK	SW. PIN:	••••••
SIP CALL		SAVE
ADVANCED		
PINCODE		
QR ACCESS		
LOG OUT		

3.4   Access

DOOR RELAY TIME: Time for lock-release relay remains active (1-9s optional).
OPEN DOOR DELAY: This option refers to the time when the unlocked signal is sent compared to the relay activation.
The delay time is useful when the lock is not close to the panel (0-9s optional).
DOOR OPEN ALARM: You can select disable, 30s, 60s,120s, 180s and 250s in the dropdown options. No door open alarm if the option *disable* is selected.
The panel will send a notification if the door open time exceeds the selected time.
EXTERNAL RELEASE: Enable or disabled external relay unlock function. This information only show in panel setup as No.1.
Relay 1-4 DOOR RELAY TIME: Time for lock-release relay remains active (1-9s optional).
Relay 1-4 OPEN DOOR DELAY: The time delay between the unlock signal sent and the relay activation. The delay time parameter is useful when the door lock is not close to the panel (0-9s optional).
ADMIN CARD: Master card registered to enroll additional prox cards. When there is no management software enter 0000 if you do not know the ID of the admin card. The first prox card detected by the reader will act as admin/master card the card of resident can be added afterwards. If this method is used, register the resident proximity id numbers on the cards.
DISARM BY CARD: When the card open the door, the alarm status of monitor corresponding unit can change to HOME mode.
GUEST CODE: Function no available in this version V2.02
ACCESS PIN: Enable or disabled the activation of the relay for PIN code access.
UP to 8 different PIN codes per panel.
PIN length between 4 to 6 digits.

Note: Reference F01491 (4 relay module) must be connected to the RS485 port of the panel No.1. The module address must be set to number 2.

	DEVICE							
	GENERAL							
	NETWORK							
	ACCESS							
	FACIAL RECOG.							
	IP CAMERA							
	SIP							
	SIP TRUNK							
	SIP CALL							
	ADVANCED							
	PINCODE							
	QR ACCESS							
	LOG OUT							

DOOR RELAY TIME: 3s

OPEN DOOR DELAY: 0s

DOOR OPEN ALARM: DISABLE

EXTERNAL RELEASE: ☐

	1#	2#	3#	4#
DOOR RELAY TIME:	9s	9s	9s	9s
OPEN DOOR DELAY:	4s	4s	4s	4s

ADMIN. CARD: 123456

DISARM BY CARD: ☑

GUEST CODE: ☐

ACCESS PIN: ☑

0000

SAVE

3.5   Face Recognition

FACE RECOGNITION: Enable or disabled face recognition function.

SIMILARITY: High, medium and low options. Default is low.

The face data must be added through MEET management software.

DEVICE	FACE RECOGNITION
GENERAL	
NETWORK	FACE RECOGNITION: ☑
ACCESS	SIMILARITY: LOW ▼
FACIAL RECOG.	
IP CAMERA	SAVE
SIP	
SIP TRUNK	
SIP CALL	
ADVANCED	
PINCODE	
QR ACCESS	
LOG OUT	

3.6   IP Camera

The monitor can switch to IP CCTV camera video during a conversation. This function allows to configure IP CCTV cameras using RTSP protocol to be displayed as an auxiliary camera to provide different view angles from the door or related areas.

NUMBER OF CAMS: IP camera Number. Up to 4 different cameras.

CAMERA 1: IP camera name.

URL: rtsp://user:password@ip address of ip camera.

user:password: for cameras that require a username and password for connection. These fields are optional and depends on the RTSP stream of each IP camera.

DEVICE		IP CAMERA SETTINGS
GENERAL		
NETWORK	NUMBER OF CAMS:	1 ▼
ACCESS	CAMERA 1:	HALL
FACIAL RECOG.	URL:	rtsp://user:12345@200.200.200.200:554
IP CAMERA		
SIP		SAVE
SIP TRUNK		
SIP CALL		
ADVANCED		
PINCODE		
QR ACCESS		
LOG OUT		

3.7   SIP Settings

ENABLE SIP: Enable or disable sip function.

