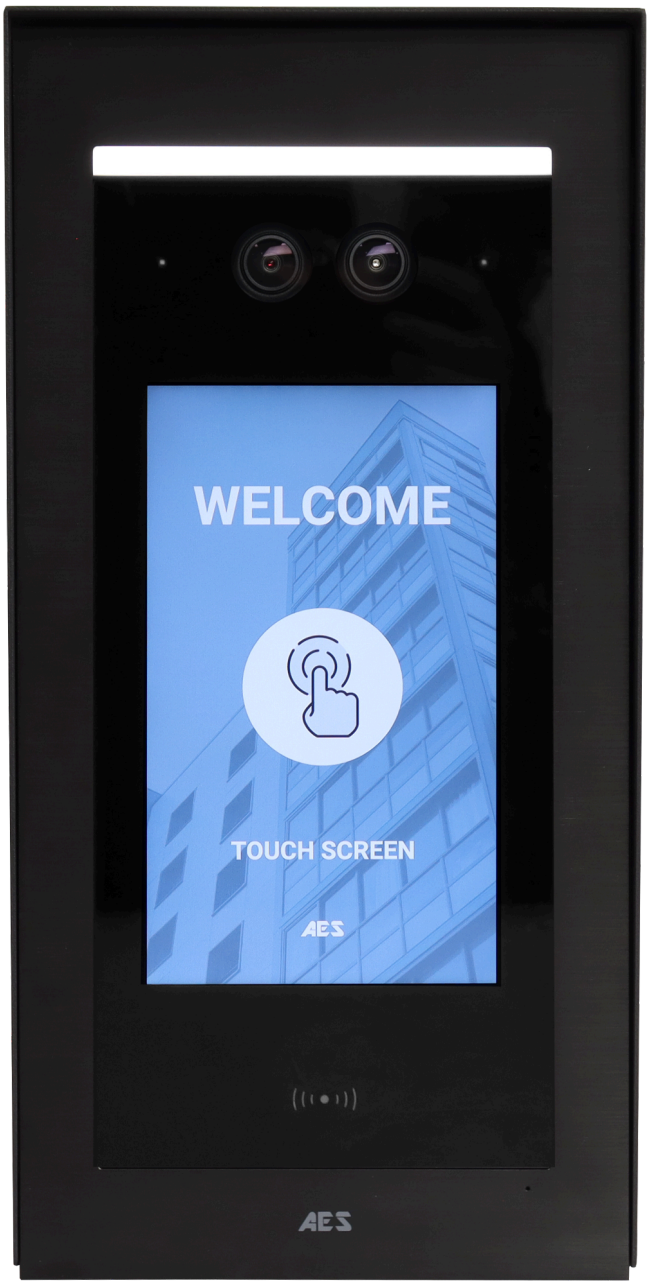
Installation & User Manual

Opyn Multi - IP Multi-Apartment Intercom



The information in this document may be changed as we always strive to improve the product. Trust that the information provided is accurate at the time of document release.

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Technical Specifications

GENERAL	
Housing	Powder-coated Aluminium
Weatherproof	IP65
Impact Rating	IK07
Approvals	CE-RED, FCC, ROHS
Dimensions	Flush - 304mm (H), 136mm (W), 40mm (D) Surface - 320mm (H), 160mm (W), 74mm (D)
Operating Temp	-40 ~ +65
Power Supply	12-15v DC / 48v POE (802.3af)
Power Consumption	12v Max - 1.58A 48v Max - 0.40A
Relays	2
Relay Type	N/C & N/O
Relay Load	3A, 30v DC/250AC
Operating System	Android 12
Alarms	Anti-vandal/Tamper
System Requirements	Minimum 1MB/s Upload Speed
Storage	2GB DDR, 16GB FLASH
SCREEN	
Screen Type	7” IPS LCD
Screen Resolution	600x1024
MEDIA (IMAGE & VIDEO)	
Camera	2 Megapixels
Lens	111° (H), 62° (V)
Display Resolution	Changeable within the app HD - 1080P, SD - 720P, LD - 640*360P
Night Vision	IRCUT, Infrared LED
FACIAL RECOGNITION	

Cameras	Dual Cameras (Liveness Check)
Allumination	White LED (Adjustable)
CARD READER	
Frequency	13.56MHz (MIFARE & NFC)
WIEGAND	
Protocol	Wiegand 26 & 34
Functions	Reader & Controller
AUDIO	
Audio Components	Speaker and microphone, noise reduction and echo cancellation.
Audio Streaming	Full Duplex
Audio Codec	G.711U & G.711A
NETWORK	
GSM/Cellular	2G, 3G & 4G
Ethernet	IEEE 802.3
Supported Protocols	TCP/UDP/RTP/RTSP/HTTP/SIP

Packing Contents

[PICTURES OF EACH]
1x Opyn Multi Touch Panel Intercom
1x PoE Plug
1x Kettle Lead
1x AES Data SIM Card (Unactivated)
1x Accessory Bag (Screws, Connectors etc)
1x 4G Aerial (Only included in 4G version)

Product Variations

You can get the system in two different appearances, “**Flush Mount**” or “**Surface Mount**”. Both of these can come **with** or **without** a **built-in 4G** module allowing the use of a SIM card to give the system a network connection.

Surface Mount

Flush Mount

Optional Extra Equipment

[PICTURES OF EACH]

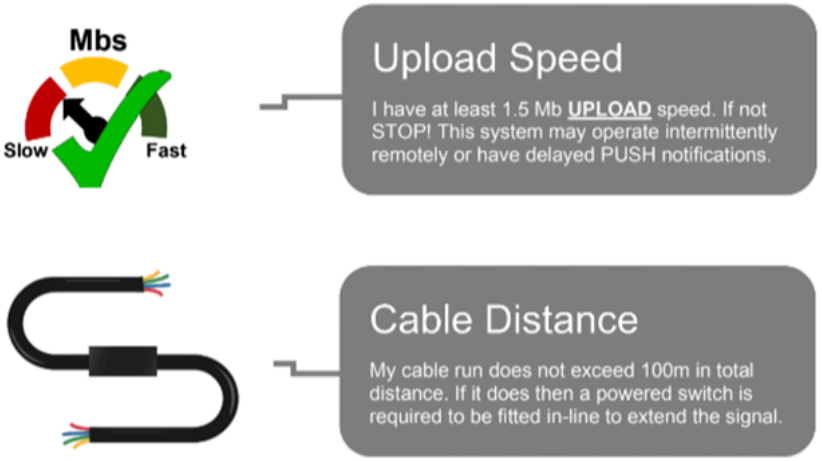
- MONITOR
- DC PSU
- ETHERNET CABLE

Installation Information

A good installation is key to the intercom system performing to its capabilities and giving the end-user the best experience possible. For this reason, it's important to make sure the instructions given in this section are followed thoroughly.

