



Typical Diagrams Including the Akuvox 2Wire  
Retrofit Plus New Network Installations

## Typical Examples.

### Various Akuvox Configuration with Akuvox Cloud Service

Here are some typical Akuvox mixes of hardware, cabling and wireless configurations using the Akuvox cloud service relating to 2wire and/or network cabling infrastructure...

For cloud service use the following URL

<https://scloud.akuvox.com/manage-new/#/login>

Should you require an installer cloud account please request via email and we can easily set you up. Note: One installer account looks after many child accounts whether a Single Household, Gated Community, Apartment Blocks, Offices, Retirement Villages etc. They can all be done from the one account.

## Firstly Understanding The SmartPlus App

The SmartPlus App can provide calling anywhere in the world where you have data access to the Akuvox Cloud Service

It can be downloaded from your appropriate App Store.

**Preview**  
See who is at the entrance before answering the call



**Video Calling**  
See and talk to visitors with live video before buzzing them in remotely



**Door Unlocking**  
Open doors using the "Open Door" button of the app or Bluetooth



**Virtual Keys**  
Issue time-limited QR code keys and guest PINs, and share them with guests



**Push Notifications**  
Get instant notification of incoming calls



**Door Release Logs**  
Access to date- and time-stamped photos of door release events





<b>Single Households or Tenancy</b>	<b>MDU - Multiple Dwelling Units Apartments, Gated Communities etc.</b>
One Tenancy - One Street Address	Consist of 2 or more households forming a community

**Typical Wiring Layouts.**

The diagrams that follow are only typical of what can be achieved  
Installer can mix-n-match Akuvox products in various  
Cabling, Wireless, 4G LTE and Cloud Configs





## **Two or More Households MDUs**

Two or more Homes, Gated Community, Apartment Blocks, Offices,  
Retirement Villages etc.

Must be setup as Community or Office Environ in the sCloud Service

Again, the diagrams that follow are only typical of what can be achieved  
Installer can mix-n-match Akuvox products in various  
Cabling, Wireless, 4G LTE and Cloud Configs

## Akuvox 2Wire System

Akuvox also produce an IP 2Wire offering to the market. What is so different about the Akuvox 2Wire system as opposed to others?

- The devices are all based on TCP/IP VoIP SIP 2.0
- How is this achieved? By adding ethernet 2Wire converters into the devices. This means that each 2Wire device has the converter built-in, enabling them to still be powered by PoE over 2Wire along with the data stream.
- Are they still ONVIF compliant – YES!
- Is the web GUI the same as its Ethernet counterpart – YES
- Does it connect to services including the cloud the same as its Ethernet counterpart – YES.
- Can they work in Residential as well as commercial properties - YES

<https://www.akuvov.com/ProductsList.aspx?cid=47>

# Introduction to Akuvox 2Wire Devices

## Akuvox 2Wire System – Device Overview

First the network components.  
The AV-NS-2 Network Switch

- The AV-NS-2 is simply a network device equivalent to a PoE unmanaged network switch with uplinks.
- Each 2Wire Network Switch requires either 24 or 48Vdc.
- Our preference is 48Vdc as longer runs are achieved along with a more assured performance.





## Akuvox 2Wire System – Device Overview

First the network components.  
The AV-NC-2 Network Switch

- The AV-NC-2 is simply a network device equivalent to a PoE unmanaged network switch with a single 2Wire port.
- Basically, it is a 2Wire Ethernet Converter
- Each 2Wire AV-NC-2 Network Switch requires 48Vdc or PoE from the AV-NS-2
- Works with the AV-NS-2 or simply pair 2 x AV-NC-2 units together.



## Akuvox 2Wire System – Device Overview

Now for the end points.  
The AV-R20A-2  
outdoor single button Intercom

- The AV-R20A-2 is simply an IP SIP and ONVIF compliant intercom with a 2Wire port.
- It can connect to an Akuvox 2Wire Converter either the AV-NS-2 or the AV-NC-2 unit.
- Has all the features of the network port version with the exception being only 1 output relay and 1 input port..



## Akuvox 2Wire System – Device Overview

Now for the end points.  
The AV-R20K-2  
outdoor single button Intercom

- The AV-R20K-2 is simply an IP SIP and ONVIF compliant intercom with a 2Wire port.
- This version comes complete with Keypad
- It can connect to an Akuvox 2Wire Converter either the AV-NS-2 or the AV-NC-2 unit.
- Has all the features of the network port version with the exception being only 1 output relay and 1 input port..



## Akuvox 2Wire System – Device Overview


Now for the end points.  
The AV-C313W-2  
Indoor Tenant Station

- The AV-C313W-2 is simply an IP SIP compliant Tenant Linux Based Indoor Station with a 2Wire port.
- This version comes complete with an RJ45 Output port for local network access via the AV-C313W-2 Touch Screen.
- It can connect to an Akuvox 2Wire Converter either the AV-NS-2 or the AV-NC-2 unit.
- This unit also offers WiFi connectivity
- Has all the features of the network port version with the exception being only 2Wire interface.



## Akuvox 2Wire System – Device Overview

Now connection with other  
Akuvox network devices.  
The AV-NC-2  
2Wire Converter

- 
- The AV-NC-2 now allows connection in a number of possible ways and in doing so gives the opportunity to add other Akuvox devices to the 2Wire system.
  - The best way to demonstrate this is by show typical diagrams.
  - In the following diagrams we show both the AV-NC-2 as well as the AV-NS-2 2 wire units either together or separately.

