

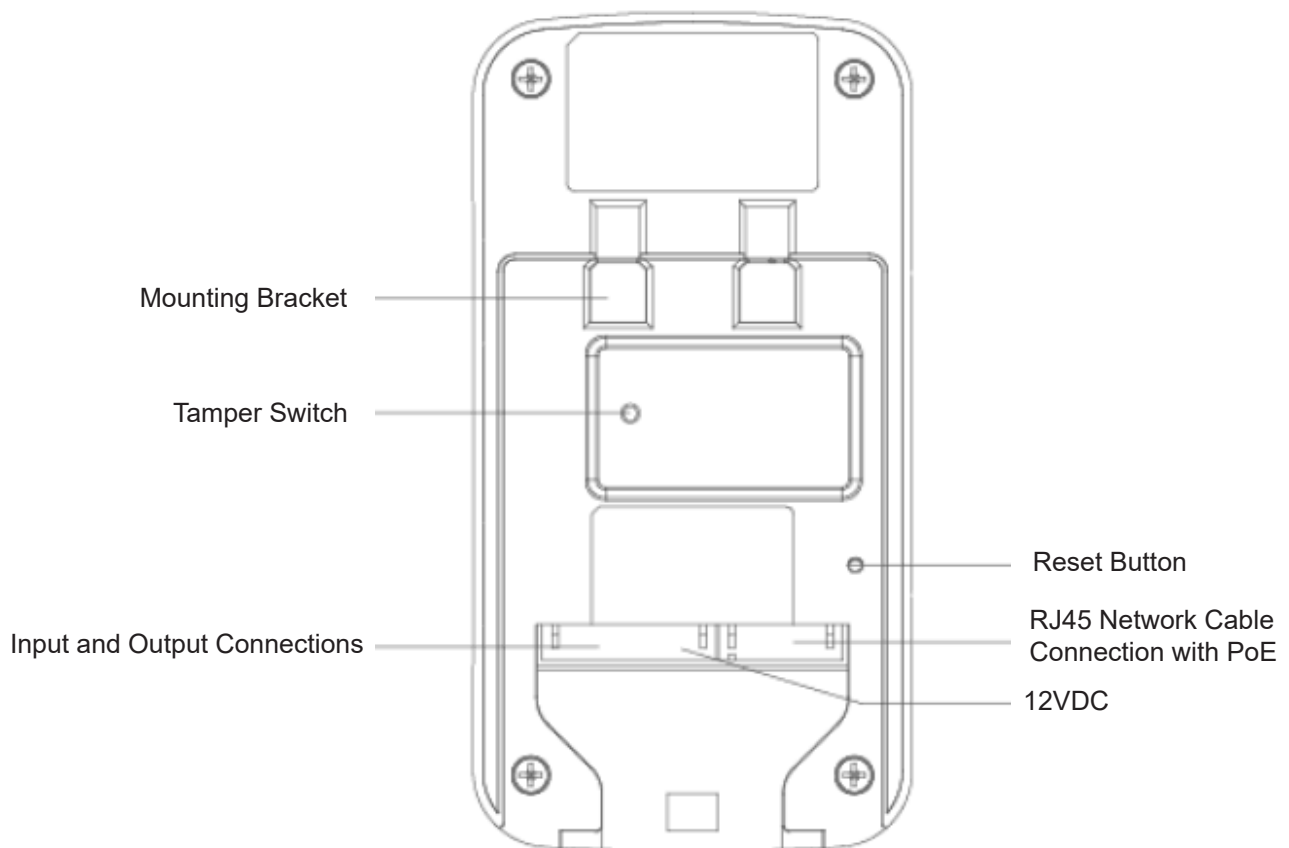
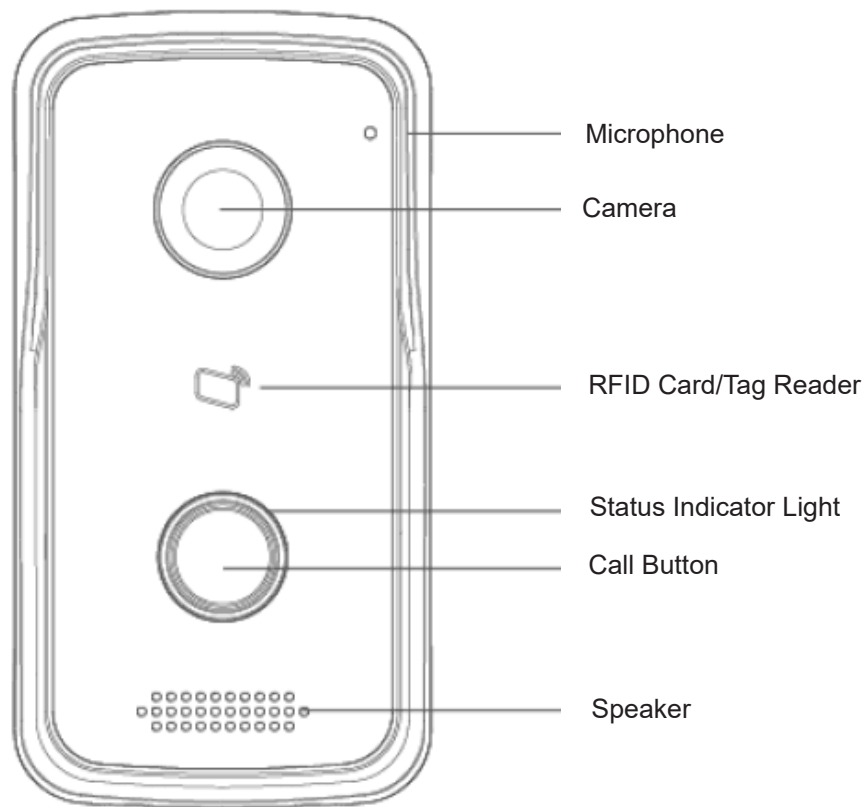
IPI-101 IP/WiFi Video Intercom Outdoor Camera Station Installation Manual



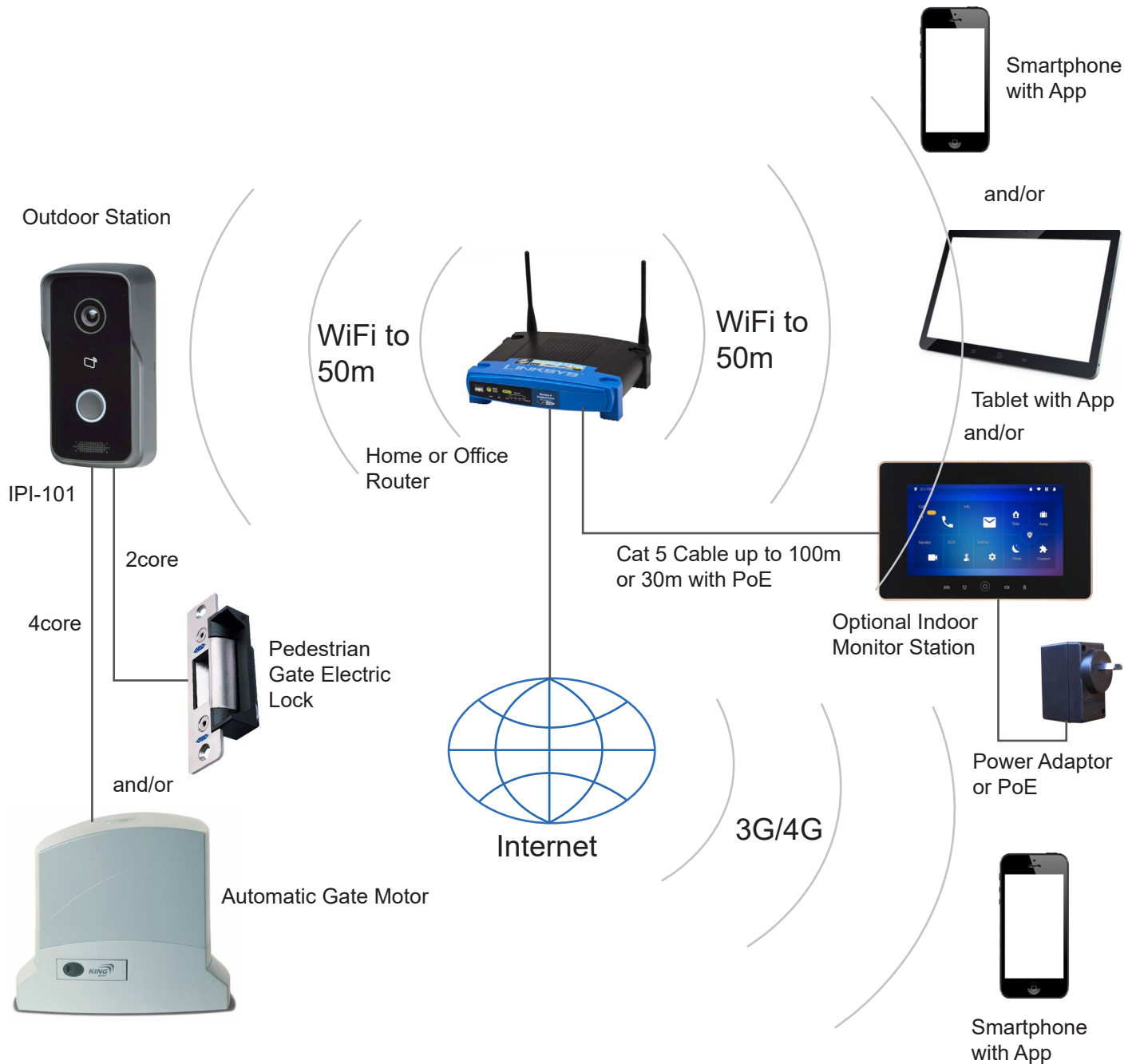
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What's on the device



Short Range Wireless Application Diagram



Note: IPI-101 and Electric Lock can be Powered from an Automatic Gate Operator or Power Adaptor.

The IPI-101 can be solar powered but requires a 12V 20 Watt solar panel, charge controller and a 26Ah deep cycle battery.