SIP SERVER: SIP server IP address.

DOMAIN: Sip server domain.

OUTBOUND: Some servers are used when NAT is active on the router.

STUN IP: Audio and video NAT traversing public network server IP.

STUN PORT: The port of audio and video NAT traversing public network server.

H.264: Video coding parameters.

SIP USER: The username of sip account.

SIP PASS: The password of sip account.

CONVERSATION: Conversation duration, 120s, 300s, 600s, 1200s and 1800s optional.

RING TIME: Ring time, 35s, 45s, 60s, 90s and 120s optional.

Note: When the panel is used as a sip device, use quick dial to call SIP devices or receive calls from other SIP devices. SIP function has to be enabled.

3.8 SIP Trunk

When there is a VoIP gateway installed on the system or a sip server has a PSTN line.

The panel call can be diverted to user's mobile phone or land line telephone through a voice gateway.

ENABLE SIP TRUNK: Enable or disable SIP trunk function.

URL: sip: sip account @ wan IP: 5062

| DEVICE		SIP TRUNK SETTINGS
GENERAL		
NETWORK	ENABLE SIP TRUNK: ☐	
ACCESS	URL: sip:100@192.168.12.100	
FACIAL RECOG.		
IP CAMERA	SAVE	
SIP		
SIP TRUNK		
SIP CALL		
ADVANCED		
PINCODE		
QR ACCESS		
LOG OUT		

3.9   Advanced Settings: Directory

KIN panel allows to use a directory for calling the tenants. Visitors can select the tenant name from this directory and call directly without knowing the apartment number.

For this, a file containing the name and the associated apartment number must be updated to the panel.
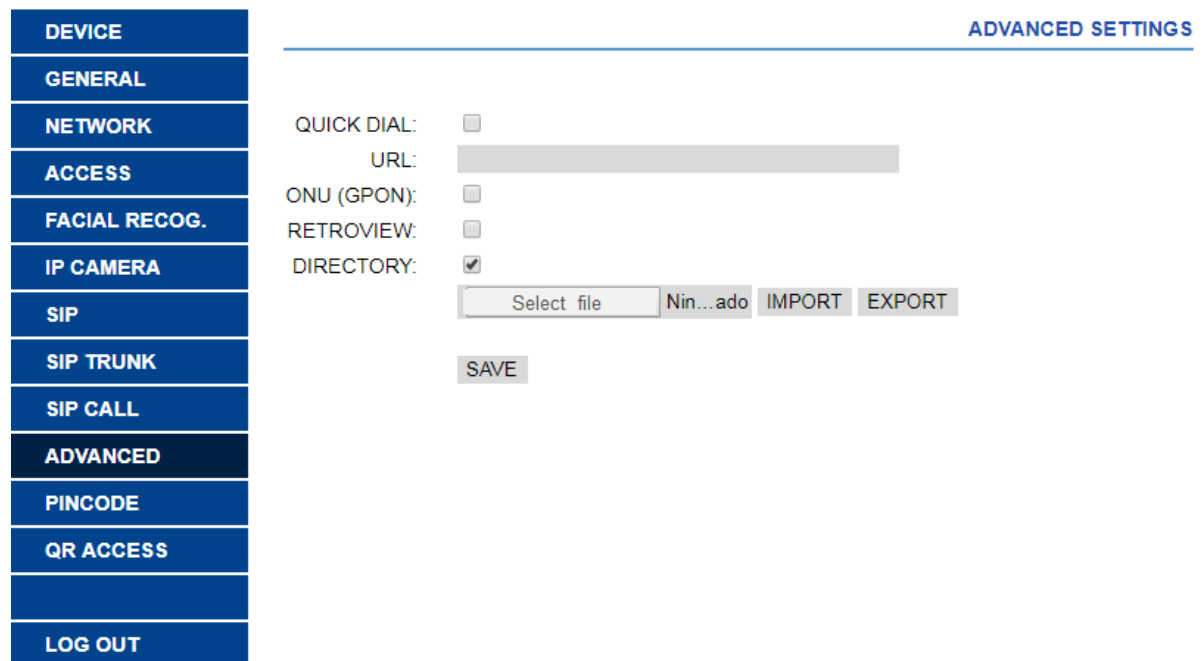
1. Use Microsoft Excel to create a file containing the names and apartment number of the desired tenants. Use the following format.