First and foremost, any Akuvox network device can be connected to the 2Wire network via the AV-NC-2

This now gives the installer full retrofit capability from the front gate to the tenant. They can be connected via AV-NC-2 plus an AV-NS-2 OR AV-NC-2 → AV-NC-2 unit on to the network.

MDU = Multiple Dwelling Unit

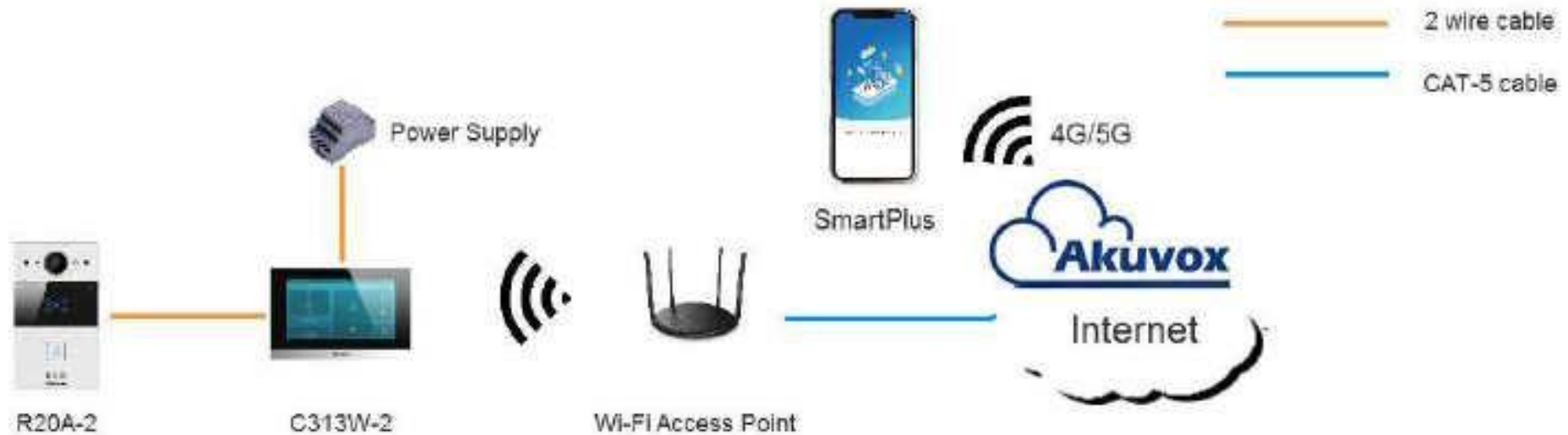


- A few of the many outdoor station options available
- It is also possible to connect Indoor Tenant Stations
- Akuvox Access Control Units
- Akuvox Lift Controllers
- And more. Including 3<sup>rd</sup> Party Cameras using the AV-NC-2

