



Akuvox 2Wire Master Slave Settings
Network Installations

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 the cameras 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.akuvox.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.



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 3rd Party Cameras using the AV-NC-2

Diagram - Simple 2Wire Setup Using WiFi & Akuvox sCloud

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Akuvox 2Wire System Part 1

When is a AV-C313W-2 a master or a slave


- One AV-C313W-2 is used as a master when it is standalone or connected to a WiFi point and either option has other Akuvox 2Wire devices connected to it's 2Wire BUS.
- All other Akuvox devices on the Master unit 2Wire BUS are now slave units whether another indoor station or an outdoor intercom. This creates a VLAN.
- The WiFi point is unable to pass on DHCP IP allocation to the slave devices via the master station and this is why the equivalent of a VLAN has been created.
- In this case the master station which has a built-in DHCP server, which must be switched on, gives IP addresses to the slave devices. These are generally in the range of 10.0.0.xxx
- Now that the Master unit has created a VLAN for the slave devices the slave devices cannot be seen in the normal network. Now you are unable to login to them from the network.

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Akuvox 2Wire System Part 2

When is a AV-C313W-2 a master or a slave

OK a VLAN has been created so how do we gain access to tweak the devices on the 2 wire Bus. There are two easy methods.

1. Connect your laptop to the LAN Port on the back of any of the internal touch screens on the two wire BUS ie. the master station.
 - a. The laptop will be allocated an IP address within the range. If not allocated temporarily change the IP address of the laptop to the same range ie. 10.0.0.200 with subnet 255.255.255.0
 - b. You are now able to see Akuvox on the 2Wire BUS Network and discover them, login via their Browser GUI etc.
2. The second simple method.
 - a. Login to your installer cloud account at <https://scloud.akuvov.com/manager/#/login> and if the devices have been added to the cloud via their MAC address.
 - b. Then go to the individual device page  and click on "Settings" to right corner of page.

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Akuvox 2Wire System Part 3

When is a AV-C313W-2 a master or a slave

OK a VLAN has been created so how do we gain access to tweak the devices on the 2 wire Bus. There are two easy methods.

- c. This opens the “Settings” pop up in the cloud.
 - d. At the bottom of pop up click in “Remote Control”
 - e. You are now able to see the associated Akuvox network device whether on the main network or on the 2Wire VLAN.
 - f. Now you can login via their Browser GUI and tweak as required.
3. Neither of the above situations apply when devices are individually connected via an AV-NS-2 Network Switch.

NOTE: Cloud setting must always be done first as they take priority over other settings. If other settings have been done prior to connection to the cloud it is advisable to do a factory reset on them once the cloud configuration for that device has been completed. Then you can tweak the device and do any additional settings that may be required.

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Akuvox Typical Wiring

Here are some further examples of wiring Akuvox 2Wire and Standard Network Devices in various configurations

Should you have any doubt contact us so as we can work through your project with you.

We have a training room in Auckland where you are most welcome to visit.

Where possible make an appointment first please.



Single Households or Tenancy	MDU - Multiple Dwelling Units Apartments, Gated Communities etc.
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