The first row (cell A1 has to contain the text: **Apartment No., Account No.,**

The following rows must have the format **"Apartment_number", "Name",**

"Apartment_number" → has to be numerical

"Name" → Cannot have special characters

Only one name (*Account number*) is possible for each apartment number.

2. Save the file in **csv** format. E.g. *agenda.csv*
3. Select the file and upload it to the panel, clicking IMPORT icon.
4. Wait until the file has been successfully updated. A message will pop up.

To modify an existing agenda, select EXPORT and save the file *agenda.csv* into a folder on the computer. Then open and modify it by means of Microsoft Excel, save it as .csv format, and then import it again as explained above.

3.10 Pincode Settings

This allows to change the pin code of the web server login.

3.11 QR Access

This function is not available in this version of Firmware V2.02. It is recommended to deactivate it in the web server so that the icon does not appear in the lower part of the screen of the KIN touch panel.

3.12 Logout

Log out the web server.

DEVICE

GENERAL

NETWORK

ACCESS

FACIAL RECOG.

IP CAMERA

SIP
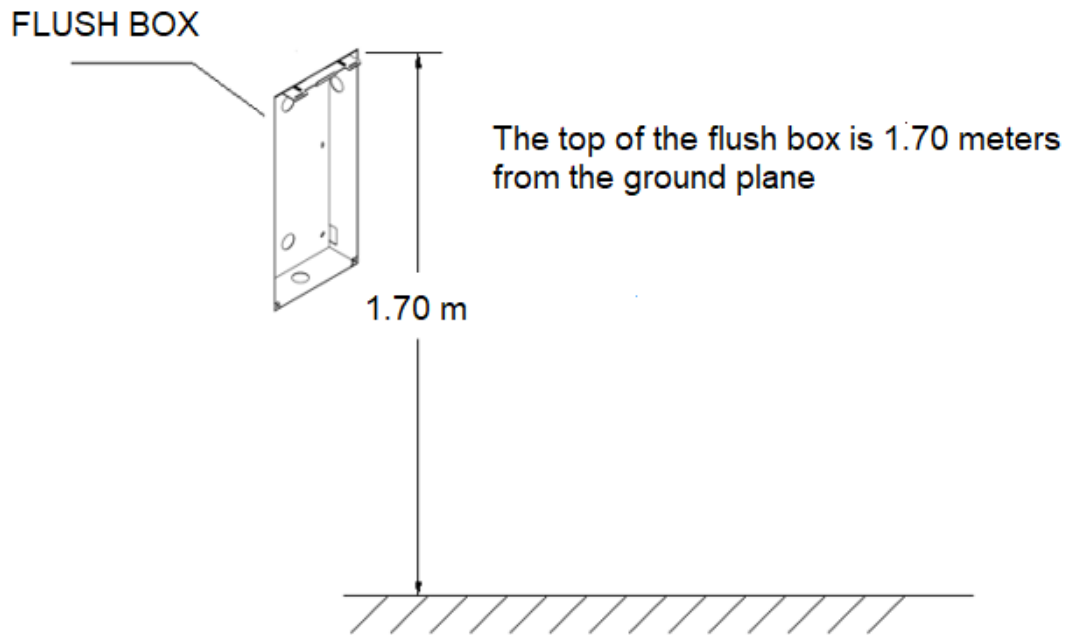
SIP TRUNK

SIP CALL

ADVANCED
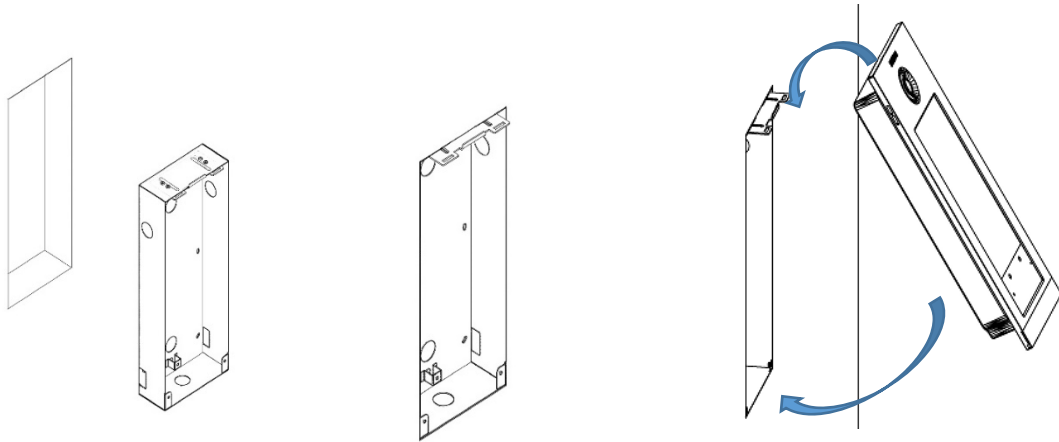
PINCODE

QR ACCESS

LOG OUT

DO YOU CONFIRM TO LOG OUT?

OK

4. Installation

4.1 Installation height

FLUSH BOX

The top of the flush box is 1.70 meters
from the ground plane

1.70 m

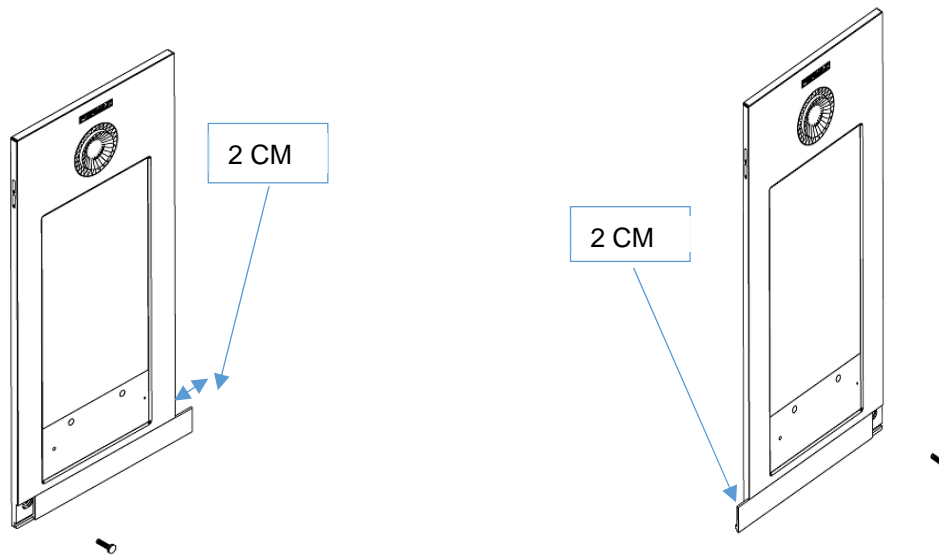## 4.2 Installation Guide Diagram

1.Flush box install.