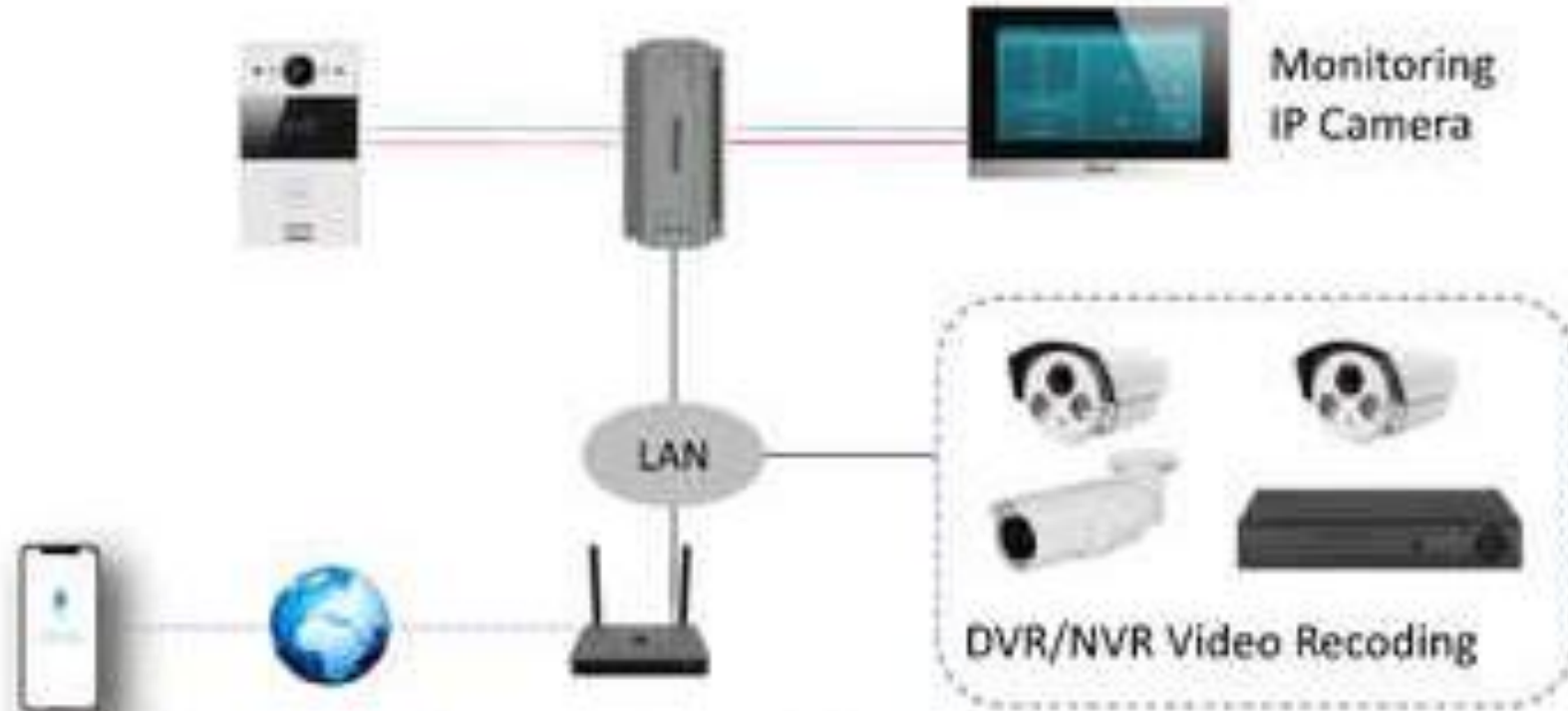


# Diagrams - Single House

2Wire + Wifi + sCloud



**Single Household**  
2Wire + AV-NS-2 + sCloud  
Plus 3<sup>rd</sup> Party Cameras & NVR



## Integration with CCTV

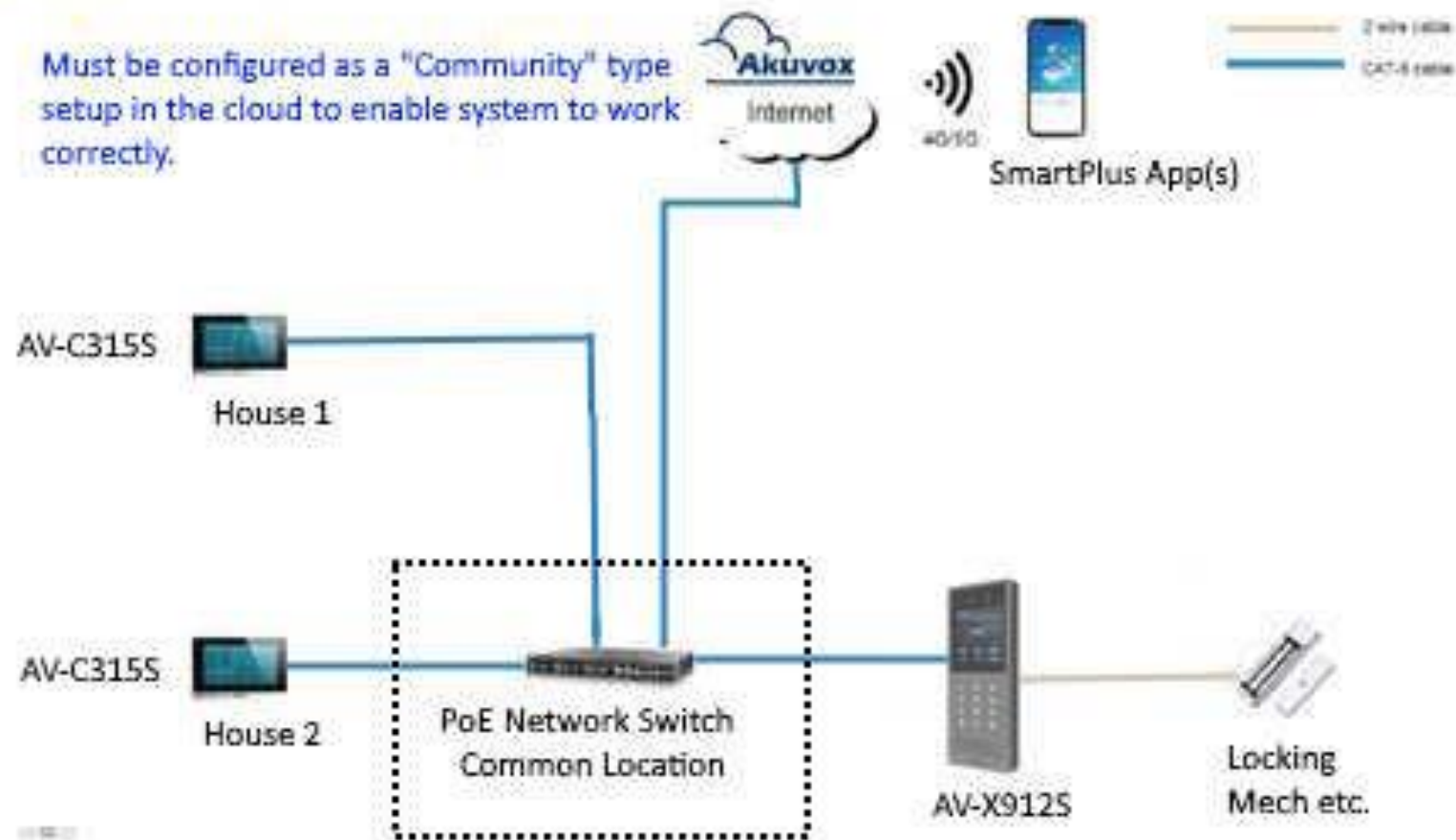
Akuvox 2-wire IP intercom system can be connected to general Ethernet and integrated with CCTV system