Wired Application Diagram



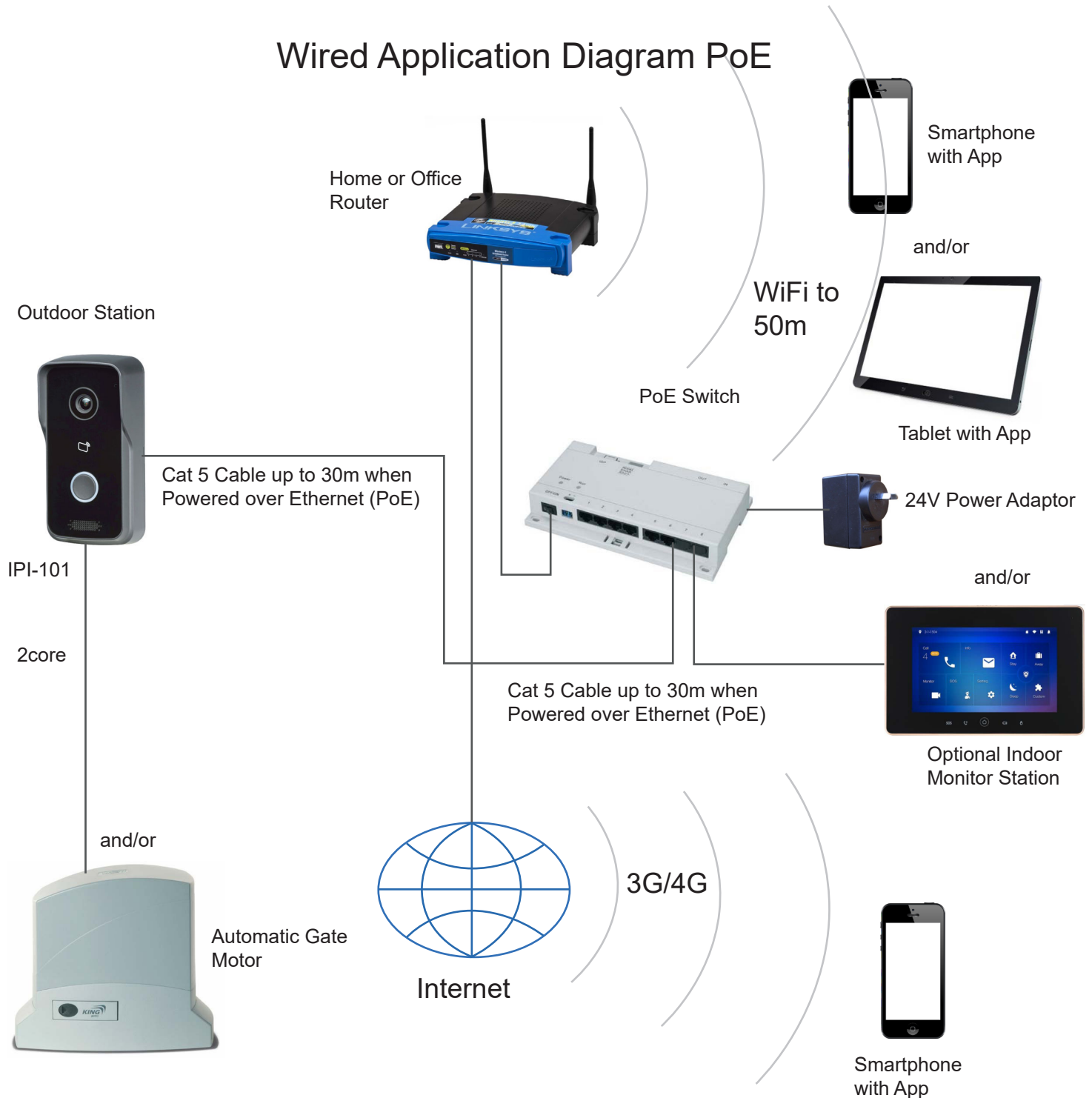
Notes:

IPI-101 is Powered either from an Automatic Gate Operator with a 24VDC to 12VDC voltage converter if the motor is 24V and no other 12VDC source is available from the motor or from a 12VDC Power Adaptor at the gate or through a low voltage cable to the house where there is somewhere to plug in.

If the Cat 5 Cable is to go in the ground it should be rated to go in the ground, that is it has a tough polythene sheath and is filled with gel to protect it from moisture penetration.

To run 12VDC over a long distance (100m) for an electric lock would require a very thick cable, it would be more economic to use a lighter weight cable with a 24VDC unregulated power adaptor at the house or where ever power is available and 12VDC voltage regulator at the gate that will compensate for any voltage drop.

Wired Application Diagram PoE



Notes:

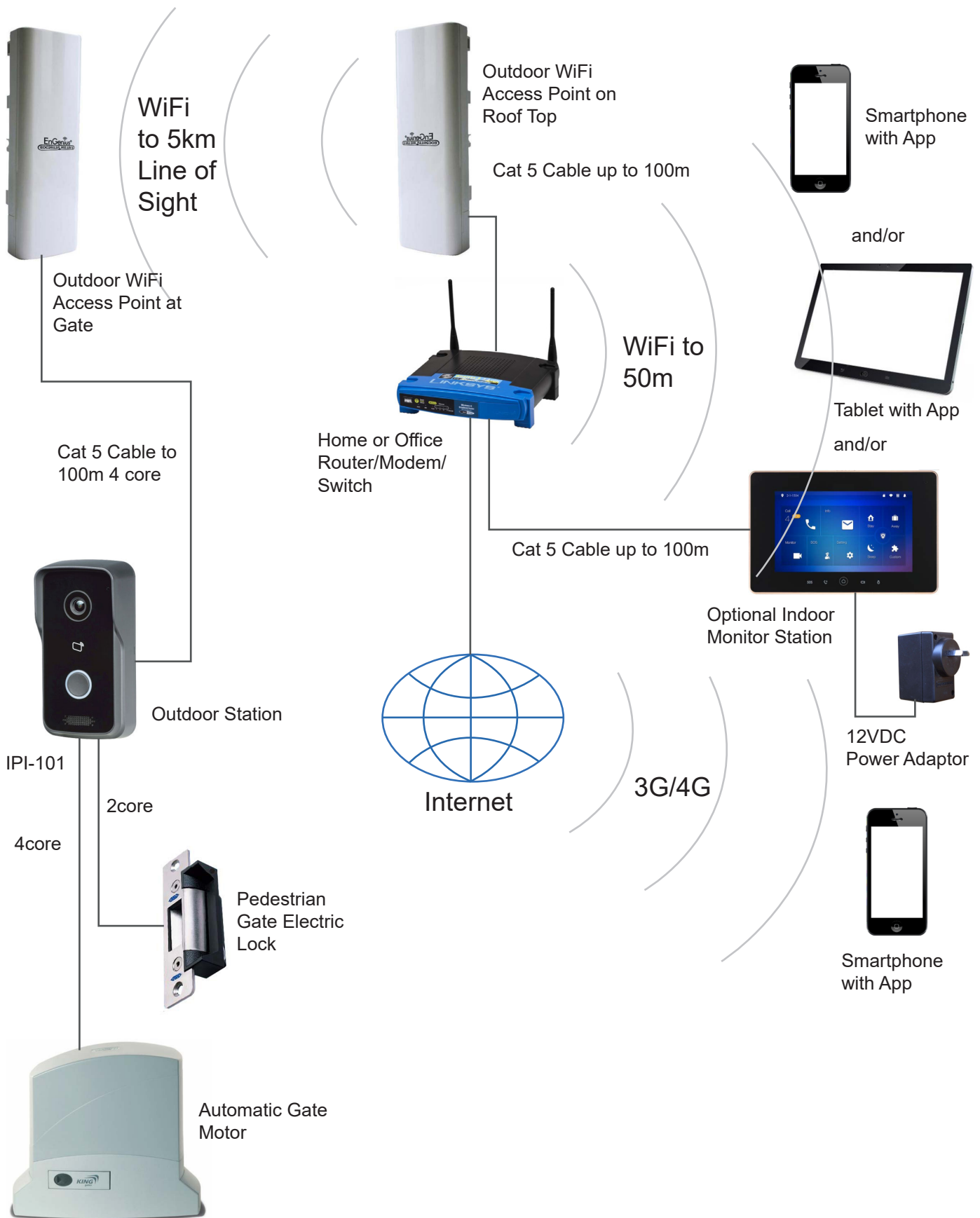
When the IPI-101 is Powered over the Ethernet cable (PoE) a PoE switch injects power into the Ethernet Cable so no extra power cable is needed although this cannot be used to power an electric lock and can go to a maximum of 30m. A Power Adaptor or 12VDC from a gate motor must be used if an electric lock is required.

Medium Range Wireless Application Diagram



Note: IPI-101, Electric Lock and Outdoor Access Point are Powered either from an Automatic Gate Operator with a 24VDC to 12VDC voltage converter if the motor is 24V and no other 12VDC source is available from the motor or from a 12VDC Power Adaptor at the gate or through a low voltage cable to the house where there is somewhere to plug in.

Long Range Wireless Application Diagram



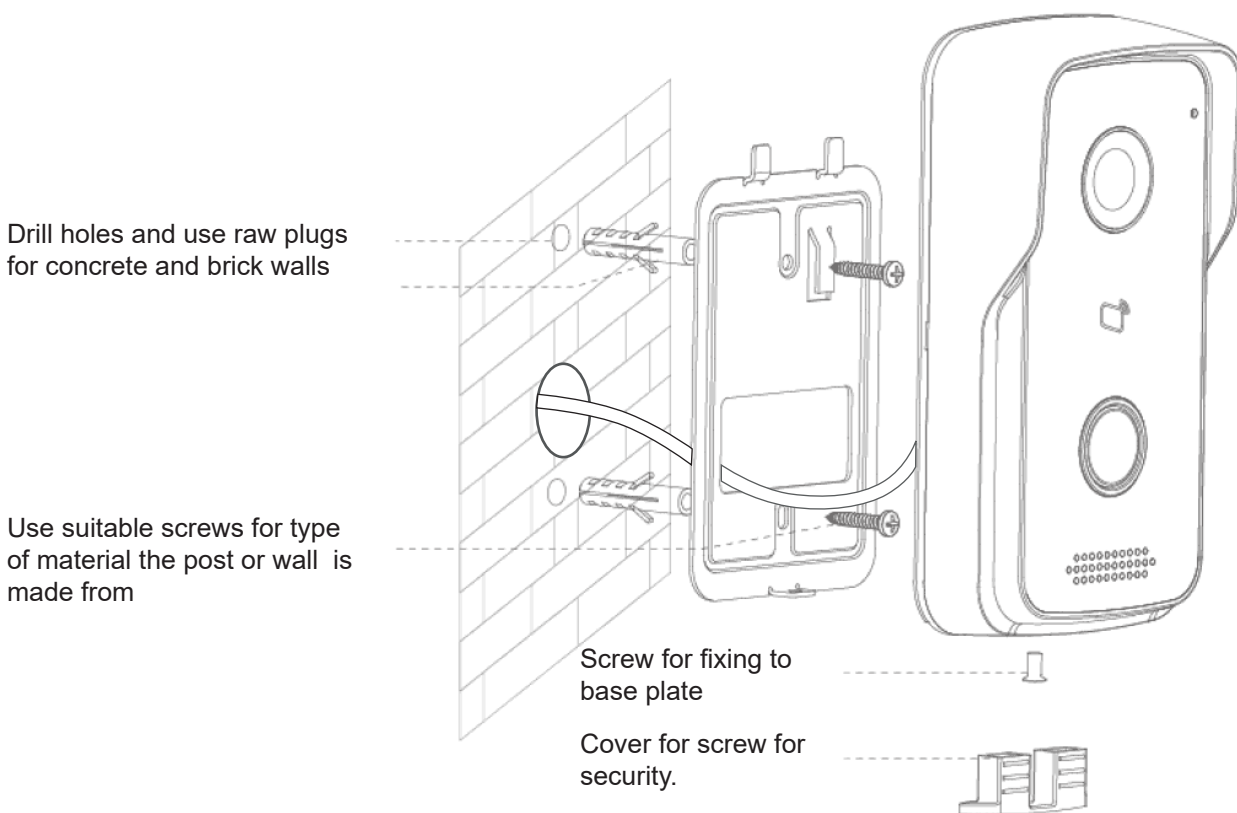
Note: IPI-101, Electric Lock and Outdoor Access Point are Powered either from an Automatic Gate Operator or Power Adaptor. They could be solar powered but would require quite a large solar panel and backup battery for this to work reliably, size depending on which Outdoor Acces point is choosen and distance it is to work.

Installing the IPI-101

The IPI-101 must be connecting directly to a desktop or laptop computer with an ethernet cable to set it up before it will work. The same goes for any Outdoor Access Points used for extending the WiFi range. If the IPI-101's built in WiFi is to be used it is recommended that this is done close to the router before it is physically installed.