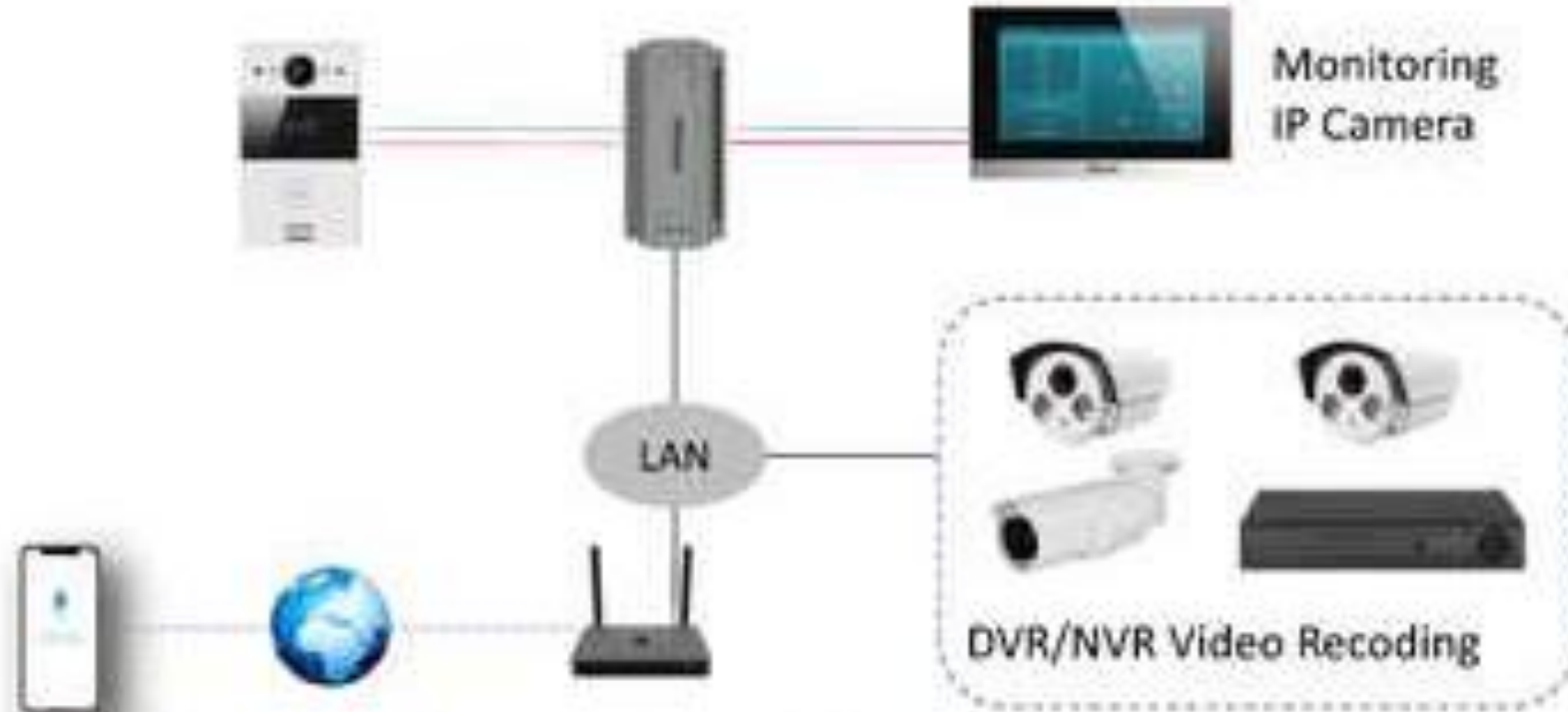
Two or More Households MDUs

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

Single Household
2Wire + AV-NS-2 + sCloud