## Diagram - 2 or more Houses - Option1 - Hardwired

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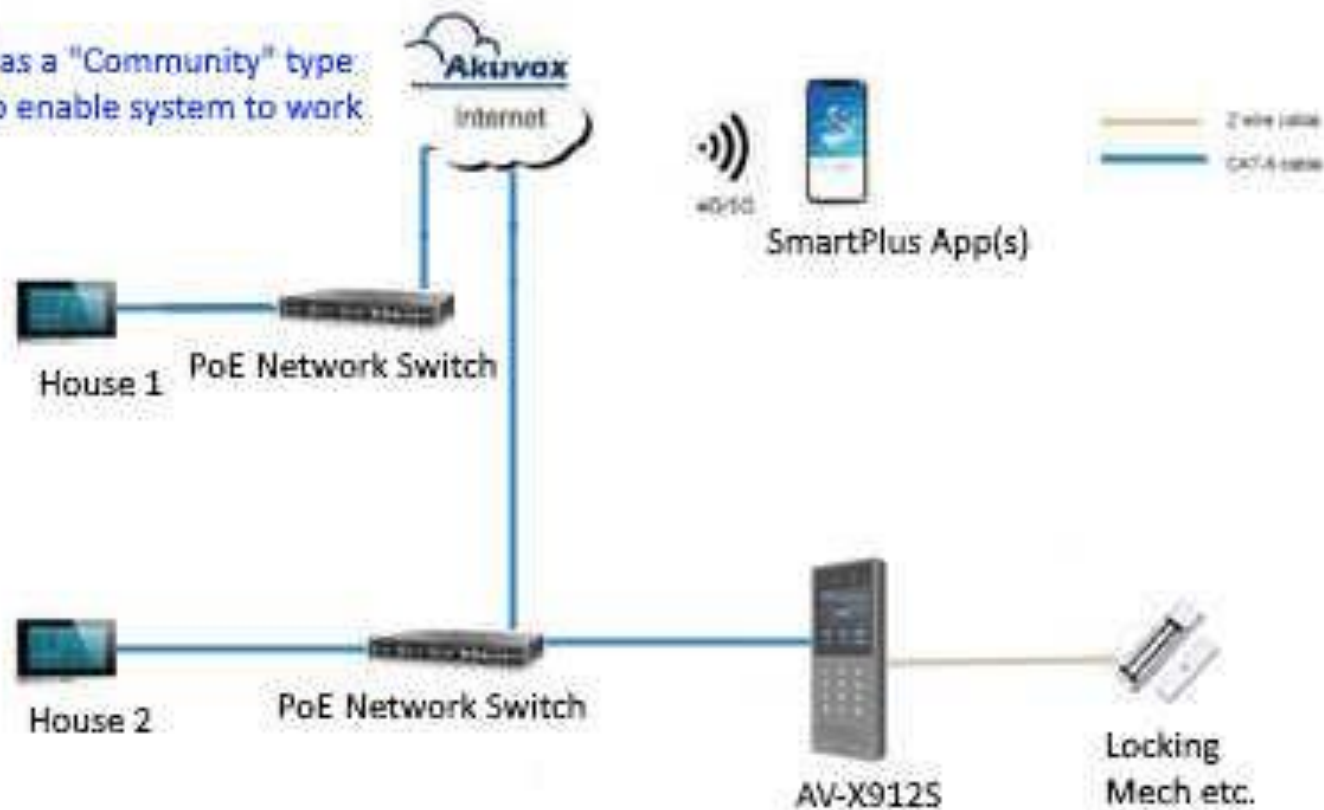
Must be configured as a "Community" type setup in the cloud to enable system to work correctly.



## Diagrams - 2 or more Houses - Option2 - Hardwired Separate Cloud connections to same cloud service

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Must be configured as a "Community" type setup in the cloud to enable system to work correctly.