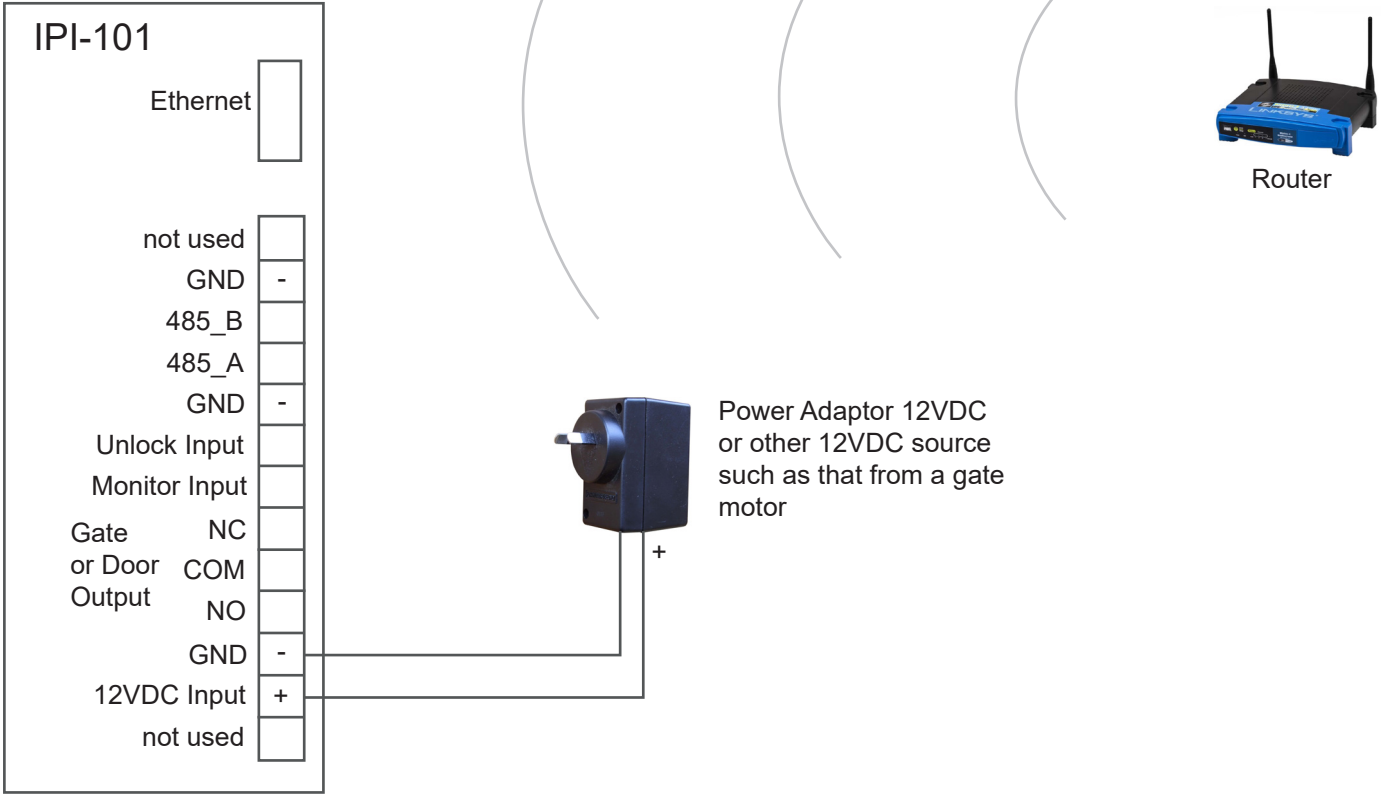
The Physical Installation

The IPI-101 is only 70mm wide so will fit on a metal or timber post 75mm or wider. The mounting plate must be fitted first. Place the mounting plate on the post or wall approximately 1.4m metres from the ground so the camera will see a visitors face and mark the position of the screw holes and cable entry hole then drill suitable sized holes for the screws if needed and a 20mm or larger hole for cabling. The best screws for metal posts are self drilling galvanised screws. For timber posts use galvanised timber screws and for concrete or brick posts or walls use raw plugs and suitable galvanised screws (pictured). Brick requires larger and longer raw plugs and screws than concrete because it isn't as even. The cabling can be terminated inside a metal post or for concrete or timber posts a larger deeper hole can be made so the cables cab be terminated inside the post too. If fitted to a thin wall or fence then a weather proof box can be installed around the back and suitable hole drilled so the cables can be terminated inside this.

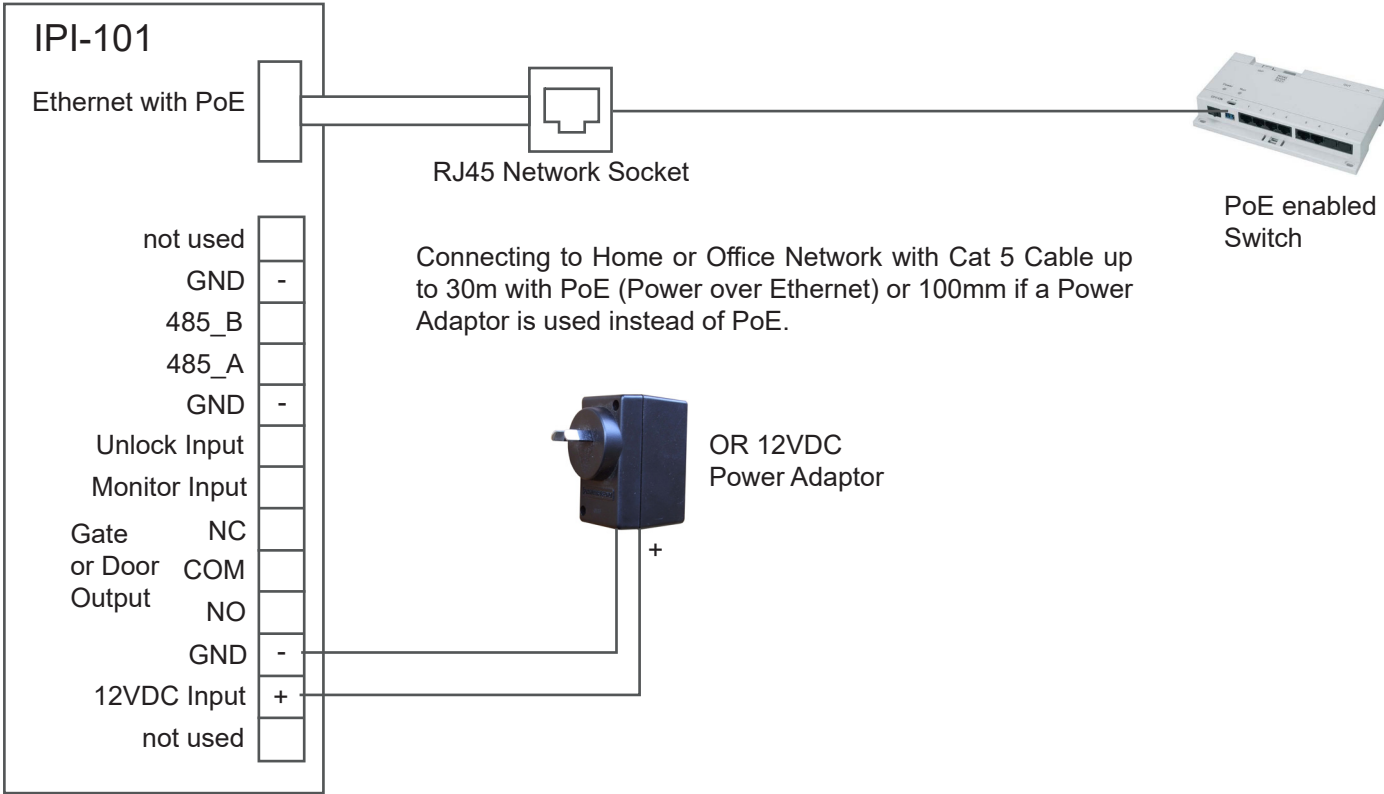


If using a network cable rather than WiFi to connect to the router and the cable is to go in the ground then a suitable in ground Cat 5 cable is required, which is a tough polythene sheath and is gel filled to prevent moisture penetration. Same goes for cables that run to an automatic gate operator if they go in the ground.

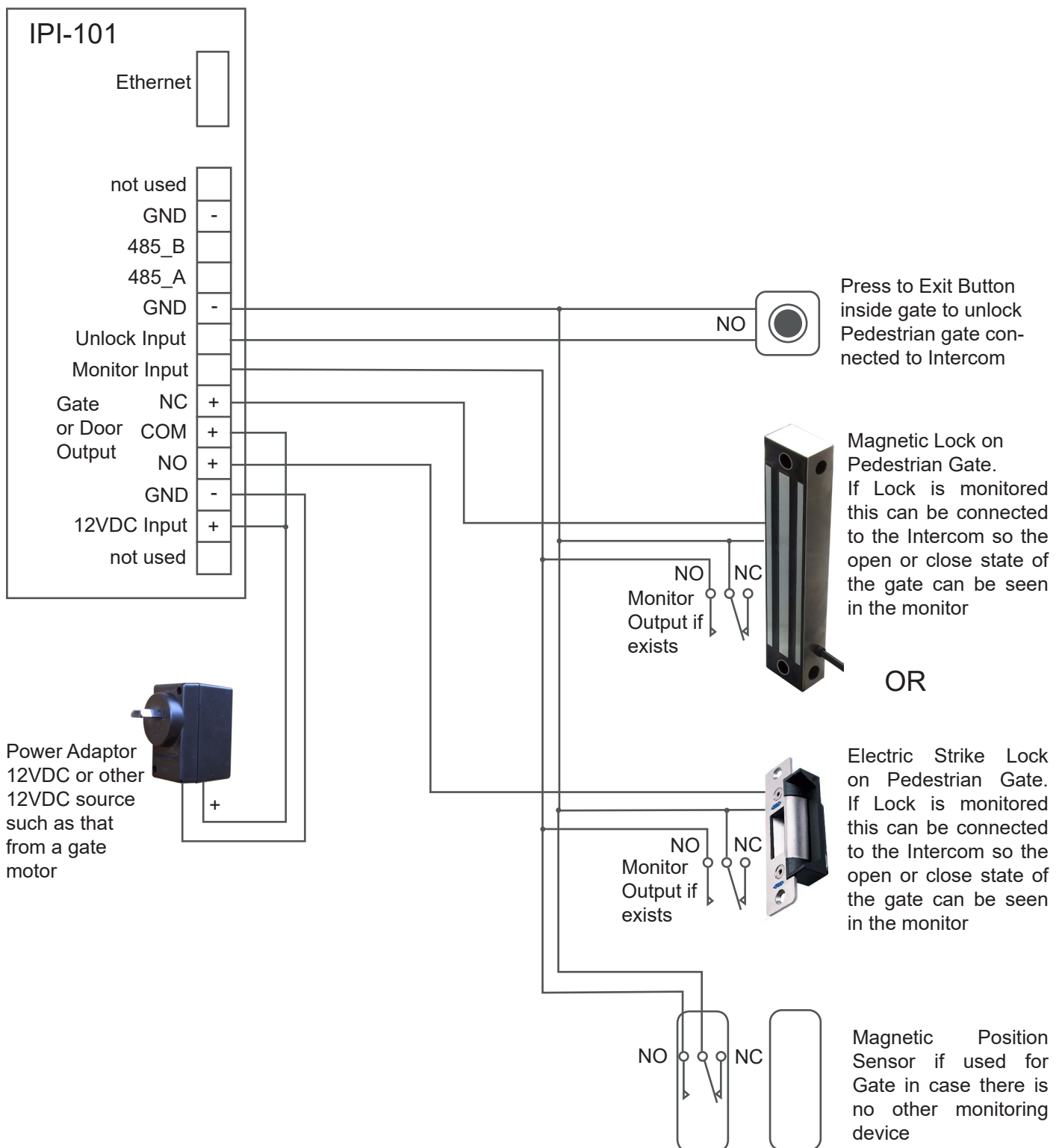
Wiring Diagram for Wireless Connection to Router