1. Site Survey & Bench Testing

It's important to make sure the site where the system will be installed is suitable. To determine this, we need to ensure certain requirements are met like network speeds, cable distance (DC Power & POE). For more information proceed to the next section.

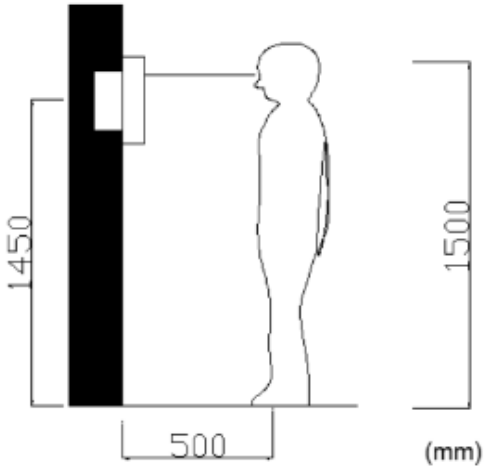


We also recommend performing a "**Bench Test**" of the system before installing. This will ensure the system is working as it should before it's fully installed. Follow the setup steps below to get started and ensure to default/reset the system once you are done.

2. Installation

Ethernet can travel up to roughly 100m/320ft on CAT5/CAT6 cable. Longer distances require a switch every 100m/320ft unless using any specialist equipment.

It's also important to take note of the installation height to ensure features like facial recognition work as well as possible. See below graphic with our recommended installation height.

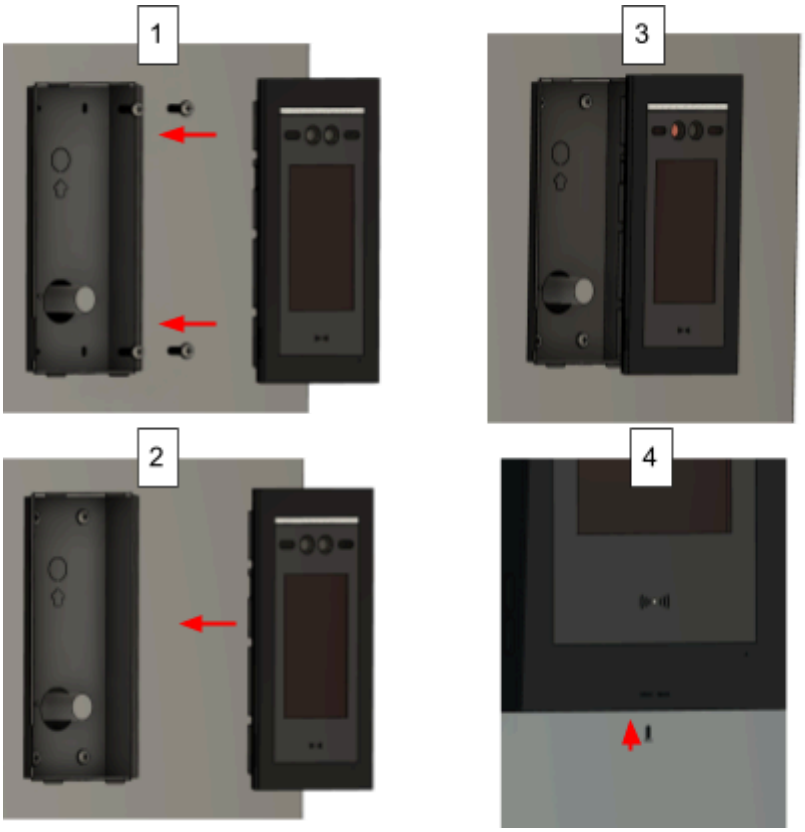


Camera installation location

Standard installation height of door panel: lens's height is about 1,450mm above the floor.

The two different models of the system need to be installed differently also. So take a note of which model you are working with, either the "**Flush**" or the "**Surface**" and follow the below instructions.

<u>Flush Mount - Installation</u>



Flush Mount - Installation

1) Prepare a cut-out in the wall measuring 309mm (H) x 141mm (W) x 48mm (D) for the back-box.

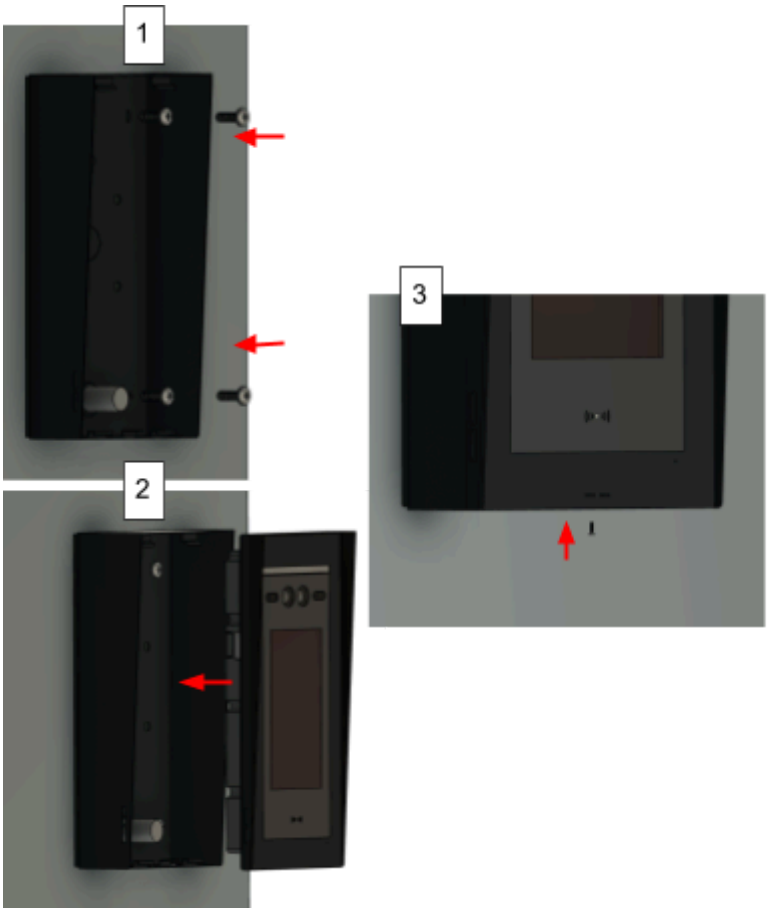
2) Detach the back-box from the front panel and fix it to the wall with screws.