Plus 3rd Party Cameras & NVR



Integration with CCTV

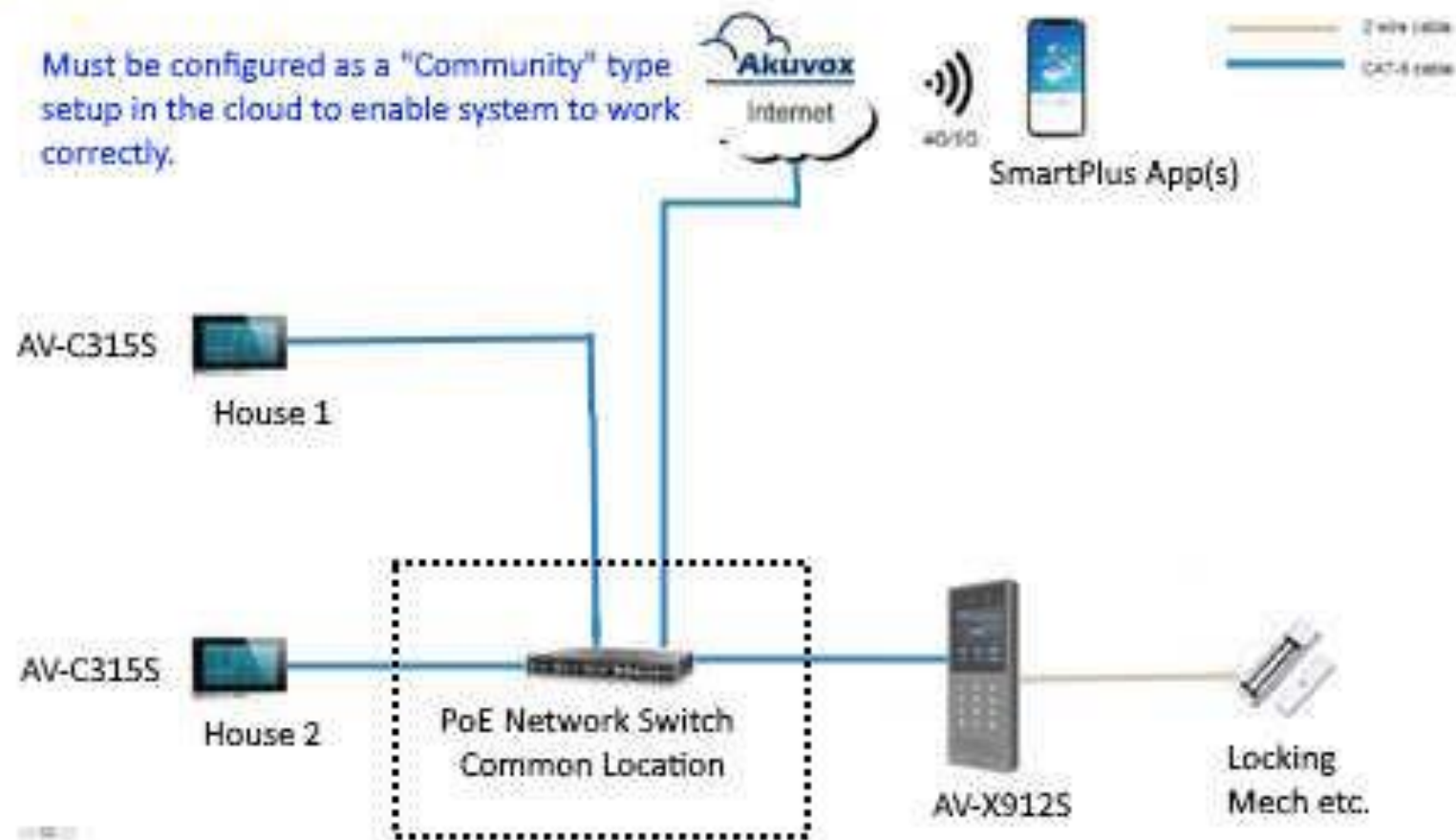
Akuvox 2-wire IP intercom system can be connected to general Ethernet and integrated with CCTV system