Wiring Diagram for Wired Connection to Router

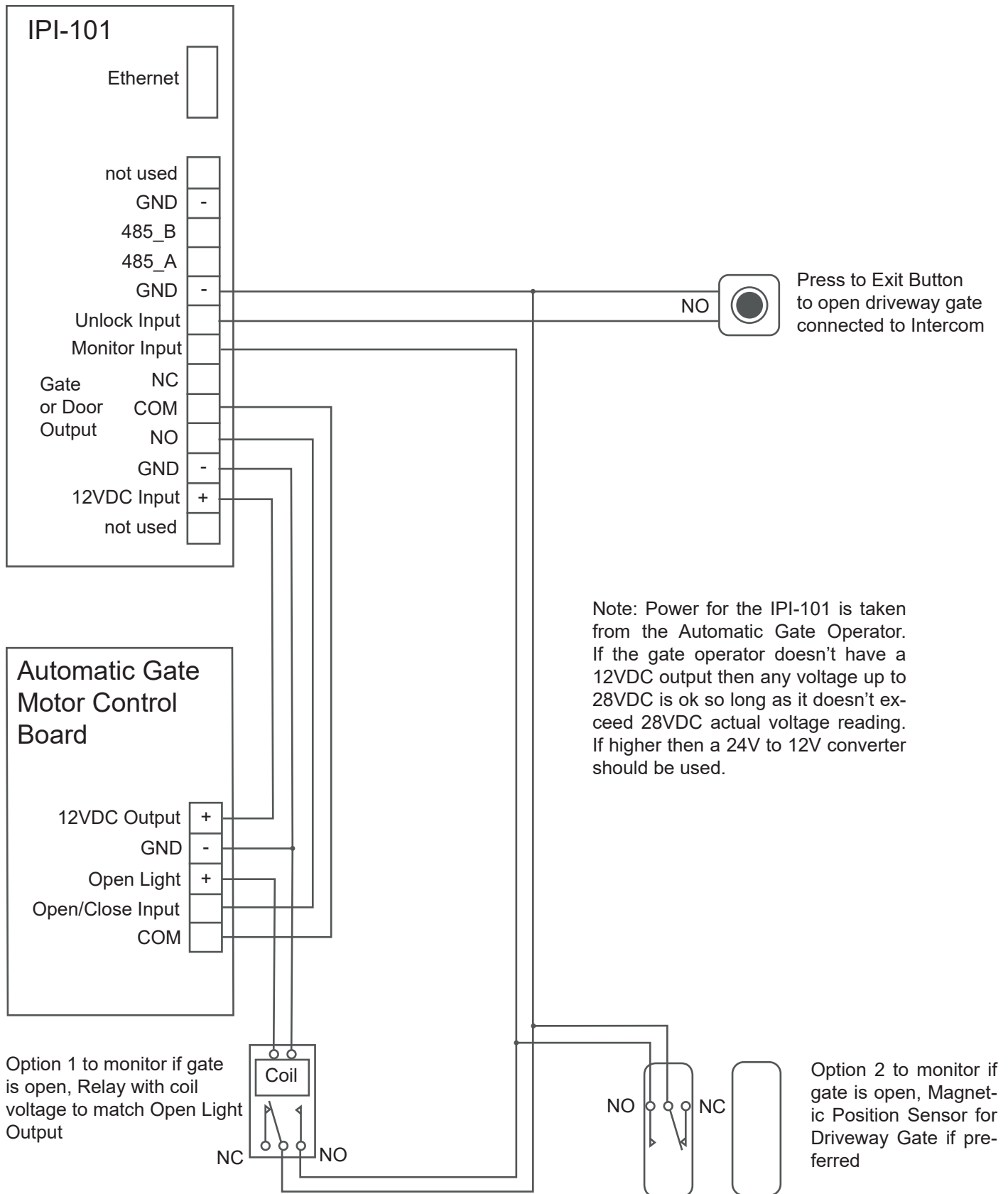


Wiring Diagram for Pedestrian Gate Electric Lock Control



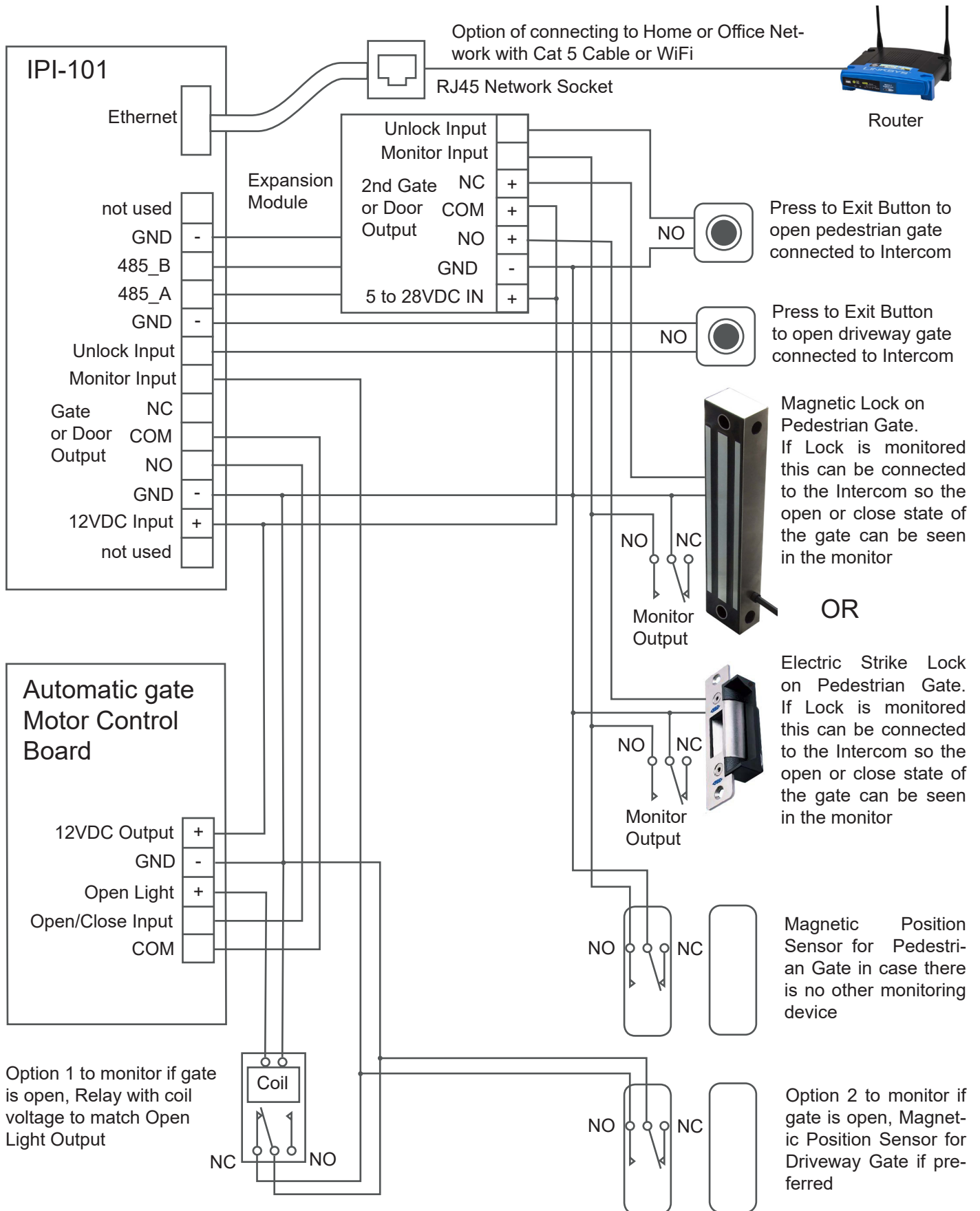
Note: There can only be one of either a Magnetic Lock OR Electric Strike lock per Gate or Door Output. Monitor connection output may need to have NO and NC terminals swapped around depending on open/close status of the gate/door.

Wiring Diagram for Automatic Gate Operator Control



Note: The Open Light output of an automatic gate operator must be set so it provides output when ever the gate is open and any timer set to a minimum. If there is an open indicator output on the control board, use this as it will be more accurate. The monitor connection output may need to have NO and NC terminals swapped around depending on open/close status of the gate/door.

Wiring Diagram for with both Automatic Gate Operator and Pedestrian Gate Electric Lock Control



Note: There can only be one of either an automatic gate operator, Magnetic Lock OR Electric Strike lock per Gate/Door Output. Monitor connection output may need to have NO and NC terminals swapped around depending on open/close status of the gate/door.

Setting Up the IPI-101

Before the IPI-101 will work it needs to be connected to a router with a cable or WiFi and the router must have an Internet connection if it is to call a Smart Phone away from home. The installer will need a Desktop or Laptop computer to set everything up.

Step One:

The IPI-101 must be setup so it is connected to a router with an ethernet cable or WiFi before anything else can be set up.

Step Two:

Smart Phones and Tablets must have an App installed if they are to work with the IPI-101.

Step Three:

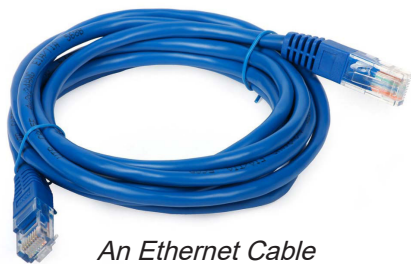
Add devices that are to work with the IPI-101 and set these up.

Connecting the IPI-101 to your Network

The IPI-101 must have an IP address that is compatible with the network it is to work on. The network router is the device that makes the network happen and is the device other devices are plugged into if wired connections are used or where the WiFi comes from for wireless devices. IP addresses are what are used to identify devices on the network and are made up of four groups of numbers each separated with dots such as: 192.168.1.110 or 10.0.0.110. The last number of the IP address must be different on each device and the first three numbers must be the same. To find an IP Address on your network use a Smart Phone that is already connected to the network go to settings/WiFi/info for an iPhone or iPad or settings/connectings/WiFi or settings/WiFi and tap the icon for your WiFi for Android devices, which will give you the IP Address of the device. If the first three numbers are the same as the IPI-101 then it will work as is. If they're different you will need to change the IP address of the IPI-101. Same goes for any Outdoor Access Points that may be used to boost the WiFi range and any Indoor Monitors that may be used.

Changing the IP Address of the IPI-101

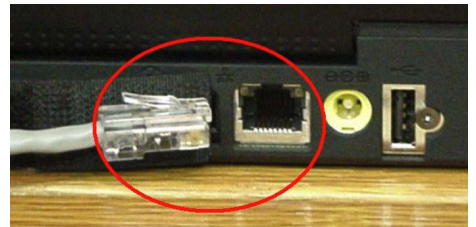
Because the IPI-101 doesn't have a display or keyboard you will need to plug it into a computer directly with an ethernet cable to make any changes. You'll also need to power the IPI-101 up with a 12VDC 1A power adaptor or other power source. This is best done on a table or bench. If your computer doesn't have an ethernet port you can get an adaptor that provides one from a USB Port.