Smart Intercom IP



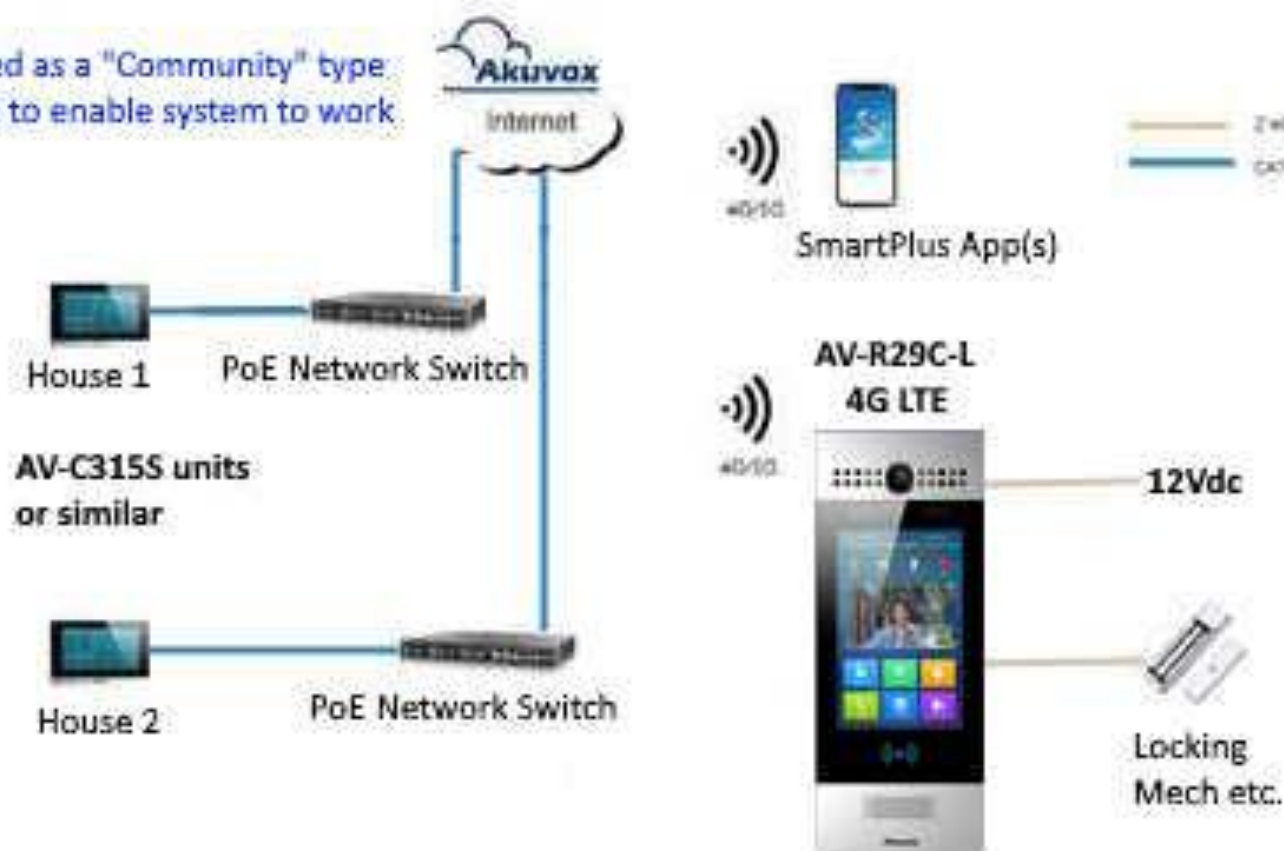
# Diagrams - 2 or more Houses - Option 3 - Hardwired

## Separate Cloud connections to same cloud service

### 4G LTE Intercom Unit

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Must be configured as a "Community" type setup in the cloud to enable system to work correctly.



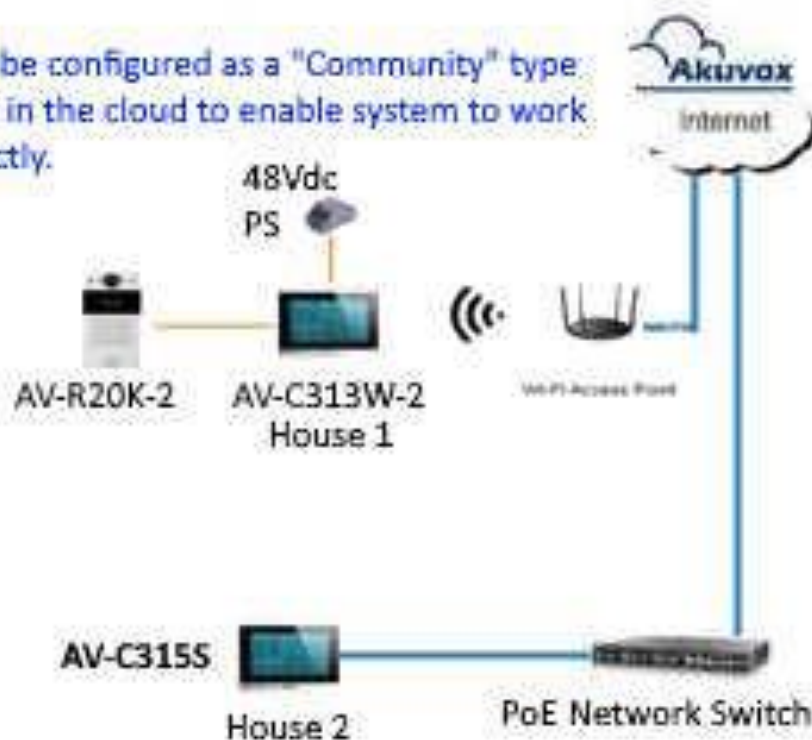
# Diagrams - 2 or more Houses - Option 4 - Mix-n-Match **Akuvox**

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Separate Cloud connections to same cloud service