Diagram - 2 or more Houses - Option1 - Hardwired

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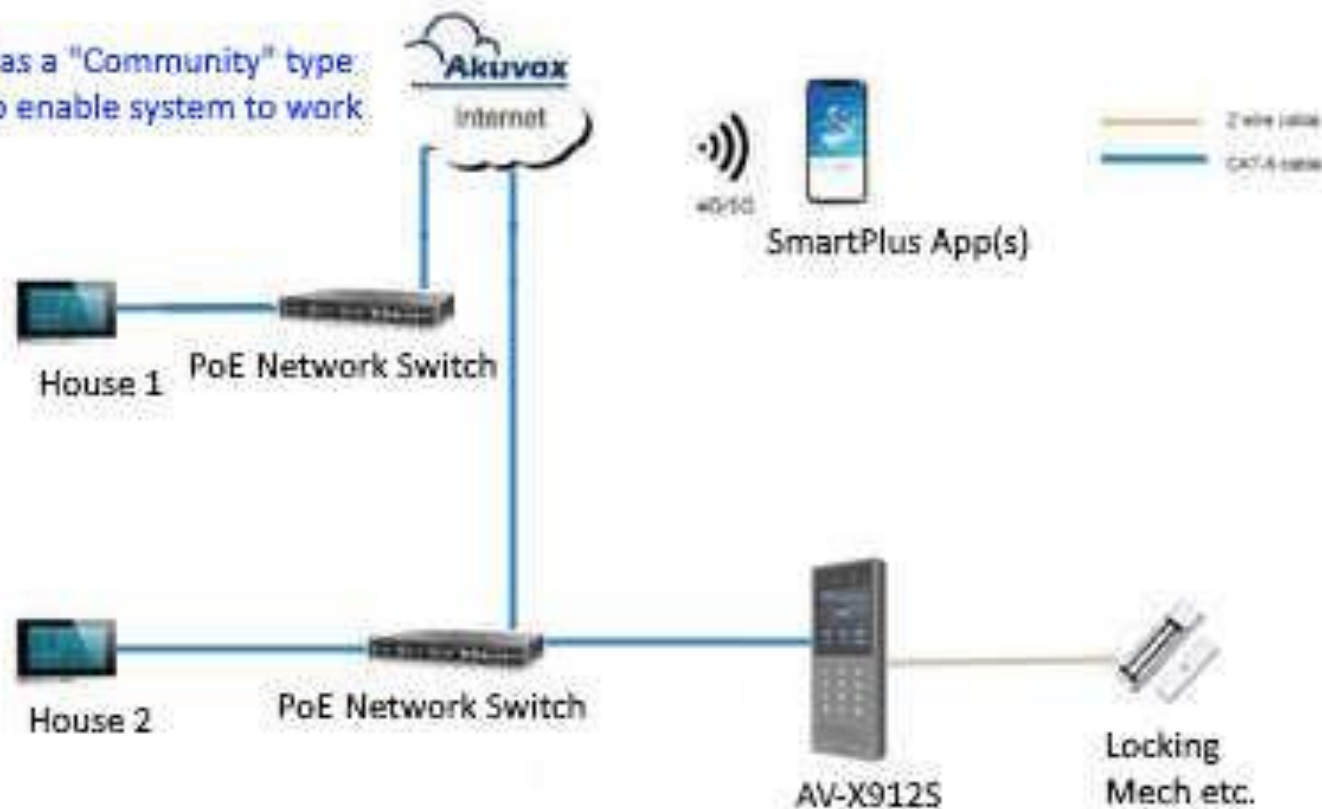
Must be configured as a "Community" type setup in the cloud to enable system to work correctly.



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

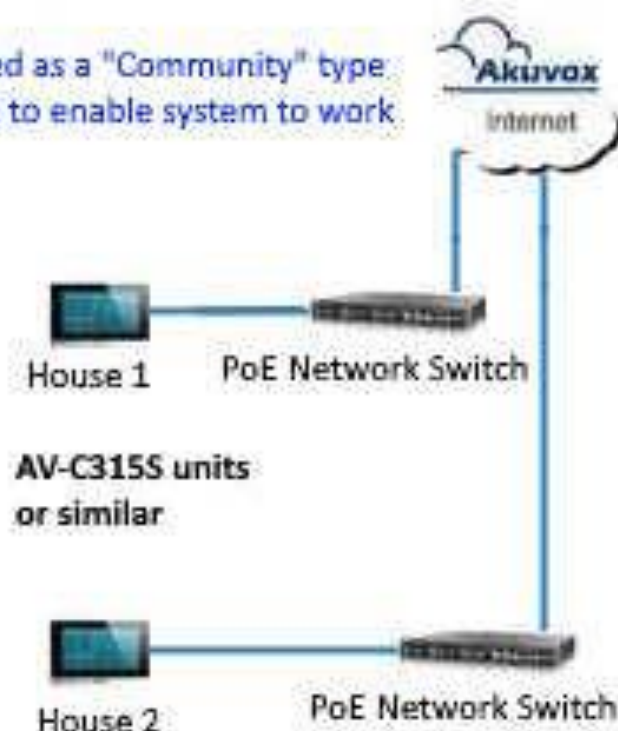
Diagrams - 2 or more Houses - Option 3 - Hardwired

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.