3) Pull the required cables through and connect them to the panel.

4) Re-attach the front panel to the back-box.

5. Fix the front panel in place with the bottom screw.

Surface Mount - Installation



Surface Mount - Installation

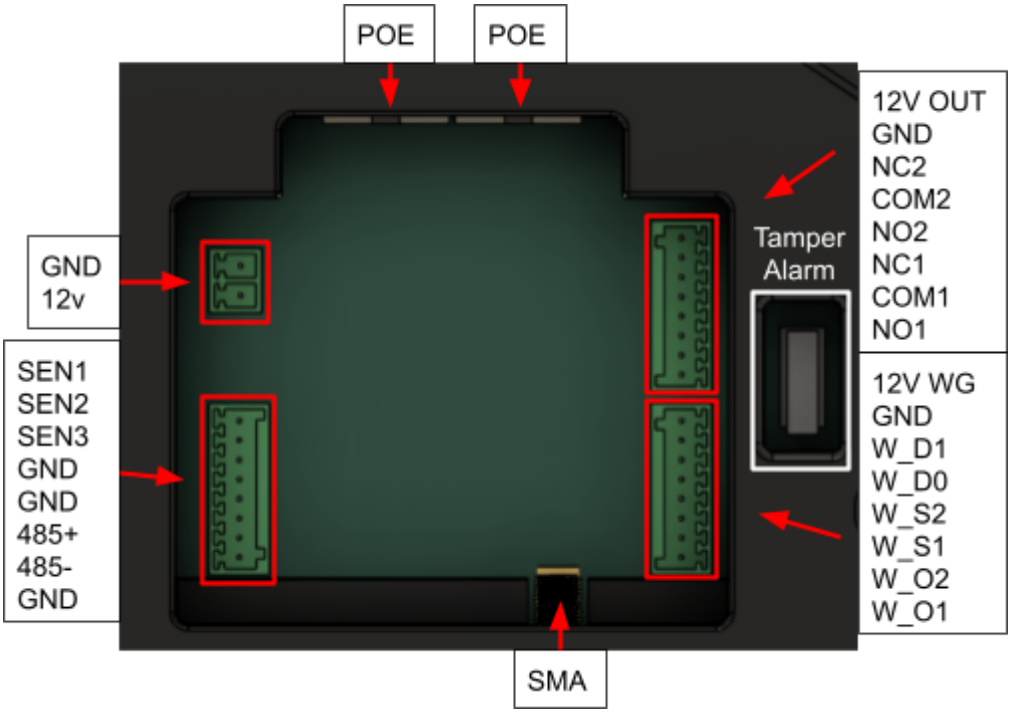
1) Detach the back-box from the front panel and fix it to the wall with screws.

3) Pull the required cables through and connect them to the panel.

4) Re-attach the front panel to the back-box.

5. Fix the front panel in place with the bottom screw.

3. Wiring Diagram



POE: Provide both power and network, you can choose either port to supply power & network connectivity.

12V/GND: Supply power when POE is not in use.

SEN1/2/3: Signal input to open relay, input for exit buttons.

485+/-: Interface for elevator controller (Model No:DPA8LCT).

12V OUT/GND: 12V power output for lock.

NO2/COM2/NC2: NO/NC relay terminal 2.

NO1/COM1/NC1: NO/NC relay terminal 1.

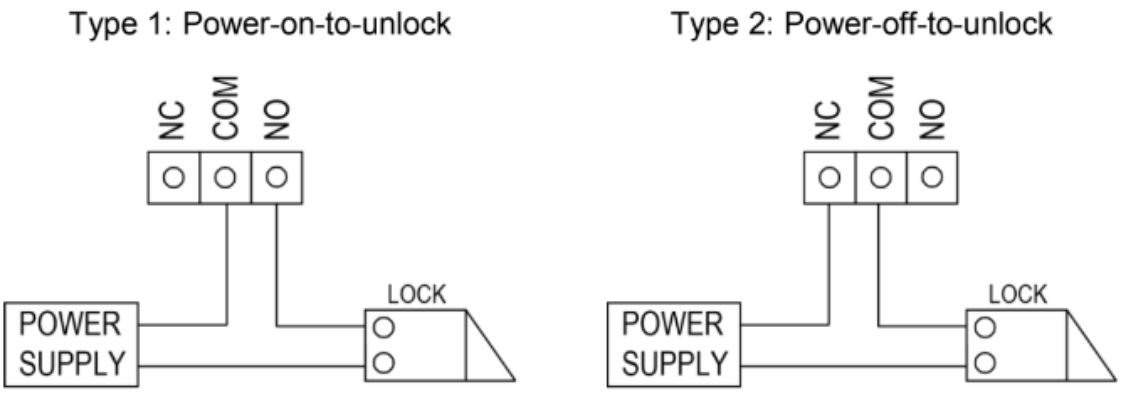
12V WG: Wiegand device power supply.

W_D1/0: Wiegand input interface for wiegand access control.

W_O1/2: Wiegand output interface for wiegand access control.

SMA: Connection for 4G aerial.

4. Relay Connections



Note:

- An external power supply must be used according to the lock.
- The door lock is limited to 30V, 2A.
- Both the entrance panel and building panel support 2 NO/NC locks.