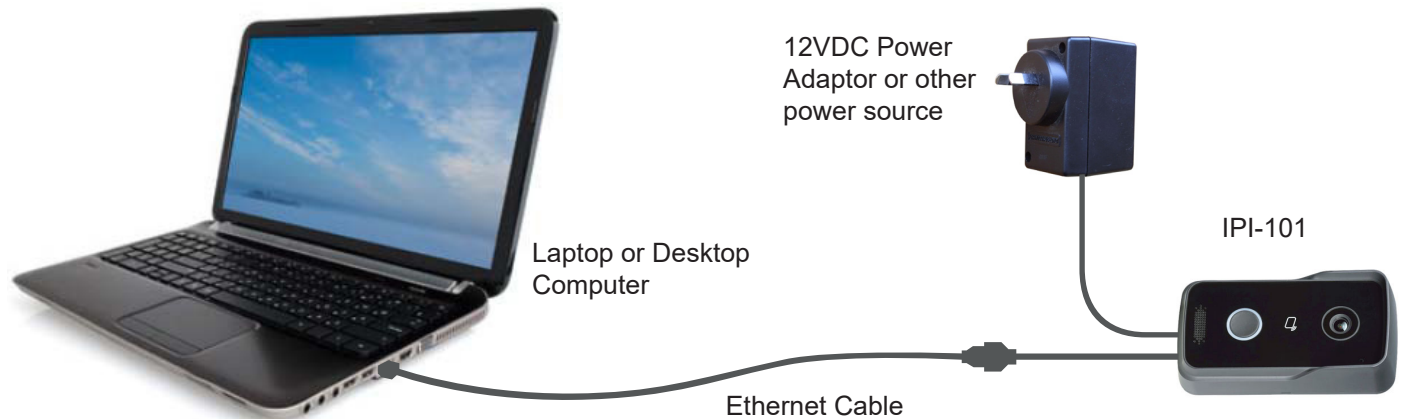
An Ethernet Cable



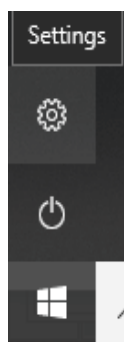
Where the Ethernet Cable Plugs into a typical Desktop Computer



Where the Ethernet Cable plugs into a typical Laptop Computer

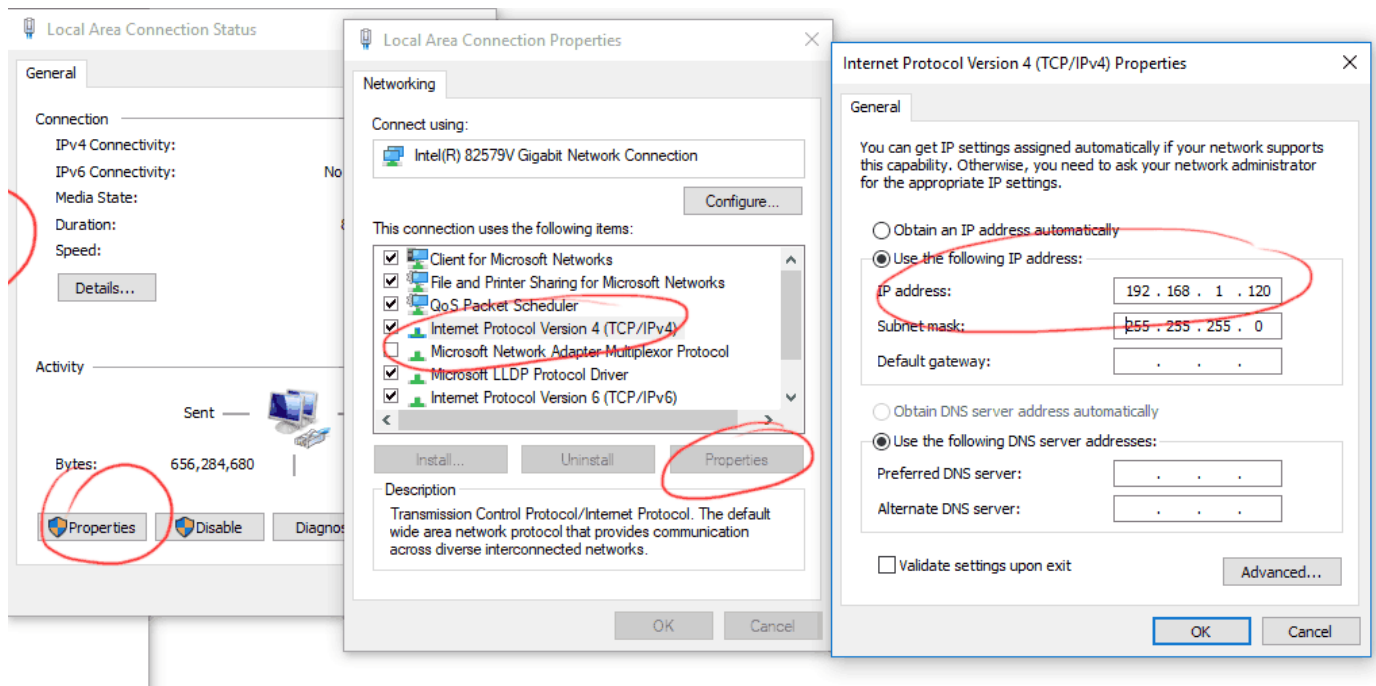
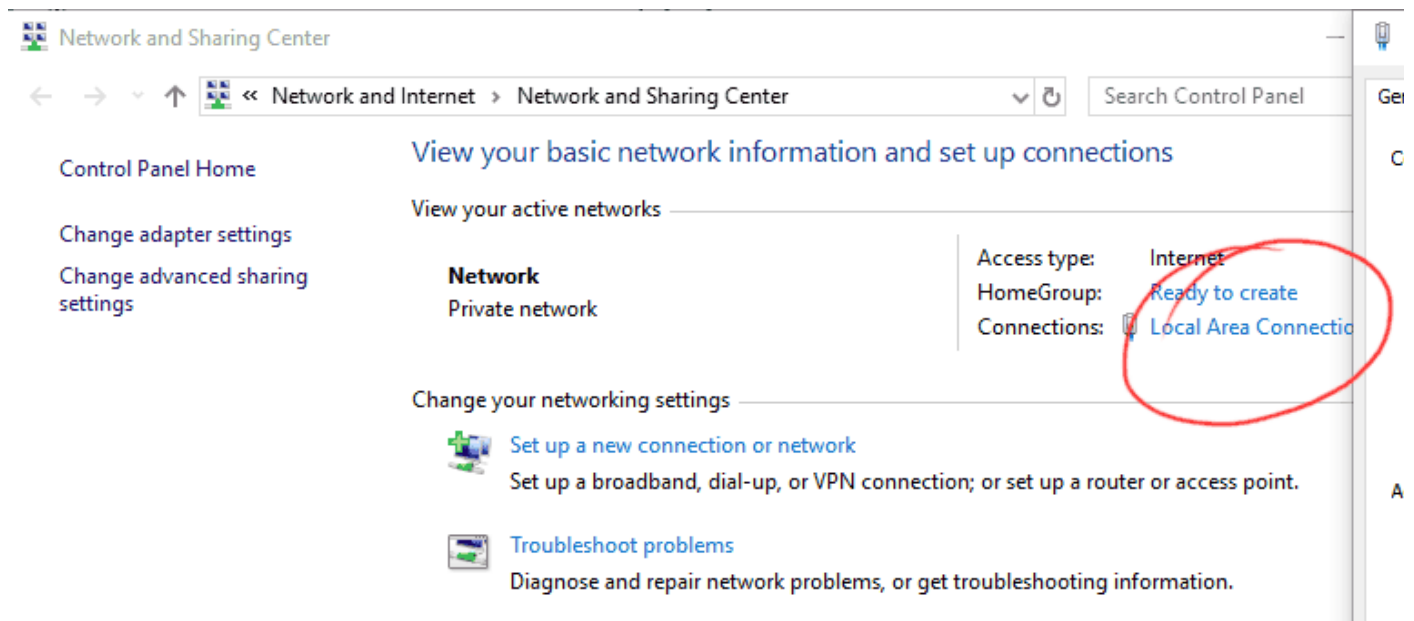


You will then need to open a web browser on the computer and in the address bar enter "192.168.1.110", which is the default IP address for the IPI-101 and a login should appear. If the login doesn't appear it's most likely because the computers IP Address doesn't have the same first three numbers so



you will need to change this first as follows: For Windows 10 click the "Start" button and choose "Settings", in here click "Network and Internet/ Network and Sharing Center". For older versions of Windows from the Start menu open the "Control Panel" and click "Network and Internet"

to find the "Network and Sharing Center". In "Network and Sharing Center" click "Local Area Network" or "Ethernet", then in here click "Properties", in here select "Internet Protocol Version 4 (TCP/IPv4)" and click "Properties" for this. In here click "Use the following IP address:" and enter the IP address "192.168.1.120", the subnet mask should be: "255.255.255.0" and default gateway: "192.168.1.1" and click OK. This has temporarily changed the computers IP address to one that will work with the IPI-101. For Apple MAC's Google how to do this. If the login still doesn't appear the IPI-101 can be reset to its factory default using a small screw driver inserted into a hole in the back of the unit and held for 10s until the blue light goes out.



Once you get the login to appear for the IPI-101 the default user name and password is “admin”. Once logged in the IPI-101’s setup menu appears. Go to the “Network Config” menu to change the IP Address for this device.

Setup the IPI-101 to work with a Wired Connection

To change the “wired” IP Address change the first three numbers of the IP Address, default gateway and DNS address so they are the same as the network you want the IPI-101 to work on, then click OK. The menu will disappear but that doesn’t matter as you now unplug the IPI-101 from the PC and plug it into the router so it will now work from there. If the IPI-101 doesn’t work there is a small chance that the IP Address you changed it to is being used by another device on the network so you’ll need to power down the router, wait 30 seconds and power it back up again to resign other devices IP Addresses automatically. If this doesn’t work there may be a device with a fixed IP Address set the same so you will need to unplug devices to find the conflicting one that is the IPI-101 menu appears and then change the IPI-101’s IP Address so it has a different last number as described above.

Setup the IPI-101 to work with WiFi

The IPI-101 must be connected to a computer using an ethernet cable, be powered up, be within a few meters from the router and logged in as described above and in the “Network Config” menu option. Here set the “DHCP” so it is set to “Off” and default Interface to “wireless”, then set the “wireless” IP Address so it has the same first three numbers as the router it is to work on. Then go to the “WiFi Info” menu option and wait for any WiFi router hot spots to appear.

Name	Signal	State	Connect
DizzySycamore			+
DizzySycamore-guest			+

Click of the “+” for your router, enter the password for your router and click “OK”. The IPI-101 should then be connected to the router with WiFi. If it just hangs reading “connecting...” wait a little while because some times it can be a little slow connecting. Once connected you can unplug the Ethernet cable and install the intercom physically. If you wish to login to the IPI-101’s menu for any reason with WiFi you will need to use the WiFi IP address set earlier as this is different to the wired one.