2. Base flush box depth adjustment hook.

3. The upper part of the panel is stuck in, then move the panel to the flush box.
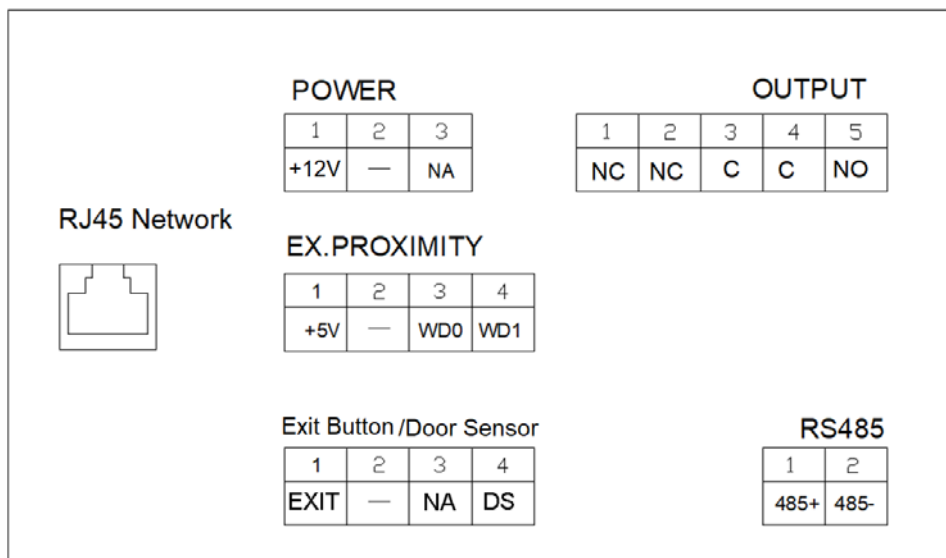

2 CM

2 CM

4. Move the slider of the panel and fix the two screws. When installing, pay attention to the reservation of the 2 CM space around the door to move the slide cover.

4.3 Connectors

- 10/100Mbps RJ45 Port. PoE
- **+12V, —:** 12Vdc Power Input.
- **NO, C, NC:** Relay contacts for release lock, the double terminals are the same connection.
- **+5V, —, WD0, WD1**: Wiegand-26 protocol output or input. (*).
- **EXIT, —**: Exit button.
- **—, DS**: Door-open sensor.
- **485+, 485-**: To Lift Control Gateway ref. 9545, Panel 4 Relay Module ref. 1491 or Aux Relay Module ref. 1490).

(*)   Depending on the model of external Wiegand reader, 1K ohm resistor in serial with WDO and with WD1 should be required. Otherwise, internal reader would not work.

POWER

1	2	3
+12V	—	NA

OUTPUT

1	2	3	4	5
NC	NC	C	C	NO

RJ45 Network

EX.PROXIMITY

1	2	3	4
+5V	—	WD0	WD1

Exit Button /Door Sensor

1	2	3	4
EXIT	—	NA	DS

RS485

1	2
485+	485-

4.4 Specifications

Panel (mm): 185(W) ×405(H) ×50(D)
Flush box (mm): 170(W) ×380(H) ×58(D)
Power supply: 12 Vdc or PoE (*)
Standby current: 250 mA. With heating resistance ON: 750mA (**)
Working current: 1000 mA. With heating resistance ON: 1500mA (**)

(*) In cold places below -20ºC use a 12 Vdc 2A power supply
(**) The panels has a heater that connects automatically when temperature is below -20ºC

Display specifications
Size: 10.1 inch
Format: 16:9
Resolution: 1024*600

Camera specifications
Resolution: 1280(H)*720(V)
Visual angle: 55º (V) , 105º(H)
Minimum illumination: 0.5Lux

Maximum conversation time: 120s
Door relay time: 1-9s
Door delay time: 0-9s
Door sensor time: 120s
IC cards: 100,000
Face data: 6000
Operating temperature: -40~70℃
Relative humidity: 20%~80%, without condensation

RADIO FREQUENCY MODULE. EC DECLARATION OF CONFORMITY:
FERMAX ELECTRÓNICA, S.A.U. declares that this product complies with the requirements in the RED
2014/53/EU Directive "Radio frequency equipment".
https://www.fermax.com/intl/en/pro/documents/technical-documentation/DT-13-declarations-of-conformity.html
Radio frequency module:
Frequency: **13.56MHz** / Maximum Power: **2,45mW**.

DECLARATION FCC (PART 15.225 (C))

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- *Reorient or relocate the receiving antenna.*
- *Increase the separation between the equipment and receiver.*
- *Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.*
- *Consult the dealer or an experienced radio/TV technician for help.*