5. Power

Powering the panel can be done either via 12v DC or 48v POE. Both of which the system should come with.

a. **12v DC**

When using DC power we do recommend staying within a certain distance depending on the type or thickness of cable used. Our general recommendations are as follows:
Up to 2 metres (6 feet) - Use minimum 0.5mm²/ 22 gauge cable.
Up to 4 metres (12 feet) - Use minimum 1mm² / 20 gauge cable.
Up to 8 metres (25 feet) - Use minimum 1.5mm² / 18 gauge cable.

b. **48v POE**

When using POE to power the system it's important to note that the max distance Ethernet can travel is 100m/320ft. This means the distance between the power source and the panel cannot be greater than this.

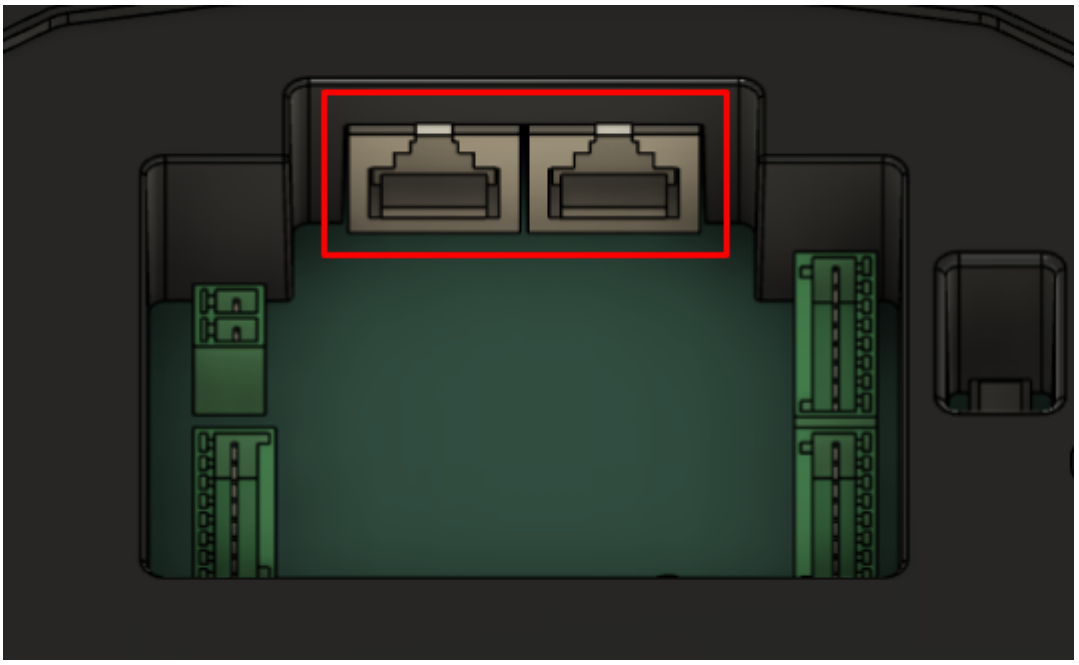
6. Network Connection

When it comes to connecting the panel to a network this can be done in two ways.

a. **Ethernet**

You can connect an ethernet cable directly into one of the RJ45 ports that the panel has. Both of these ports support DHCP, and if you wish you may also enable static IP for both. It does not matter which of the two ports you use.

Note: *Ethernet can travel up to roughly 100m/320ft on CAT5/CAT6 cable. Longer distances require a switch every 100m/320ft unless using any specialist equipment.*



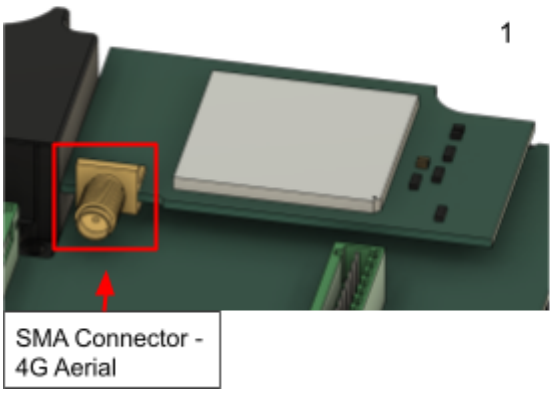
b. **4G**

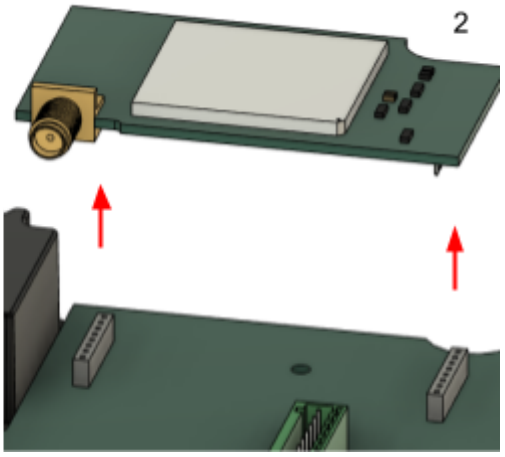
If your panel is a 4G model you can use the built-in 4G module on the panel. This requires a LTE/4G aerial and a working SIM with data on it. It's important to note

however if you are using the 4G you will need to power down the system before inputting/swapping a SIM card.

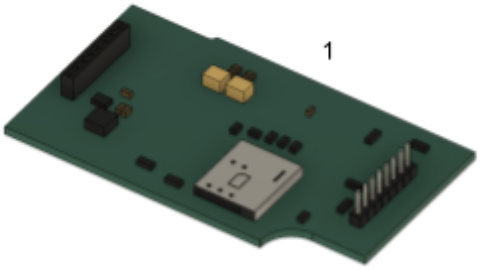
Note: *Use of the 4G module will require a gsm/cellular antenna to be connected to the panel's SMA connector in order to get a signal.*

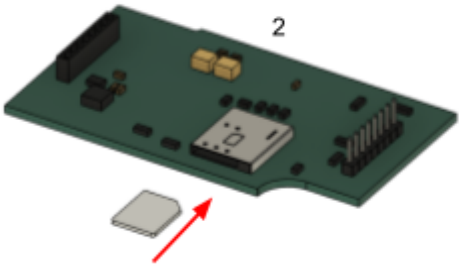
To access the 4G module, the back of the unit will need to be removed. You will then find the module located at the bottom of the panel.