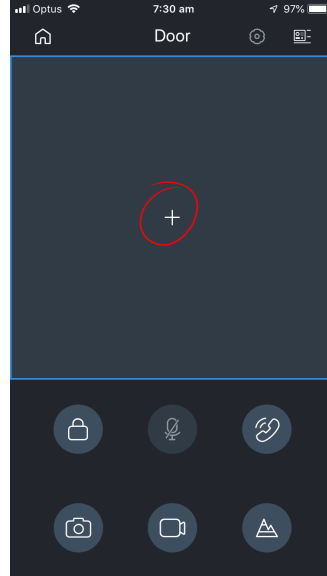
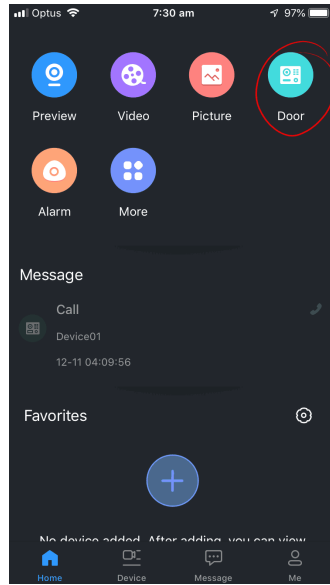
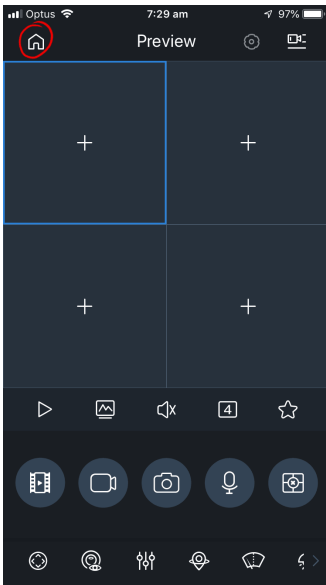
Installing the App on Smart Phones or Tablets

If you have a QR Scanner App on your Smart Phone or Tablet find the QR code on the box the IPI-101 came in to install the App that is required to make one or more Smartphones or Tablets work with the IPI-101. If you don't have a scanner then find the "iDMSS plus" App for iPhones/iPads or gDMSS plus App for Android on the Apple or Google App stores.

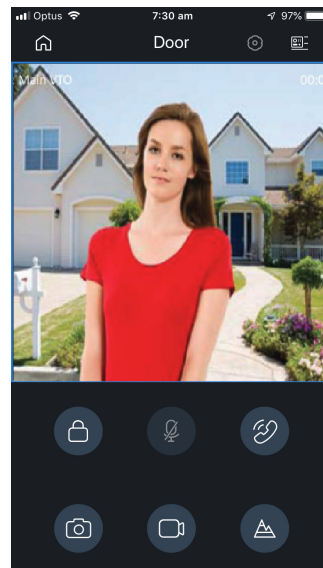
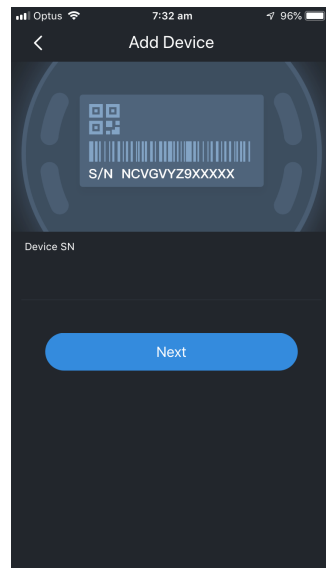


Adding the IPI-101 device and Setting it up

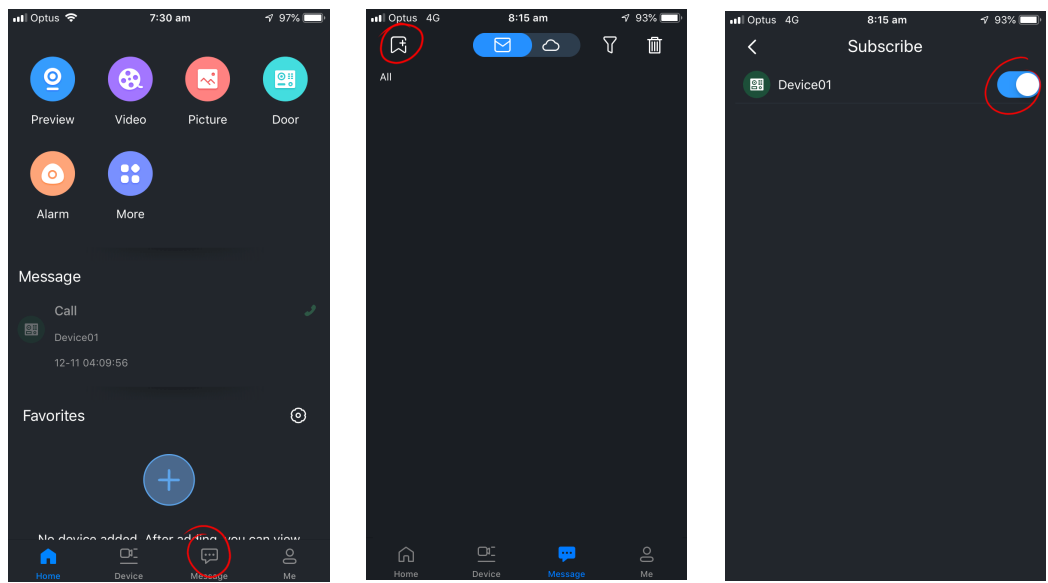
When you first open the App you'll be in the Live Preview screen for Camera's because this App can be used for IP surveillance cameras too. Go to the main menu by tapping the home button at the top left corner of the screen then tap the "DOOR" option. In here tap the "+" in the middle or icon at the top right to open the Device List and from here tap the "+" at the top left to add a new device.



From the "Add Device" page you can use your phone camera to scan for the QR code on the back of the Outdoor Station and or tap the "Manually enter SN" button and enter it manually. Once done the Door Intercom will appear as a device and what it's camera see's will appear in the preview window.



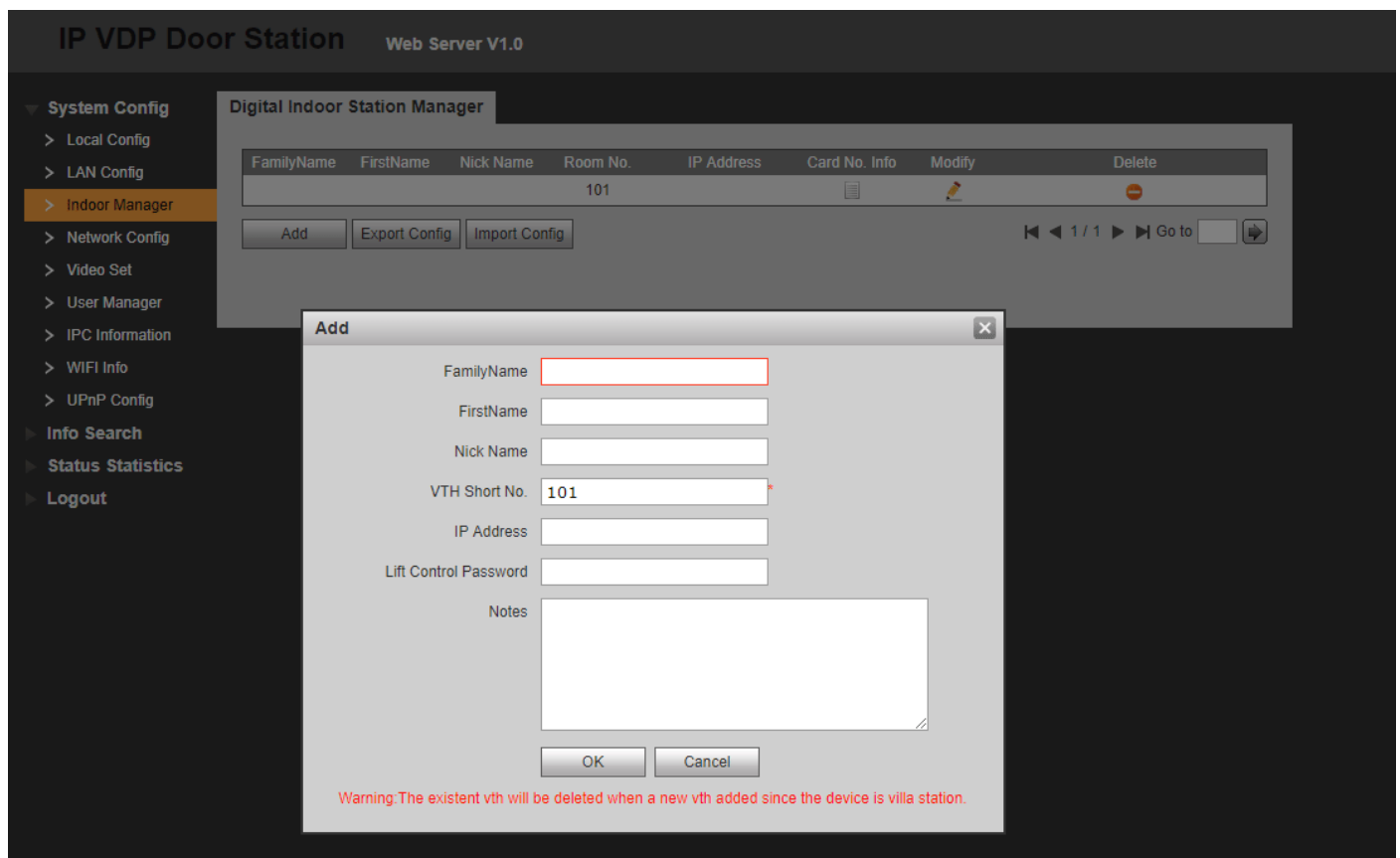
One last step is to get the Outdoor Station to call the Smart phone. To do this go back to the “Home” screen and at the bottom tap “Messages” then the button at the top left with a small “+” and then along side the device you have just added make sure the slider is on.



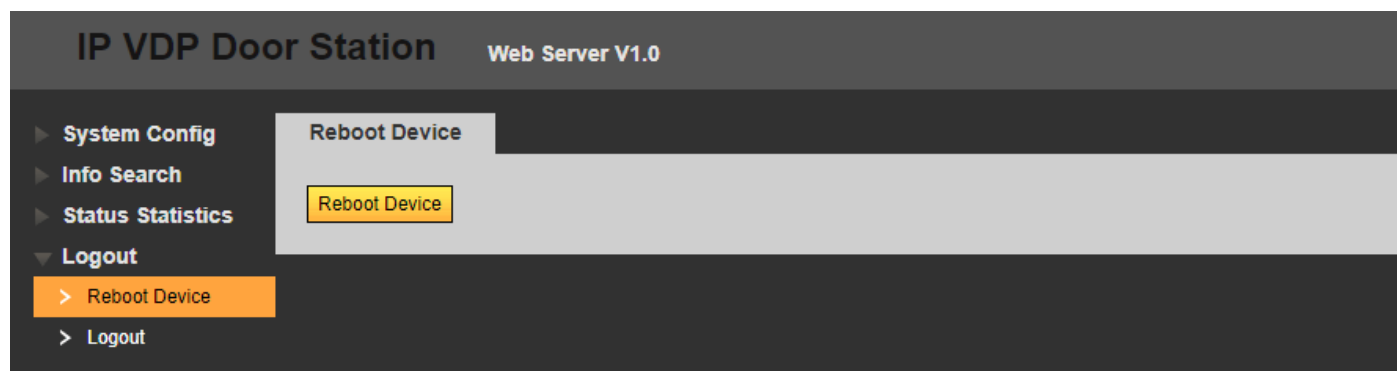
The Outdoor Station can now call this Smart phone or Tablet, which can also be used to unlock a gate by tapping the lock button.