4G LTE Intercom Unit + 2 Wire House + Network House

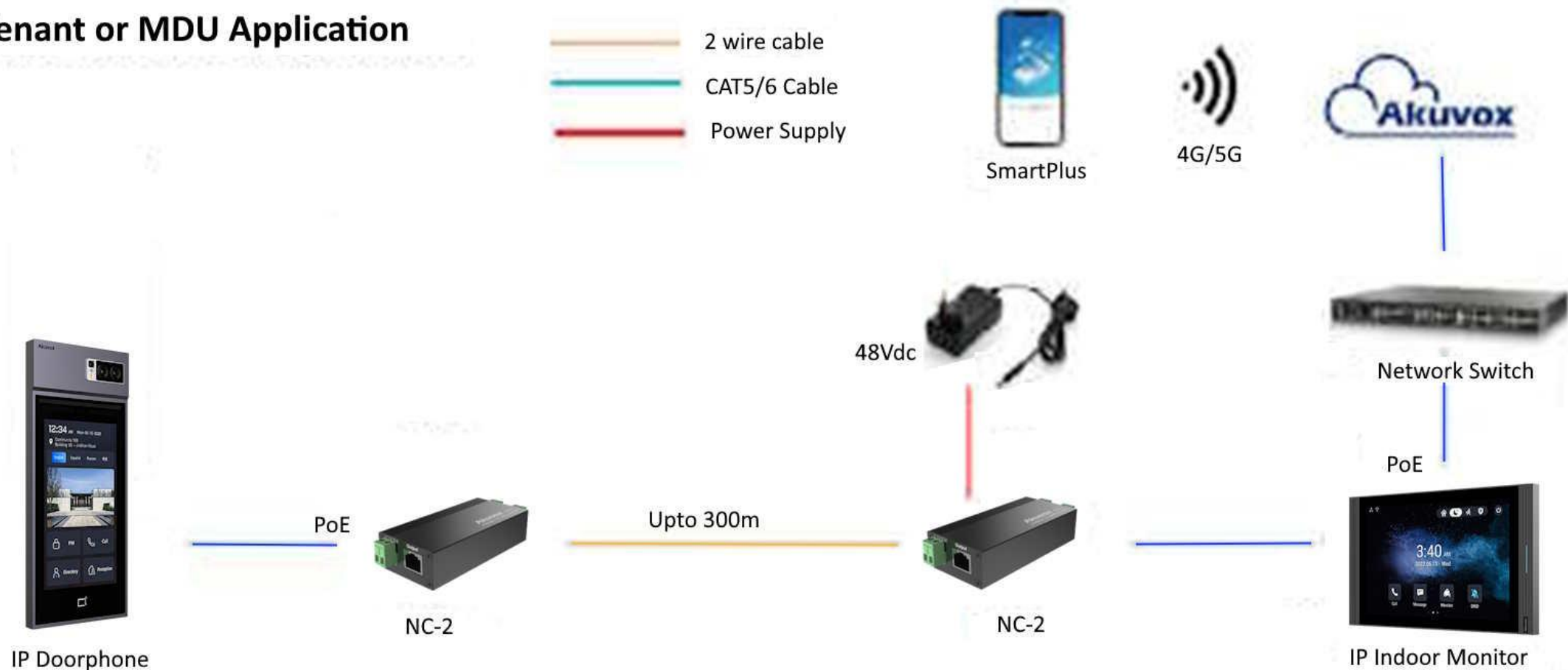
Must be configured as a "Community" type setup in the cloud to enable system to work correctly.