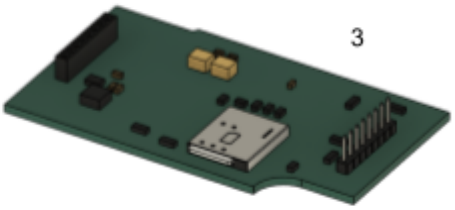




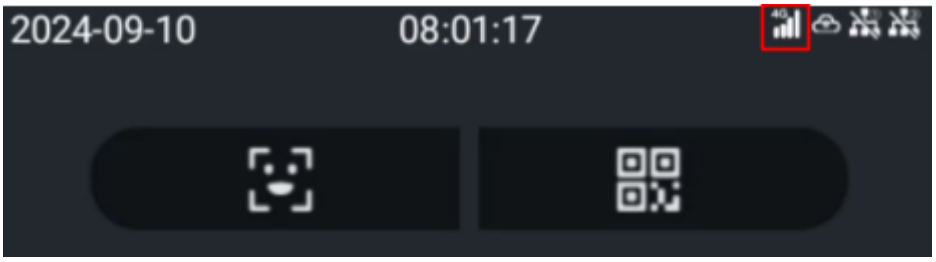
The SIM is inserted on the underside of the module and needs to be lifted off the main PCB for this action to be done. Make sure the device is powered down before doing any of this.







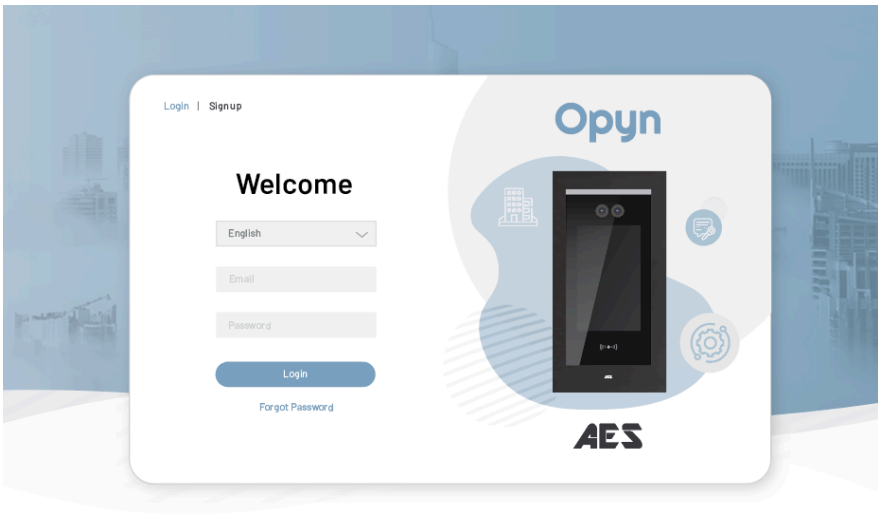
Once the SIM is inserted carefully put the module back in place, and ensure that all the pins are making a connection to the main PCB. You can then attach the back again and power up the panel. If the 4G connection is working you should see the 4G icon on the panel appear like in the picture below.



Setup

1. ## Account Creation

   Once the panel has been installed & powered up you can start the setup process. To get started you will need to navigate to our management portal and create an account: Opyn Multi - Management Portal



2. ## Create a site

   The first thing that needs to be done is create a site. A site covers the entire installation project. You can think of it in the context of a business park or an apartment complex, where the site encompasses all the panels & users within. Simply give the site the appropriate name & address. These can both be edited at a later time if needed.

   Example:
   Site Name - AES Test Site
   Address - 123 Test Avenue

3. Create a block

After we have created our site we need to add a block, or several blocks depending on the requirements of the site. It's easiest to think of a "block" as an apartment block or a unit in a business park. You will need to enter a name and a number for each block. This information can be edited at a later time.

Example:
Blocks Name - Unit 1A or Unit 1B
Block Number - 1 or 2

Note: *The block number can only contain numerals and cannot start with a 0.*

4. Create a panel

Once both a site and block have been created we need to attach a panel to these. Enter the information that is required and assign it to the "block" you wish. This will give all users within this block access to the panel.

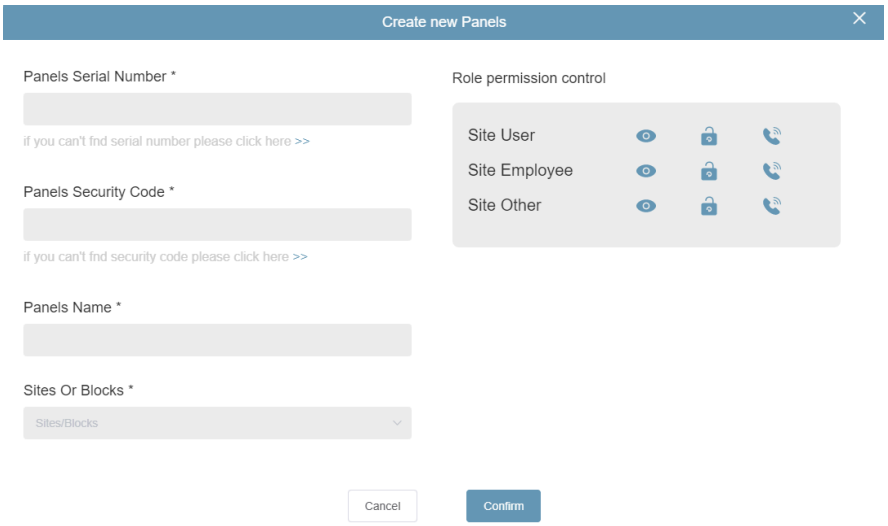
If you need to make a panel available to the entire site select the "Sites" option from the dropdown rather than a specific block. This will effectively give all users within the site and its blocks access to this panel, and they can all be called from it.