If using an Indoor Monitor Station

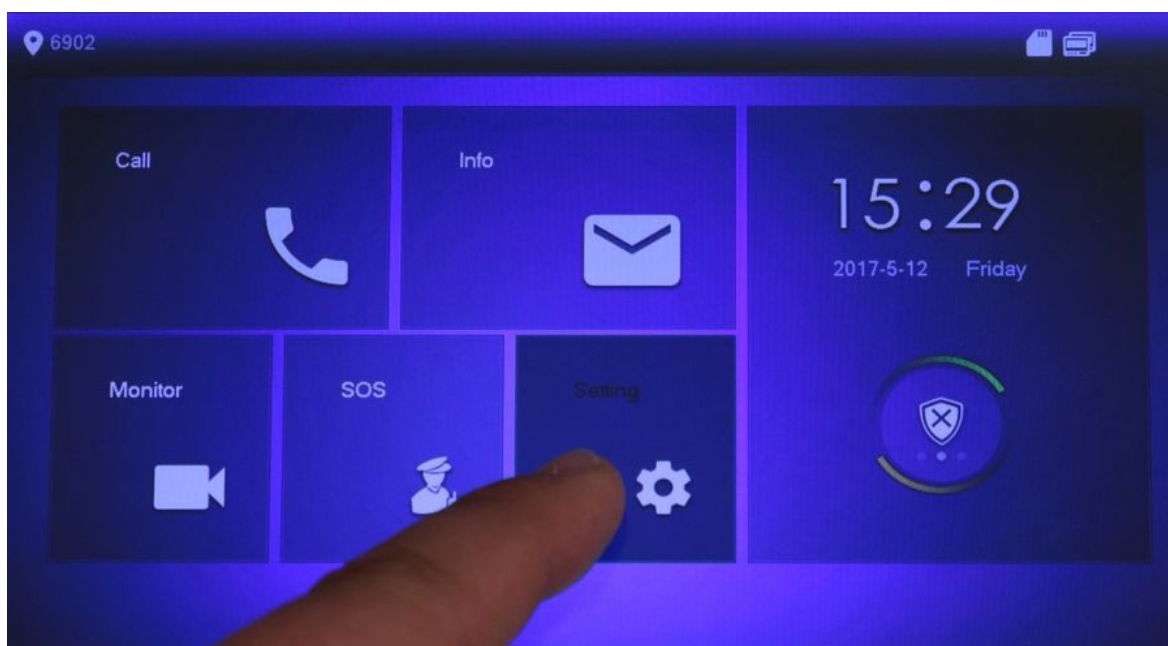
A dedicated Indoor Monitor Station can be used with the IPI-101. To set this up it must first be entered into the IPI-101. This is done in the “Indoor Manager” menu option of the IPI-101, click the “Add” button, give it a room number, in this case we’ve used 101 and click OK.



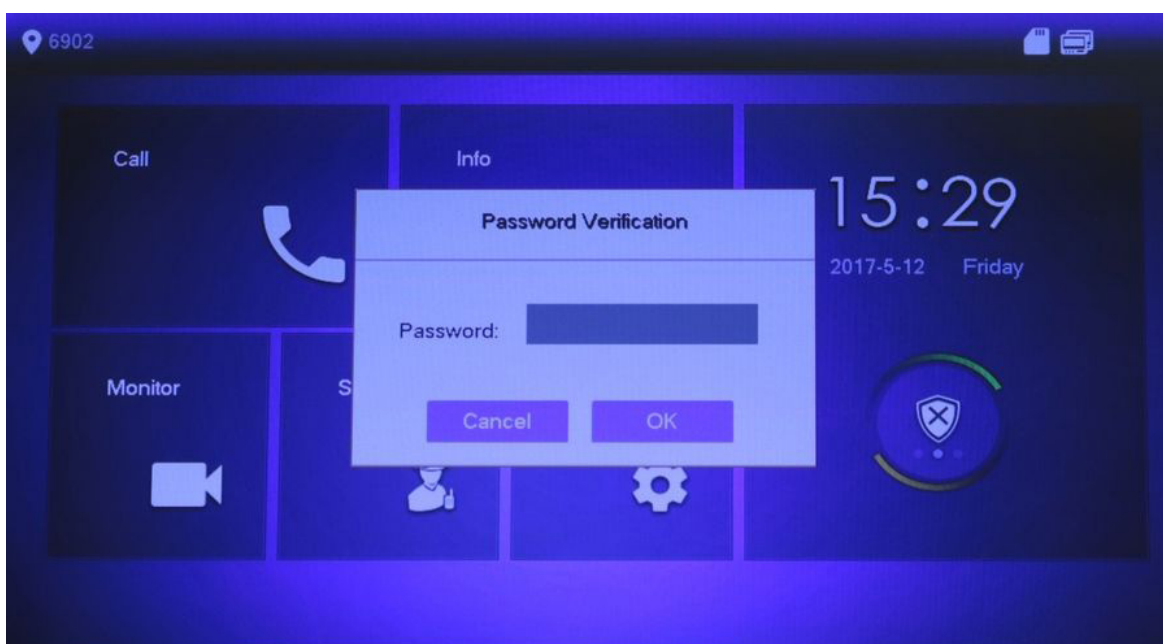
The IPI-101 will then need to be rebooted. This can be done by software in the “Reboot Device” menu.



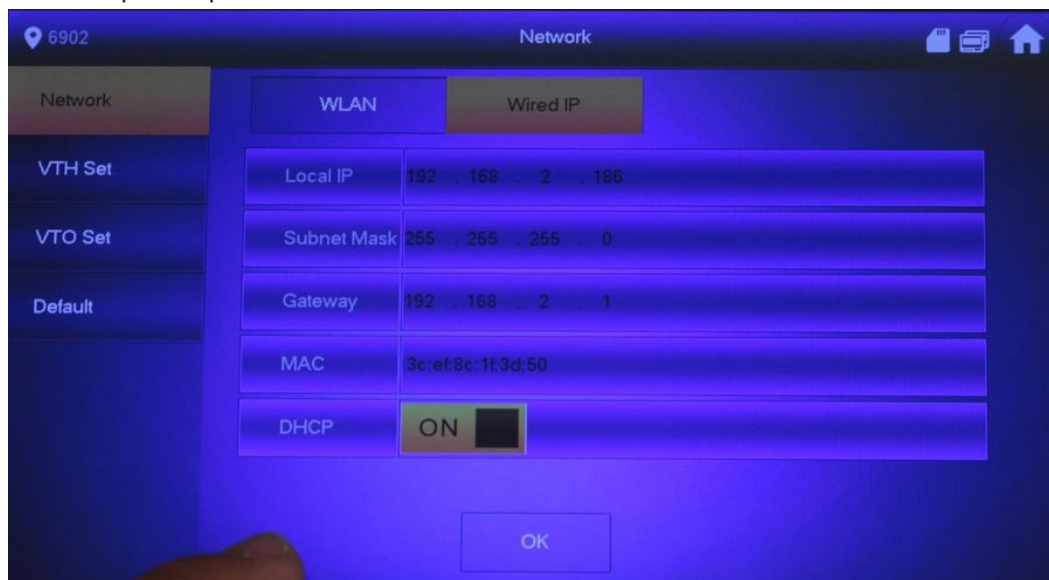
Now connect the Indoor Monitor Station to the network with an Ethernet cable and power it up using a Power Adaptor if PoE. Once the Monitor is booted up press and hold the “Setup” button on the main menu.



Until a login pops up. Enter the password “888888” and tap OK.



In the "Network" menu option tap "wired IP" and DHCP "ON".



If the Monitor has WiFi and you want to use Wifi to connect it to the router then go to the "WLAN" tab and tap the button labelled "open WLAN to show usable net".



Tap your router, enter the Password and connect to it.



Then go to the “VHT Set” menu option and enter the room number used in the IPI-101 above and tap “OK”.

6902 VTH Set

Network

VTH Set

VTO Set

Default

Room No.	6902	Master
Master IP	0 . 0 . 0 . 0	
Version	V1.000.0000.0.R 20170410	

OK Clean DB

Then in the “VTO Set” menu enter the IP Address of the IPI-101, user name, password and tap enable status “ON”. If the IPI-101 is connected using WiFi then the WiFi IP Address should be used otherwise use the wired IP Address. The device will then be added to the IPI-101. If it doesn’t work you may need to reboot both devices.

6902 VTO Set

Network

VTH Set

VTO Set

Default

Main_VTO Name	Main VTO
VTO IP Address	192 . 168 . 2 . 37
Device Type	0000
VTO Middle No.	1000000000
User Name	admin
Password	•••••
Enable Status	☐ OFF

< >

To test it press the call button on the IPI-101, which should call the monitor.

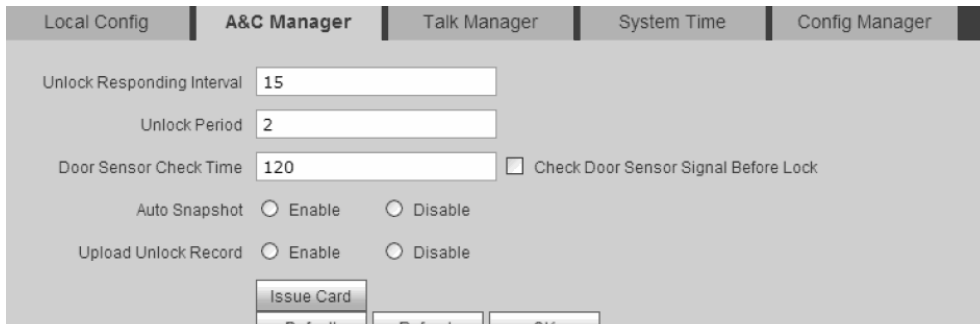
Changing the IPI-101's Settings

There are many settings that can be changed on the IPI-101 but to do this you must have a computer connected to the same network as the IPI-101 then open a web browser and in the address bar enter the IP Address for the IPI-101.

Note: if the IPI-101 is connected with WiFi you will need to use the WiFi IP Address, which is different to that used by a wired connection. The IP Addresses are those set when setting this device up (see above). Once a login appears use "admin" as the user name and password and the menu will appear.

Changing the Lock Settings

This is done in the "Local Config" menu option and the "A&C Manager" tab.



Unlock Response Interval - is the time after unlock before another unlock can occur again in seconds.

Unlock Period - is the time the the unlock output is on in seconds. For a surface mounting spring loaded electric strike lock make it 1s, for an electric strike lock that works with a knob or handle set or magnetic lock make it 5 seconds or more.

