

Q&A

VAV14-IP Controller Programming Webinar

Q: *How many wall modules can you average off one controller - limited by power?*

A: Up to 5 CP-VAV wall modules can be connected and power up directly from the controller.

Q: *I believe you mentioned that the VAV can be seen on the "MSTP layer" can you elaborate on that some more?*

A: VAV14-IP controller has 1x RS485 port and 1x IP port. Thanks to the way that nano EDGE ENGINE is designed, VAV14-IP is able to handle controllers' communication as the BACnet IP or MS/TP client devices and BACnet IP or MS/TP server devices.

By default in VAV14-IP, we've got settings:

- IP port can work as a client and server at the same time.
- RS485 port is set to work as a BACnet client, to exchange the data with the CP-VAV wall module.

To be seen on MS/TP layer you need to change the configuration of RS485 port in iC Tool or Niagara Workbench, and you will not be able to use the CP-VAV wall module.

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Q: Can the VAV daisy chain over IP, and how many per Network?

A: Yes - The VAV14-IP controller is equipped with two Ethernet ports operating in a switch mode, designed to connect controllers in a daisy chain mode without the need for additional hardware switches.

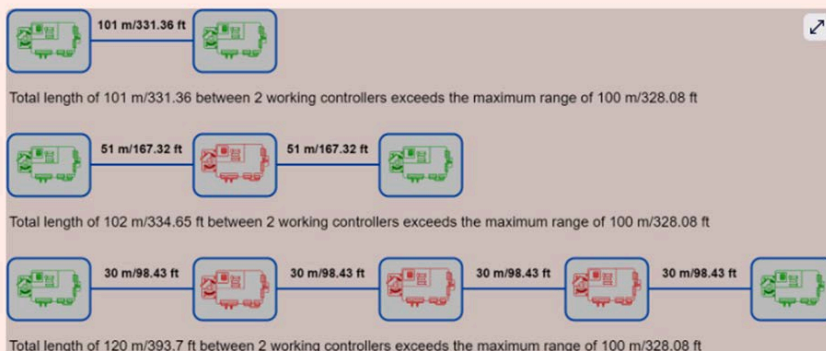
Regarding the limits, they are connected to the Ethernet cabling standard, which in fact defines only the maximum distance between 2 Ethernet devices, which cannot exceed 100 m/328.08 ft. This part is strictly related to our fail-safe mechanism.

We have a deep instruction here: [Ethernet-fail-safe-protected-ports](#)

Please also find below diagrams depicting possible scenarios for correct connections and scenarios where the cabling length exceeds the allowed limits.

Examples of an inadequate fail-safe protection in daisy chain connections

For daisy chain connections, the maximum length between 2 working controllers must not exceed 100 m/328.08 ft. In the diagram below, green icons represent working controllers on the network, and red icons represent controllers, which are not communicating:



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Examples of a proper fail-safe protection in daisy chain connections

For daisy chain connections, the maximum length between 2 working controllers must not exceed 100 m/328.08 ft. In the diagram below, green icons represent working controllers on the network, and red icons represent controllers, which are not communicating:



Maximum length of 100 m/328.08 ft between 2 working controllers



Maximum length of 51 m/167.32 ft between 2 working controllers



Total length of 98 m/321.52 ft between 2 working controllers



Total length of 30 m/98.43 ft between 2 working controllers



Total length of 90 m/295.28 ft between 2 working controllers and 30 m/98.43 ft to the next working controller - at no point does the distance between 2 working controllers exceed 100 m/328.08 ft