Smart Intercom

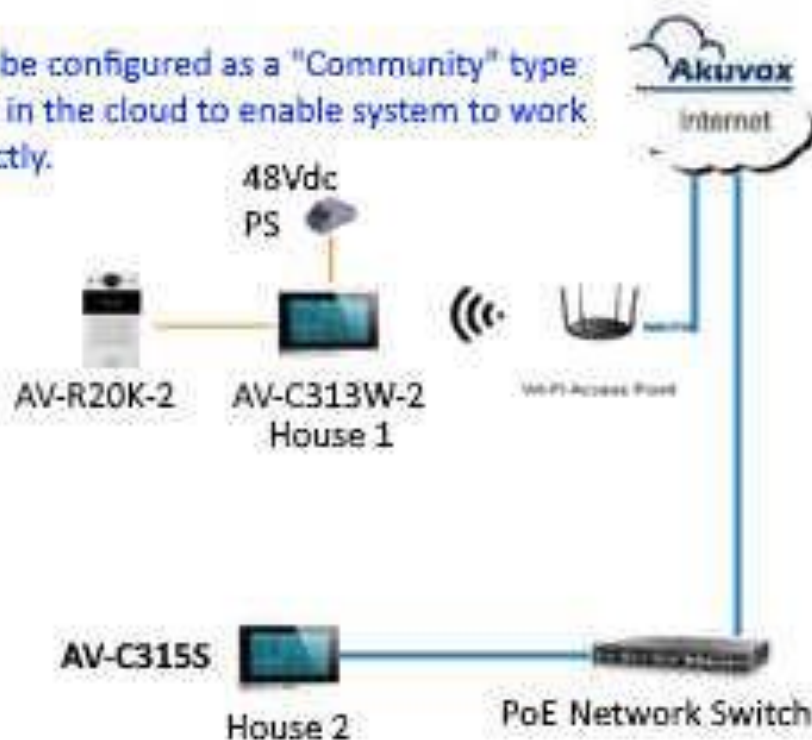
Diagrams - 2 or more Houses - Option 4 - Mix-n-Match **Akuvox**

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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.