Note: *For more info on this see the "Example Setups" section.*

You can also adjust the role permissions for the different user types. The 3 permissions to control here are:

- *View the intercom camera*
- *Unlock the relays of the intercom*
- *Receive calls from the intercom*

Most of this information can be changed at a later time.



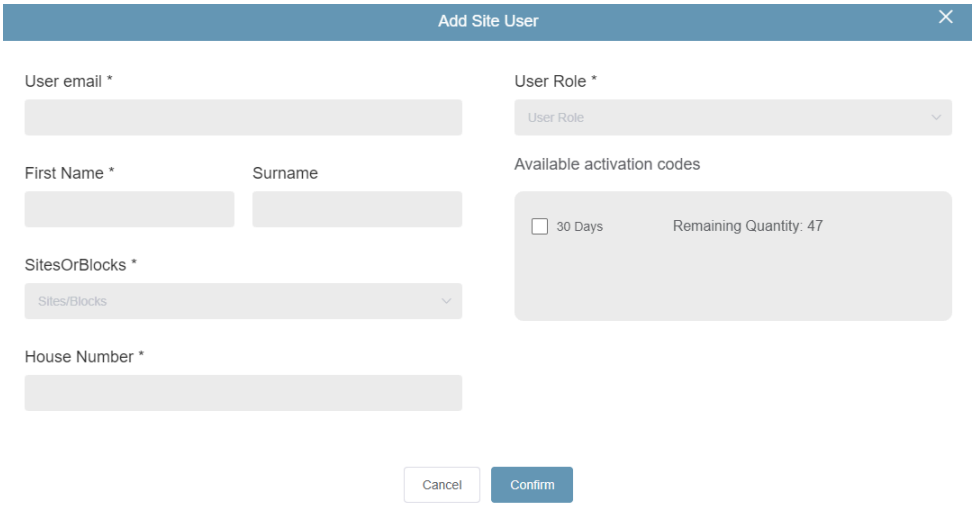
5. Setup users

Now it's time to start adding users to the panel. Please fill in the requested information and select the block, house/apartment number and role for the user. You may also assign a licence now if you have already purchased this. If not you can visit this point later after reading the “Licences” section.

When selecting a block for the user, similar to with the panel you can select the “Sites” option from the dropdown. What this will do is make it a “site user”, only giving access to the panels with the same configuration. If a user is instead assigned to a block they will gain access to any panels assigned to their block in addition to any “site panels”.

Note: *For more info on this see the “Example Setups” section.*

Once you save the user an email invite will be sent out. This will ask them to download the AES Opyn app, create an account and scan a QR code. Scanning this QR code will ask the user to accept an invitation to the site and if accepted add the panel to their account. Once accepted they will be automatically added to the contact list of the panel(s) and they will now be able to operate the system.

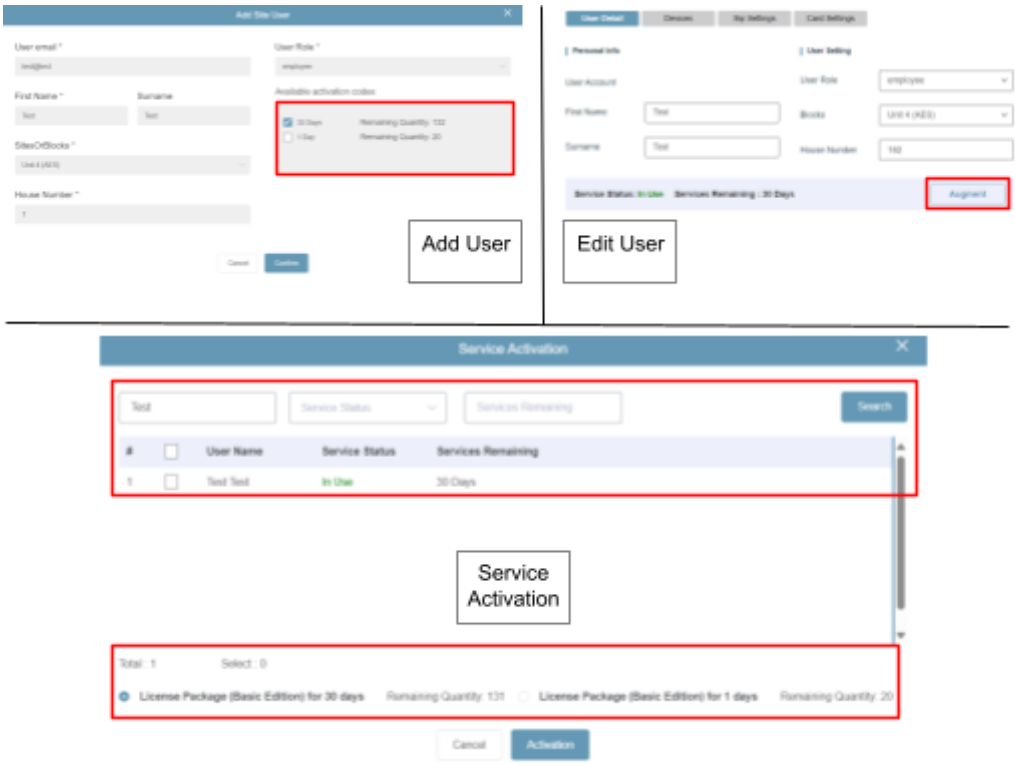


6. Licences

In order for users to be able to operate the panel via the app they need to have a licence assigned to their account. Licences can be purchased from AES directly via the management portal in the “Site Licences” or “Payments” tabs. Once purchased they can be freely assigned to users as needed. For more info on purchasing licences please see the “Management Portal Operation” section.

Licences will have a set duration at purchase, but the duration will only take into effect from the moment of it being assigned to a user, not at the moment of purchase.

You may assign a licence to a user upon the user's creation, when editing the user or use the “service activation” feature.



You will be able to monitor the remaining duration of each user's licence from the management portal. The users themselves can also monitor this via their mobile app.