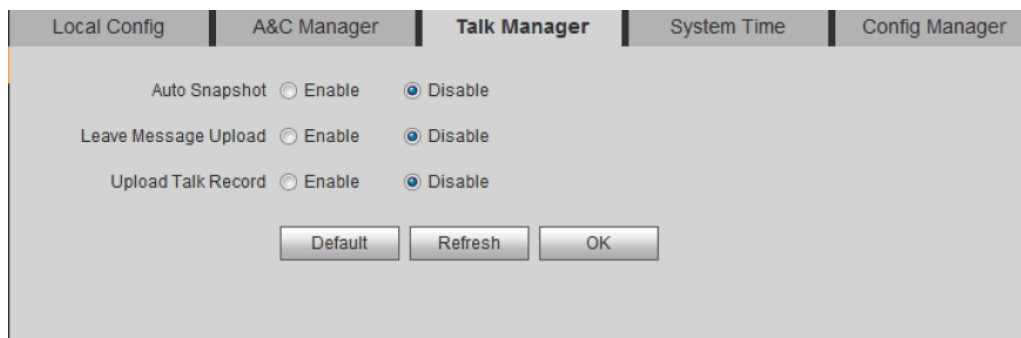
When "Check Door Sensor Signal Before Lock" check box is checked if the door is not closed within the "Door Sensor Check Time" amount in seconds after it is to lock then an alarm will sound alerting the fact the door is not closed.

Auto Snapshot: enables or disables the feature that takes two pictures when ever the door is unlocked and records it on an SD card if added to the IPI-101 or remote server, to be viewed by a Monitor later on or from a computer. See page 20 for accessing a remote server using FTP.

Upload Unlock Record: enables or disables the feature that records an unlock event to an SD card or remote server.

Call Management

When a call is made the IPI-101 can be set up to take three pictures of who ever made the call so if it isn't answered there is a recording of who ever called. There is also the option for the caller to leave a message. This is done in the "Local Config" menu option in the "Talk Manager" tab.



Auto Snapshot - snaps three pictures when call button pressed that are stored on an SD card and can be viewed from the intercom or can be sent to a remote server, to be viewed by a Monitor later on or from a computer.

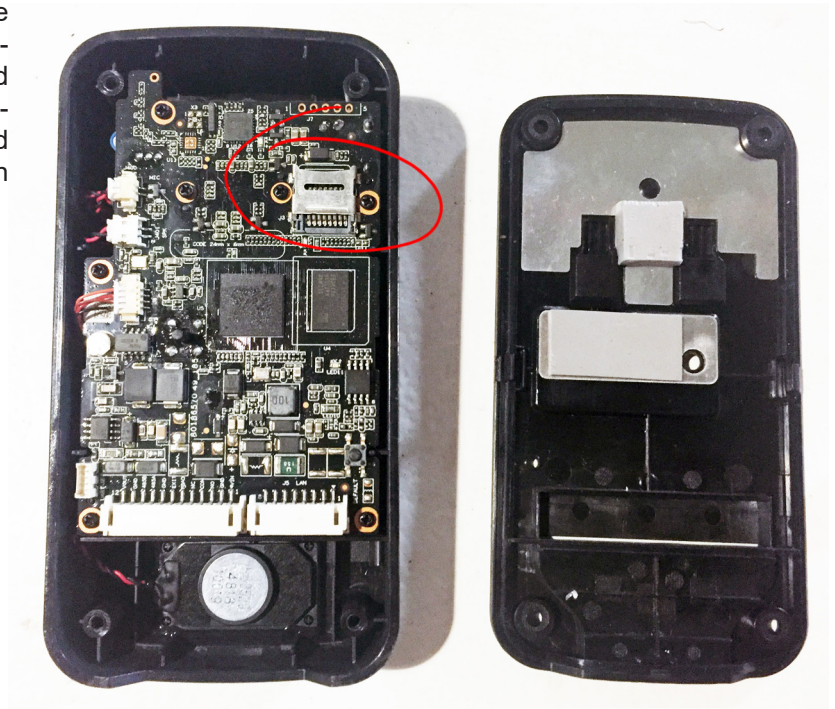
Leave Message Upload - if no one answers a call the visitor will be asked if they want to leave a message and if they do it will be recorded on an SD card or remote server, to be viewed on a computer later on.

Upload Talk Record - Allows recorded messages to be played back from computer connected to IPI-101.

See page 20 for accessing a remote server using FTP.

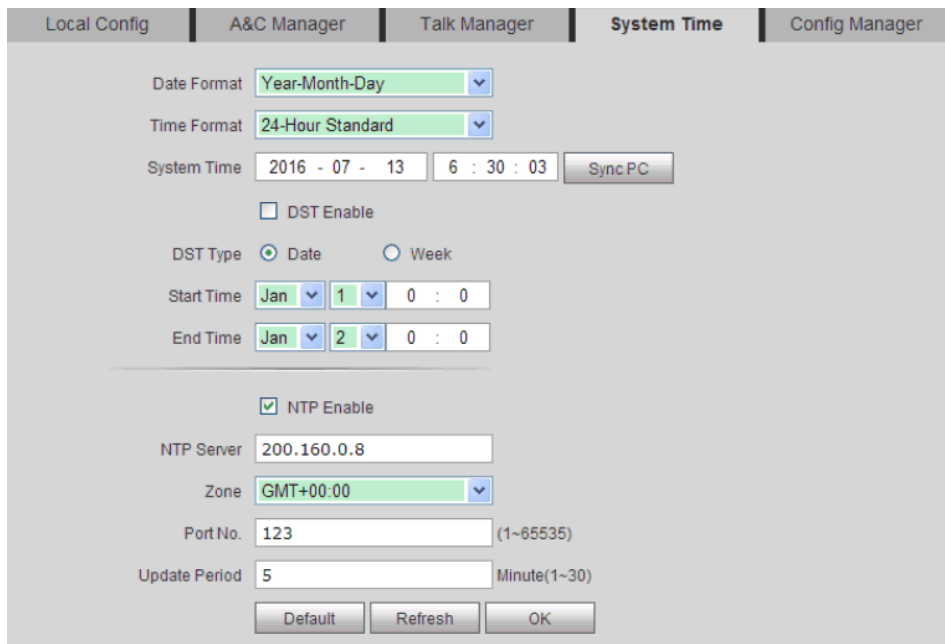
Fitting a Micro SD Card

A Micro SD card up to 64Gb can be fitted to the IPI-101. To do this because the Intercom is weather sealed you will need to screw the back off and locate where the SD card is to be fitted. The cover for this must be moved down to release it and opened up so the SD card can be inserted then cover closed and moved back up to lock.



Setting the System Time

This is done in the “Local Config” menu option and “System Time” tab.



This is used for time stamping the recording of door unlock events. Most is self explanatory with “DST” being Daylight Saving Time and NTP being “Network Time Protocol” to allow syncing of the clock to one that is on the network somewhere.

NTP Server - is the IP address of the NTP server. A server is a device on the Internet running 24/7 to provide a service of some sort, in this case a common time base that can be accessed by many devices on the internet.

Zone - is the time zone the NTP is in.

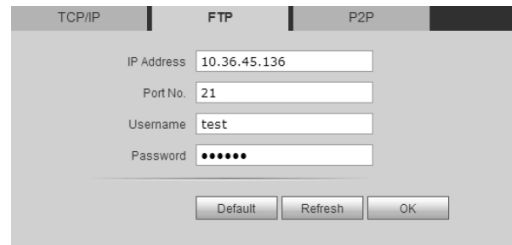
Port No. - is for what ever has been setup by who ever installed the NTP server. A port is like a door that allows data to enter a server, if you don't have the door number you can't get in.

Update period - is how often the time is synced from the NTP server to the IPI-101. The more often it is updated the more data is used and the longer the less accurate it is likely to be.

Accessing a Remote Server with FTP

A remote server is space on a computer that runs 24/7 where data such as images or events such as the unlocking of a gate or door can be stored. The computer may be connected to the router locally or be somewhere else on the Internet. The advantage of using a server is it can be accessed anytime from anywhere by any device, so if you're at work you can check if anyone has called or unlocked the gate at home. For this to work you need to get a remote server. There are many web hosting companies out there that will provide a remote server or web server for you, which are normally used for putting a website online but can also be used just to store data, also known as cloud storage.

If you have set your IPI-101 to send snapshot images etc... to a remote server then you'll need to set up a connection to this server by going to System Config/Network Config/FTP and entering the IP address of the server, the port (normally 21) and login details. Your web host will give you these details.



Adjusting Video and Audio Settings

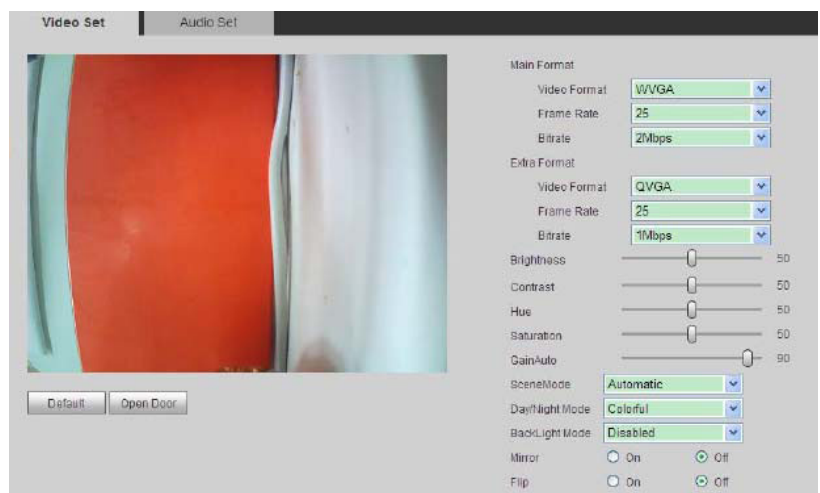
Go to "Video Set" menu option and "Video Set" tab to open a window for adjusting the video settings of the IPI-101's camera. You may not see the image, instead will be a link to installer software to make the drivers seen. If this doesn't work you will need to use a Smartphone, Tablet or Indoor Monitor Station to view the image.

Video format is the image size in pixels including: 720p = 1280 x 720 pixels (1Mpx), WVGA = 800 x 480 pixels (0.38 Mpx), D1 = 720 x 576 pixels (0.41 Mpx) and QVGA = 320 x 240 pixel (0.076 Mpx).

Frame rate is the number of frame per second the video is displayed. The higher it is the smoother the movement of the picture.

Bitrate is the speed the digital video data is passed from the camera to the monitor and effects the quality of the picture. 3Mbps being the best picture quality and 256Kbps being the worse. If using WiFi and the signal isn't all that strong or there is a lot of people using it, the frame rate may be slow or may even freeze, this is because the bit rate cannot be maintained, so the video format and bitrate will need to be reduced to sacrifice picture quality for a better frame rate or to stop it freezing.

If connecting with an Ethernet cable the picture can be set at 720P, 30 frames a second and 3Mbps bit rate for a sharp, smooth and high quality picture. If its a good WiFi connection with little traffic this can also be achieved.



The brightness, contrast and saturation are the same as on a TV. Scene Mode is best set to automatic so it will change to "night" when it gets dark, so it can still see something in low light.

Back Light Mode brightens the picture if the sun is shining right into the camera and a persons face ends up too dark and cannot be seen.

Go to "Audio Set" tab for adjusting the audio settings of the IPI-101.

VTO Mic Volume changes the sensitivity of the microphone on the IPI-101.

VTO Beep Volume changes the volume of the speaker.

Changing the User Name and Password

It's a good idea to change the user name and password to stop people hacking into the system. To do this go to "User Manager" menu option.

User Manager					
Index	Username	Group Name	Remark	Modify	Delete
1	admin	admin	admin's account		
2	user	user	user's account		
3	1	admin			

Add User

Here you can change the user name and password, add a new user or delete a user. To start with there will only be one user and to change its user name and password click its modify button. To add a new user click "Add User" button, add details in the popup that appears and click "OK". If you chose an "admin" group name the user can make changes to the IPI-101's settings. A "user" group name can only view the settings.