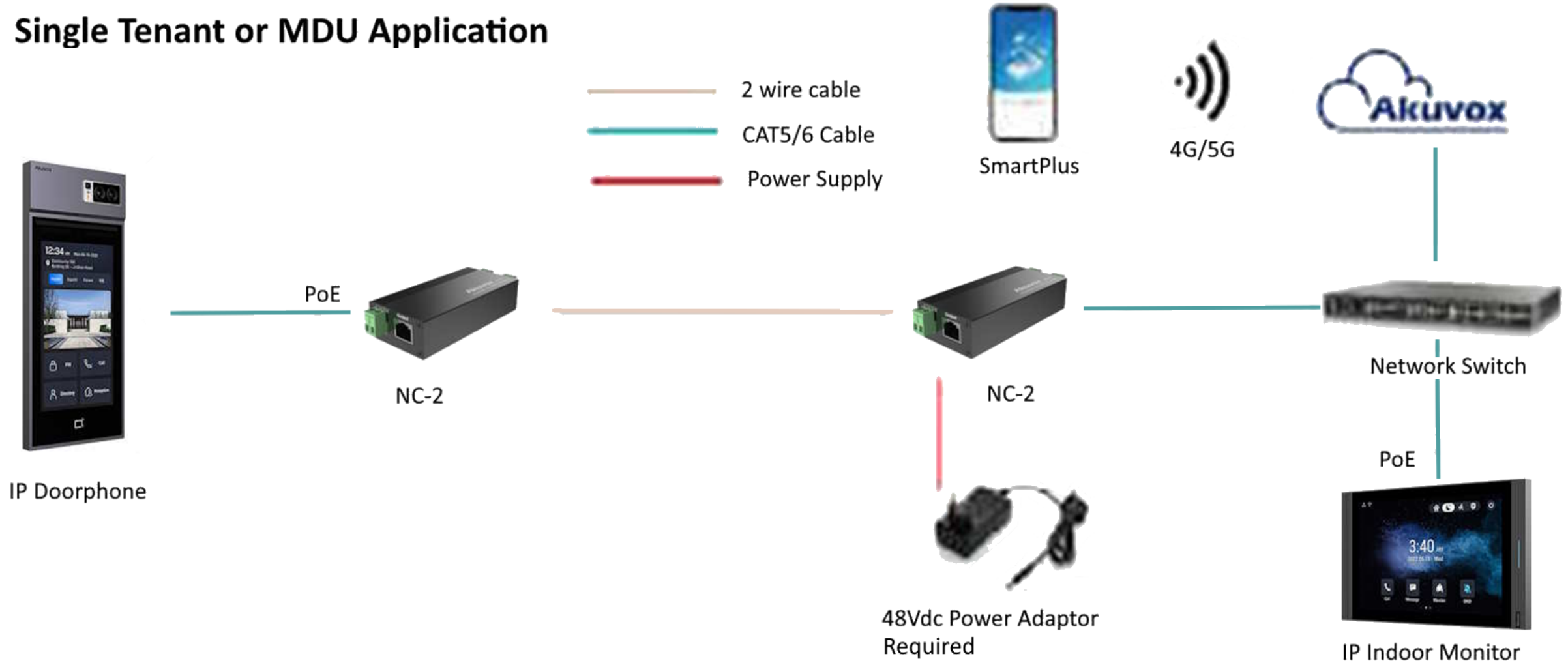
Using the AV-NC-2

Single Tenant or MDU Application



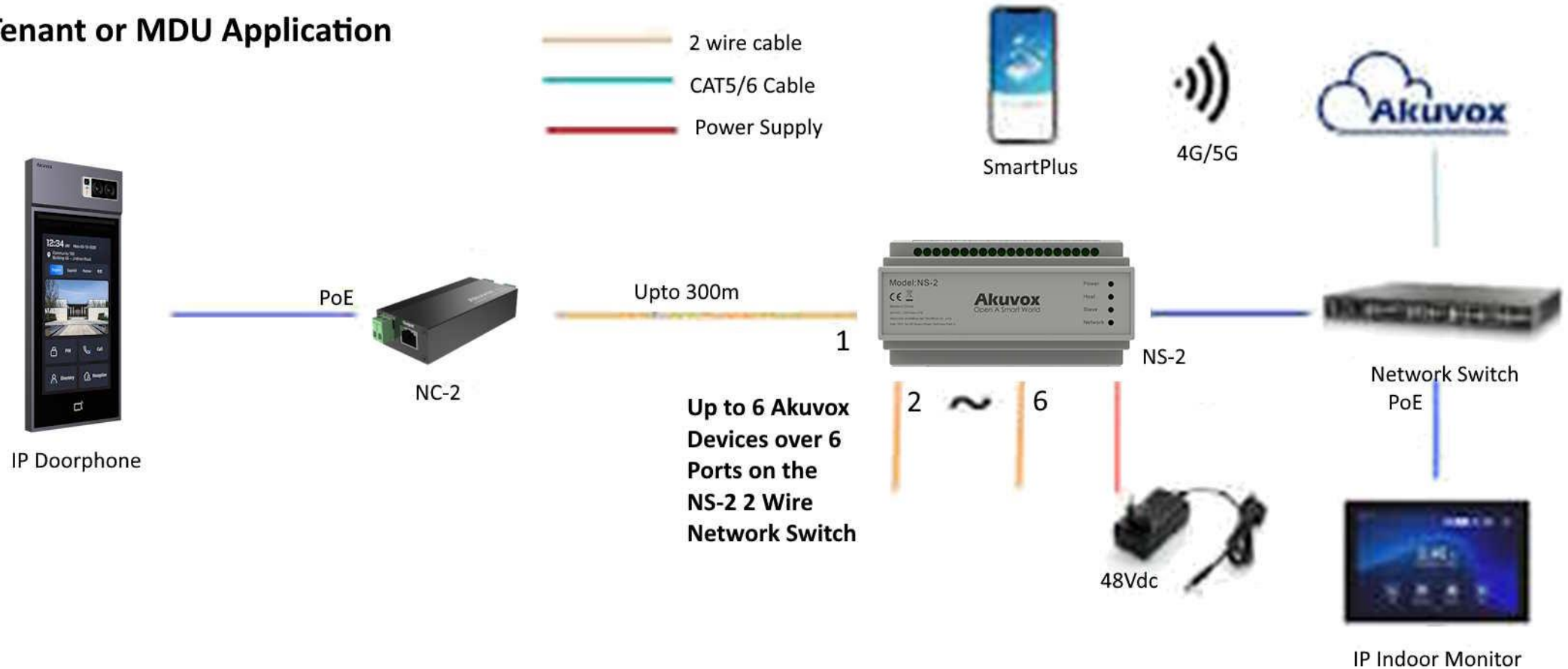
Using the AV-NC-2

Single Tenant or MDU Application



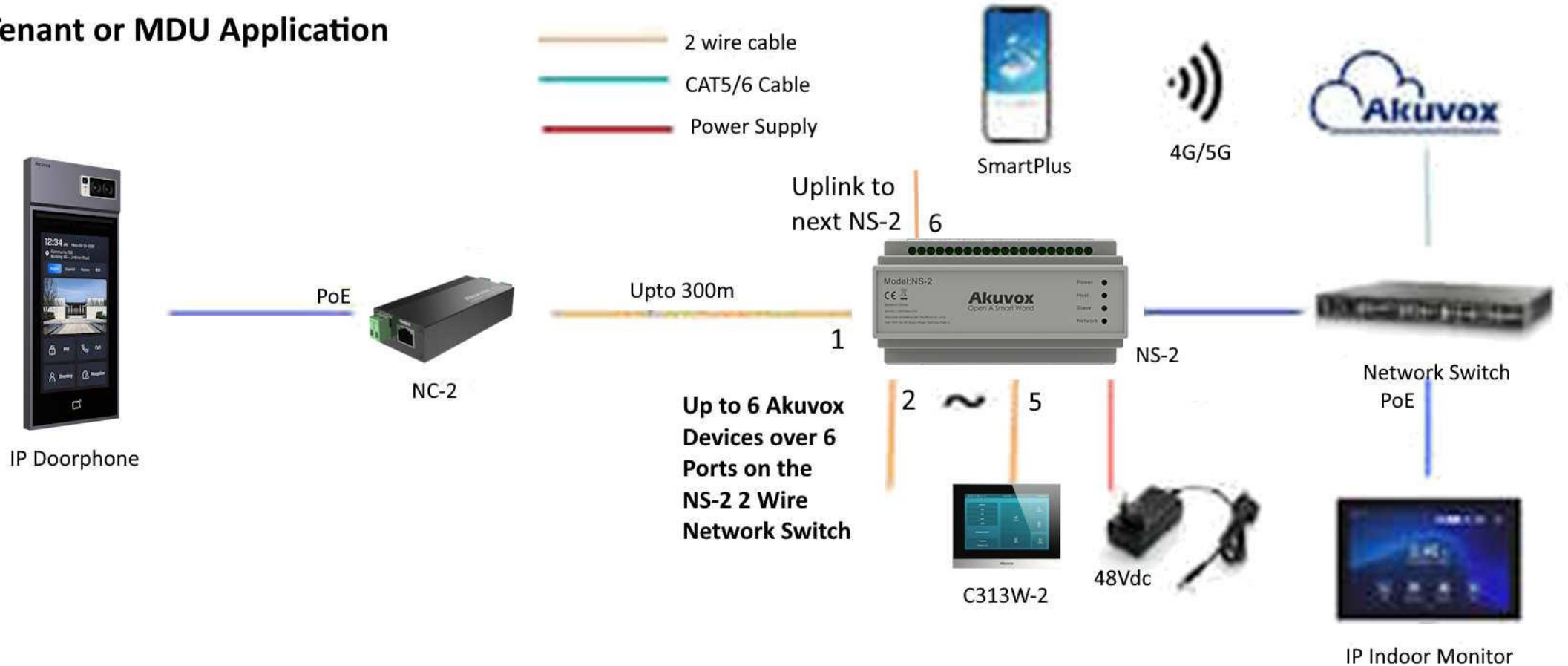
Using the AV-NC-2 with the AV-NS-2

Single Tenant or MDU Application

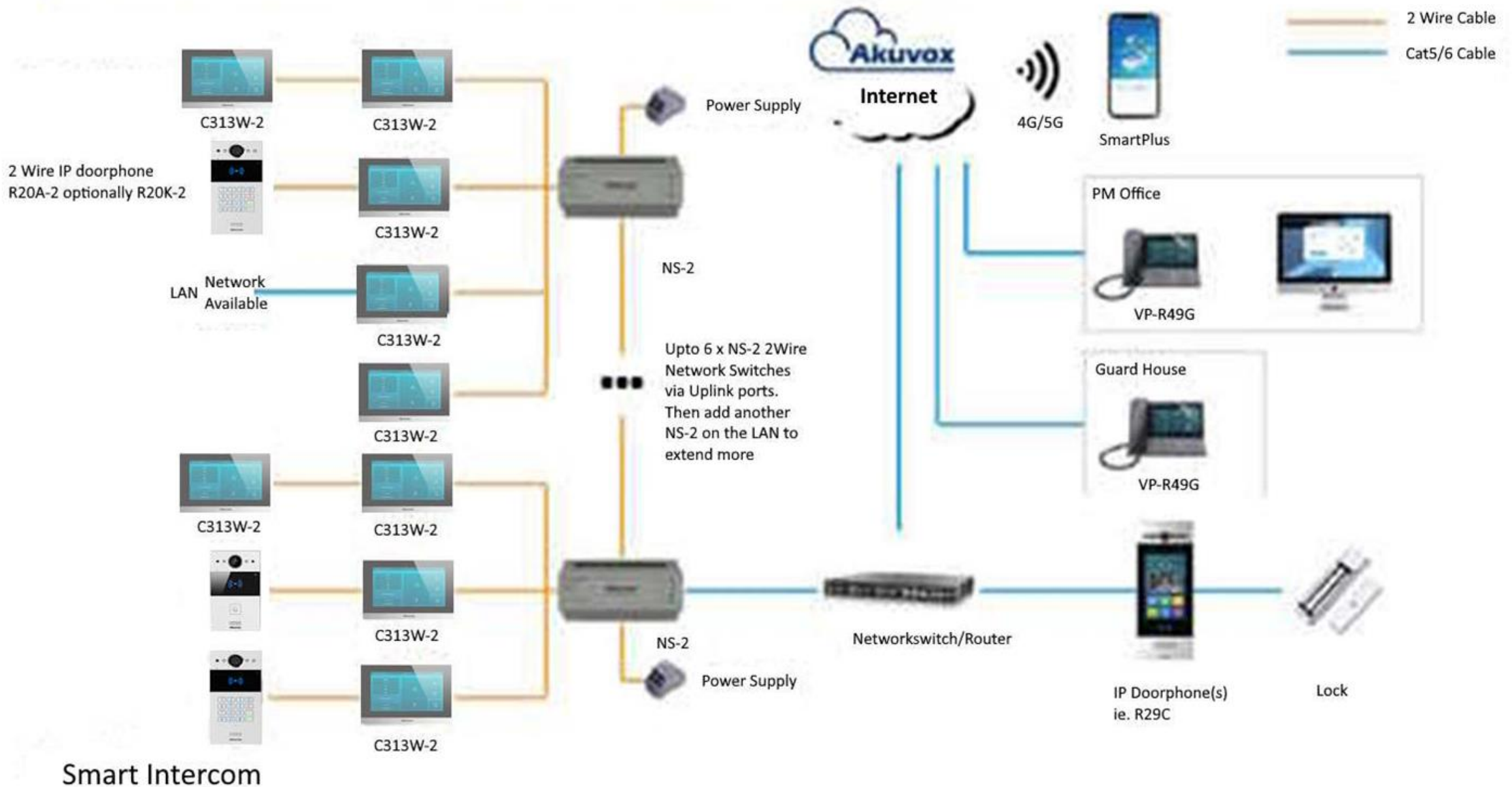


Using the AV-NC-2 with the AV-NS-2

Single Tenant or MDU Application



Diagrams - Apartment Buildings 2



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 3rd 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

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

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

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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.

Contact Details

Web www.tecsmarts.co.nz
Site: 138D Harris Rd
Address: East Tamaki
Auckland 2013

Email: Myles.Russell@tecsmarts.co.nz
Ph Nos. 09 5743326
021 956585

Regards
Myles Russell
Technical Manager