Note: *Each apartment in the panel requires a licence assigned to the main user. The apartment's main user may share access to the apartment with others as required using the mobile app.*

7. Example Setups

There are several ways you could use the Opyn Multi system to set up and create a site. Below you will find 3 examples for the most common use cases of the intercom system. Please note that this will not cover all possibilities but using the info provided in each example together they should cover most scenarios.

a. Apartment Buildings

Setup for use against an apartment building or buildings is very straight forward. The easiest way to do this would be to create a **site**, with 1 **block**. This block will represent 1 building. From there it's just a matter of assigning the **panel(s)** to this block and the same for all the **users**.

Should there be multiple buildings in the site, simply create another block for each building and assign each panel and user to their respective blocks.

The users will have access to the panel(s) belonging to their block and will appear there as **contacts** for visitors to call.

b. **Gated Community**

For sites like a gated community the setup is the same as it would be for apartment buildings. Start by creating a **site**, followed by a **block** to represent the gated community as a whole. Assign this block a **panel** and invite all the residents as **users**. These will all now have access to the panel at the gated entrance and will be displayed there as **contacts** for visitors to call.

c. **Business Park**

For something like a business park the setup may be a little more complex but should still be easy enough to navigate. The key thing to keep in mind here is that each panel belonging to a building/block is a “block panel” and each panel belonging to a site entrance/exit is a “site panel”.

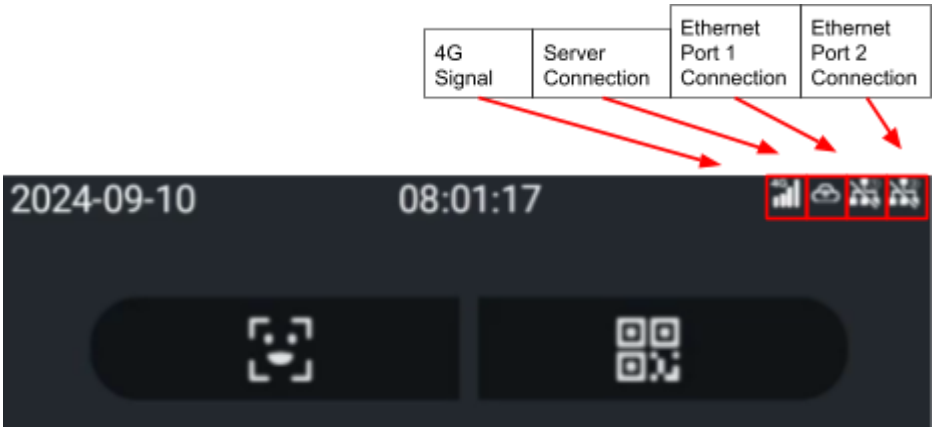
Block Panel = A panel that can only be accessed by the users residing within the block
Site Panel = A panel that can be accessed by all the users residing within the site.

So for a simple setup where we have 3 buildings within the site and 1 entrance we would make sure to create 3 **blocks**, assign each of these their **panel(s)** and **users**. We then want to add the panel that will go on the entrance and instead of assigning it to a “block” instead choose the option from the dropdown called “Sites”. This will make it a site panel and therefore available to all users within the site. All blocks will now also appear on it in the **contact list** and within them all the users in each block.

Panel Operation

1. **Icon Meaning**

At the top right corner of the screen on the panel you will find 4 icons. They represent the 4G, Server and Ethernet port connections. Should either of these connections not be in use or not functioning they will appear with a line going through them.



2. **Unlock Page**

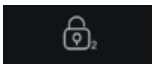
In standby mode, once the screen is pressed or a face is detected the screen will wake up and show the unlocking page and the different ways to activate the locks of the system.

Note:

- *The white LED will also be lit up with the screen, if the LED is enabled.*
- *To light up the screen, the face detect range is 1- 2 metres.*
- *The device will go back to standby mode, if no face is detected or hasn't been touched for 30 seconds.*
- *The unlock functions can be enabled/disabled in the access settings.*
- *Swipe card distance ≤ 20mm.*

a. Keypad Code

Using a programmed keypad code is done simply by entering the code using the keys on the screen followed by selecting the lock you wish to activate. If the keypad code is correct and accepted there will be a voice prompt to confirm. Your keypad code may be set to only allow access to one or both. Should you try to access a lock you do not have access to you will be met with an error.

Pressing this icon will activate lock 1. (usually used as door lock) Whilst pressing this icon  will activate lock 2 (usually used as garage lock).

Keypad codes can be added manually on the panel or users can add it themselves remotely using the mobile app.

Note: *Keypad code max capacity is 10 000*

b. Facial Recognition

You can press the icon to activate facial recognition. Stand before the panel within 1 metre and make sure only one face is in the recognition area. If the face is already added to the system it will give a voice prompt. Otherwise it will give a pop-up error on the screen. Facial ID's can be added via the panel manually or users can add it themselves remotely using the mobile app.

Note: *The facial recognition scan lasts for 15 seconds & max capacity for facial ID's is 10 000*

c. QR Code

You can press the icon to activate the QR code scan. Simply hold the QR code before the panel within 1 metre. If the QR code is added and recognized a voice prompt can be heard. Otherwise it will give a pop-up error on the screen. QR codes can be added via the panel manually or users can add it themselves remotely using the mobile app.

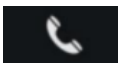
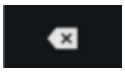
Note: *QR code max capacity is 10 000*

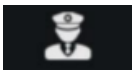
d. Prox Card

You can swipe any MIFARE prox card that has been added to the system. By default a quick/short swipe will unlock “Lock 1” and a long swipe will unlock “Lock 2”. This can be changed and adjusted in the “Settings” of the panel. Prox cards have to be added manually on the panel. For more info on this refer to the “Panel Operation” section.

Note: *Prox card max capacity is 10 000*

3. Call Page

You can input the room number you want to call and press the  icon to initiate the call. Use the  icon to delete digits. During a call you may hang up at anytime using the icon.

Pressing the  icon will enter the guard list page. You may search for the guard you want or simply press the nameplate of the desired guard to initiate a call. If there is only one guard added to the system, pressing the guard icon will initiate a call immediately.