# Using the AV-NC-2

## Single Tenant or MDU Application



# Using the AV-NC-2

## Single Tenant or MDU Application



IP Doorphone

PoE



NC-2

-  2 wire cable
-  CAT5/6 Cable
-  Power Supply



SmartPlus



4G/5G



PoE



Network Switch

PoE

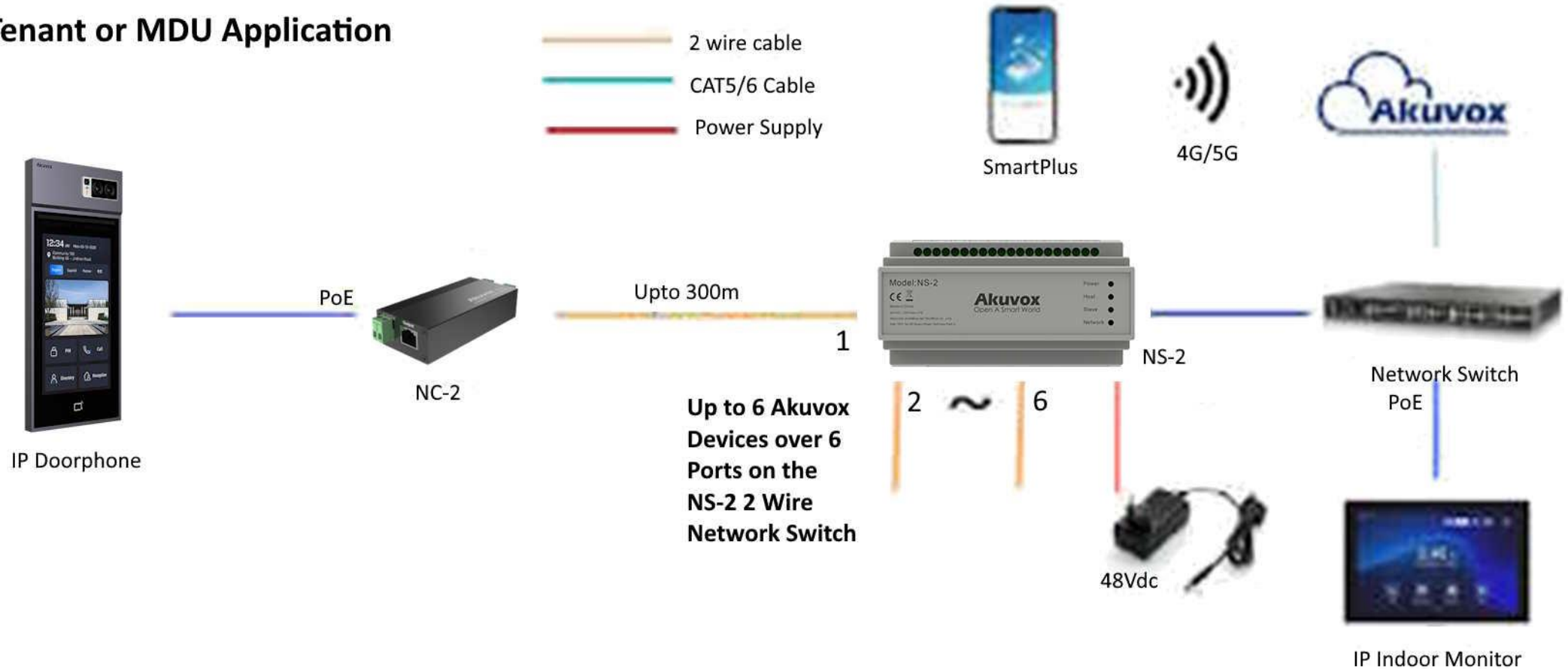


IP Indoor Monitor

Either 48Vdc Power Adaptor  
OR PoE Supply (not both)