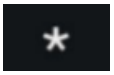
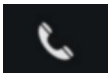
Note: *The call rings for 30 seconds, and the conversation can last for 3 minutes.*

4. Contacts Page

In the contacts page you can search for residents or press their nameplate from the contact list on screen. Pressing the nameplate will initiate a call.

Note: *The call rings for 30 seconds, and the conversation can last for 3 minutes.*

5. Settings Page

To enter the settings of the panel you need to navigate to the “Call Page”. From here press the  followed by  then enter 99 into the keypad. A pop-up will now appear requiring a password to gain access to the settings page. (Default password is 0000)

a. Device Information

In this page you can select between DHCP or Static IP for each of the panels Ethernet ports.

b. Access

Unlock Time - You can set the opening time for both lock 1 and lock 2. Time range is 1-15 seconds (default time is, lock 1 = 1 seconds;
lock 2 = 5 seconds).
Unlock Button Mode - You can choose the default state of the second lock.

Wiegand Out - You can enable or disable the Wiegand out port.
Unlock Count - Setting this to 1 will disable use of Lock 2. Setting this to 2 will allow use of both locks.
Face Setting - You can adjust environment mode between indoor & outdoor to fit your installation. Liveliness check can also be enabled, and you can adjust its sensitivity.

c. System

Time Zone - Here you can adjust the time of the panel to match what you require.
Talk Volume - Lets you adjust the talking volume from 1-10 (default is 5).
Language - You can change the language of the panel.
Tamper Alarm - You enable or disable the tamper alarm. If enabled the alarm will go off when the tamper button is released. Cloud management platform and mobile app users will be notified.
System Reset - If you press yes this will default the system back to factory settings.
Light Setting - You can set the corresponding LED brightness for day (default: 1) and night (default: 10). The screen brightness can also be adjusted (default: 100).
Screen Setting - You can choose if you want the screen to wake up by touch or by face detection (default: Touch).
Touch Sound - Enable or disable the sound made from touching the panel screen.

d. Password

Engineer password - You can change the engineer's password (default is 0000).
User password - You can change the user password for the Contacts page (default is 123321).

e. About

Here you can check the device information including firmware version, serial number and more.

f. Contact

If you click on the “Contact” option you will be meet with a pop-up asking you to enter a password. By default this password is “123321” but can be changed in the “Password” page.
In **“Contacts**” you can manage the users registered in the panel.
Face data - You can add or delete Face ID. To add Face ID, stand 1 metre before the door station, press the camera icon, and name the Face ID, it will pop up ‘add face successfully!’. If failed, you need to modify the face position and angle according to the prompt. You can delete the Face IDs by pressing the delete icon.
QR code - You can manage and delete the existing QR codes.
Card data - You can add and delete the IC/ID card. To add card, press ‘Add card’, and swipe the IC or ID card at the lower card-read area of the device.You can delete the cards by pressing the delete icon. We recommend adding the cards via the management portal rather than directly on the panel.
Password - You can manage the passwords/keypad codes for users. To add password, press ‘Add password’, type the password and retype to confirm.

Local Web Interface Operation

There are also some additional features that can only be accessed by connecting to the panel via the local-area-network. This means that both the panel and the computer accessing this page need to be on the same network (IP scheme). We will only cover the essential features here and do not recommend adjusting any settings not covered in this manual.

To access this page you will need to enter the IP address of your panel into your browser. The IP can be found via the panel itself in the “Device Information” page that can be accessed from “Settings”.

The default login credentials are:
Username: admin
Password: 888999

Local Config

The features on this page include:

- View device IP & MAC address
- Enable or disable tamper alarm
- Adjust unlock time for lock 1 or lock 2
- Change default state of exit button

Dtmf Config

Same functionality as on the cloud portal. Lets you adjust the keys needed to be pressed on a SIP device to trigger lock 1 or lock 2 and in some cases to open 2-way speech.

Screensavers

Here you can add or delete screensaver images to the system. The system can take up to 3 screensaver images rotating roughly every 30 seconds. The “reset” button will bring back the default AES screensaver should it be needed.

Note: *The screensaver will start after approximately 200s of the screen not being touched, or having detected a face depending on the setting chosen in the panel.*

User Management

This allows you to change the default login details for this page.

Maintenance

Here we can see panel information such as its software version, hardware version and ID. We can also update the firmware or reboot the device from here.

App Updates

We will continually monitor the app’s performance and release updates to enhance the user’s experience and/or fix any issues that arise over time. These updates will be available via the iOS app store or the Google play store.

Firmware Updates

Firmware updates will be released to fix any bugs or to add additional features where possible throughout the product's lifetime. The firmware version your system is using can be seen via the app.

Warranty

Please note, by installing this product, you are accepting our warranty terms. This warranty is a “return to base” 2-year manufacturers warranty. The 2-years count from the day the product was manufactured.

For full warranty terms and conditions contact the AES Technical Support Team

Certifications

CE-RED

Manufacturer: Advanced Electronic Solutions Global Ltd
Address: Unit 4C, Kilcronagh Business Park, Cookstown, Co Tyrone, BT809HJ, United Kingdom
Complies with the following essential requirements for:
EN 301 489-1 V2.2.0 (2017-03) (Electro-Magnetic compliance)
EN 301-489-17 V3.2.0 (2017-03) (Electro-Magnetic compliance)
EN 62479:2010 (Maximum output power)
EN60950-1:2006+A11:2009+A1:2010+A12:2011+A2:2013(Electrical Safety)

Notified body: Shenzhen HUAK Testing Technology Co., Ltd.
CNAS Number: L9589

This declaration is issued under the sole responsibility of the manufacturer.

Signed by:

Paul Creighton, Managing Director. Date: 18th July 2024

FCC

FCC ID: 2ALPX-OPYNMULTIIPIB
Grantee: Advanced Electronic Solutions Global Ltd

This device complies with Part 15 of FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Output power listed is conducted. This device must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

RF Exposure Statement
To maintain compliance with FCC's RF Exposure guidelines, This equipment should be installed and operated with a minimum distance of 20cm from all persons. This device and its antenna(s) must not be co-located or operated in conjunction with any other antenna or transmitter.

Changes or modifications not expressly approved by the party responsible for compliance could
void the user's authority to operate the equipment. 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.

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