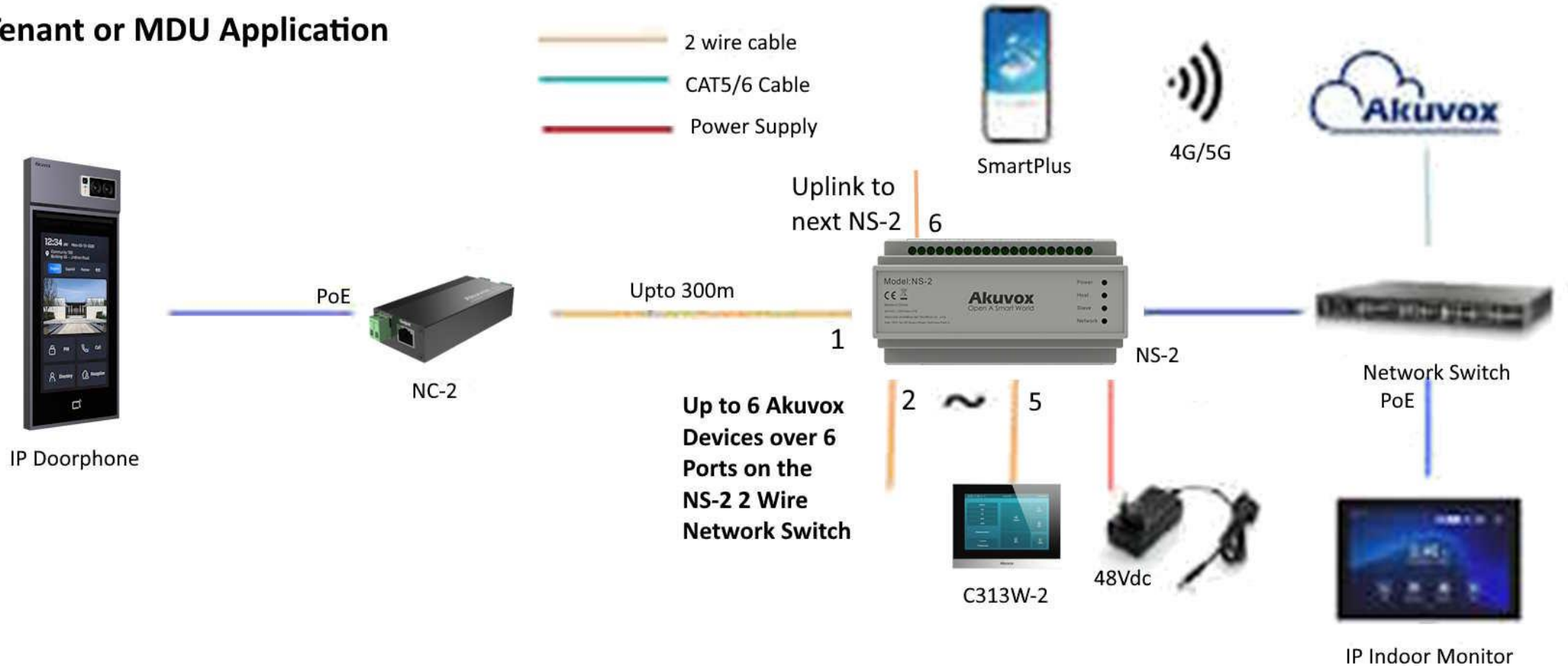
# Using the AV-NC-2 with the AV-NS-2

## Single Tenant or MDU Application



# Using the AV-NC-2 with the AV-NS-2

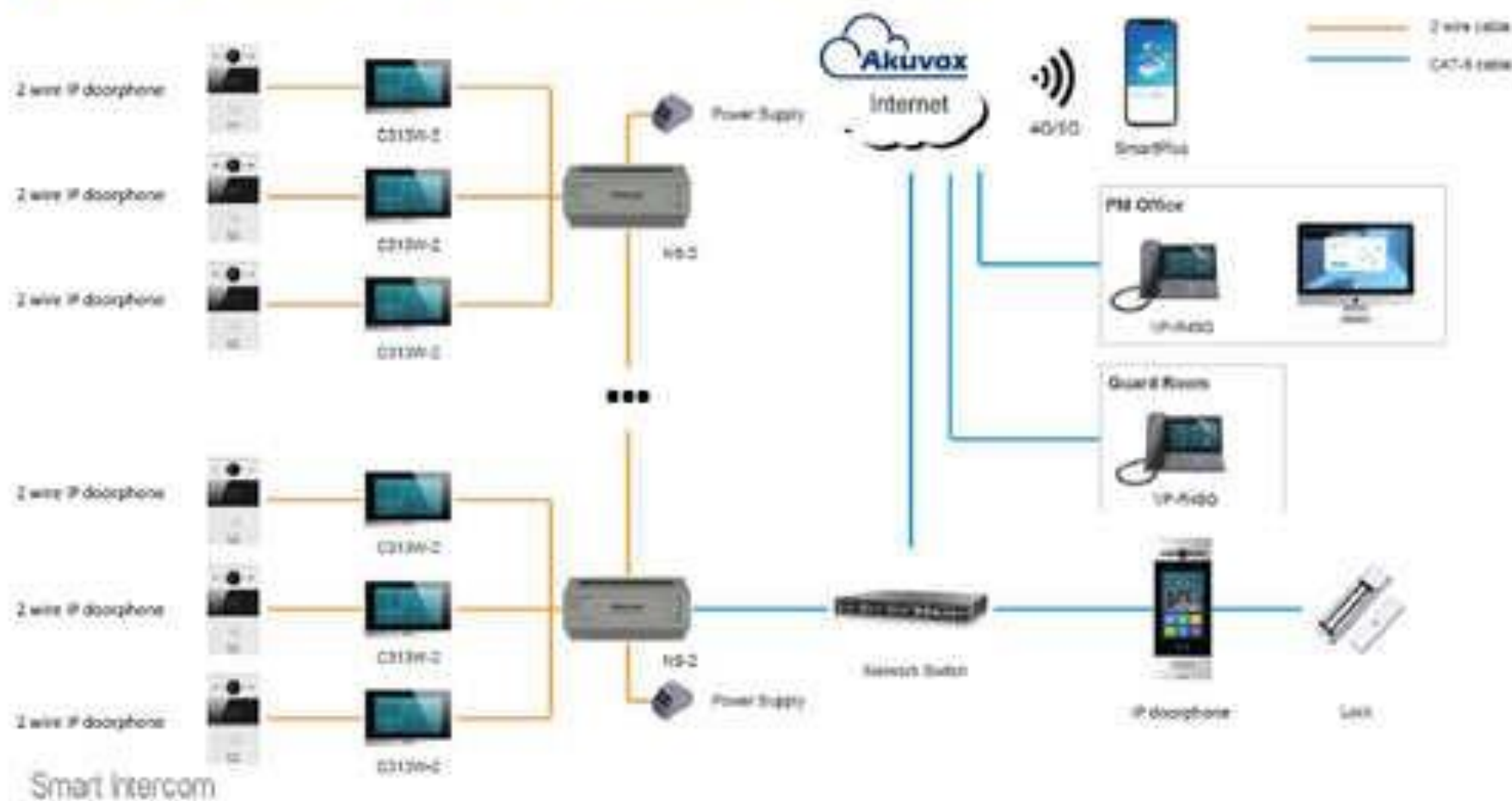
## Single Tenant or MDU Application





# Diagrams - Apartment Buildings

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## What about other Products via the NC-2

Many other products can connect via the NC-2 and can include....

- Akuvox Access Control Units
  - A01, A02, A03, A05, EC33
- Akuvox IP Phones and Video Phones
- Akuvox Smart Security products
- Some 3<sup>rd</sup> Party Products depending upon power requirements and distance as devices have primarily designed for Akuvox power loading.



## What about Access Control

Yes, Akuvox has a full range of Access Control Modules that will connect to the Akuvox Cloud Service offering a full range of capability across the board for almost any situation.

The following link will take you there

<https://www.akuvox.com/ProductsList.aspx?cid=44>

Does Akuvox do Lift Control. Most definitely. It is the only system that I am aware of that can achieve it from virtually any answering device that takes the call as well as from Akuvox access control devices, internal touchscreens, intercom stations, the SmartPlus App and more.

The following link will take you there

<https://www.akuvox.com/ProductsList.aspx?cid=44>

## What about Access Control

Does Akuvox send and receive HTTP Commands – again Most Definitely  
The following link will download pdf that shows a few of many applications

[https://tecsmarts.co.nz/downloads.cfm?content\\_id=25813](https://tecsmarts.co.nz/downloads.cfm?content_id=25813)

Akuvox's 2023 Catalogue – [NEW](#)

## Akuvox Online Support Services

Akuvox has a huge number of support portal areas for Installers, Property Managers and End Users...

### 1. Installer etc. Cloud Resources

- a. <https://www.akuvox.com/Support.aspx>
- b. <https://www.akuvoxsmartplus.com/resources/installer/>
- c. <https://www.akuvoxsmartplus.com/resources/property-manager/>
- d. <https://www.akuvoxsmartplus.com/resources/resident/>

## Akuvox Online Support Services

2. Installer Akuvox Knowledge Platform
  - a. <https://knowledge.akuvox.com/> Use “Self Signup”
  - b. Ideal for knowledge and Firmware upgrades etc.
  
3. Akuvox Forum
  - a. <http://community.akuvox.com/> A blog portal

**That was a small taste of  
Wiring etc. that Akuvox  
products are capable of**

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**Any Questions on your specific requirements  
please email us in the first instance and then  
call to discuss if required.**



**Thank You**

I hope that gives you an insight to Akuvox typical configs and helps you plan any installations you may have etc.

Feel free to email or call us when a quote or our support is required.

**Regards**  
**Myles Russell**  
**Technical Manager**