# IQ WIFI INSTALLATION MANUAL





Dependable Wi-Fi coverage for home or business

Johnson Controls IQ Wi-Fi Version 1.0.0



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# IQ WIFI OVERVIEW

#### **INCLUDED IN THE BOX**





#### **ABOUT THIS GUIDE**

This document outlines the basic hardware specifications and software directions to install and customize the IQ WiFi. Note that the information presented is not comprehensive, but is specifically dedicated to those menus, features, and systems accessible solely to those with the proper installation code. The information contained is confidential and proprietary, and is solely owned by Johnson Controls. Any reproduction, modification, or distribution without permission is strictly prohibited.

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#### IQ WIFI OVERVIEW: EXTERIOR







The label on the bottom of IQ WiFi shows the device's MAC address and serial number.

The packaging also includes a QR code that can be scanned by a smartphone camera for easy setup



Scan with IQ Panel SSID: IQ WIFI 800062 Password: 1234DBC000012

Label on the bottom of each unit

QR code included in the box

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# CHOOSE YOUR INSTALLATION TYPE



#### You can set up the IQ WiFi in either of these ways:

As the only wireless network on the premises:



#### Great for:

-Improving connectivity for ALL Wi-Fi devices on the network -Offering support for the entire network

In parallel with an existing wireless network:



#### Great for:

-Keeping the security and smart-home devices private/hidden from the rest of the Wi-Fi connected devices on the network -Making online/remote support easier as only known/authorized devices should be connected

-Ensuring better connectivity for dealer supported devices

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#### **EVALUATING NETWORK COVERAGE**





# 1 unit covers up to **1,500 sq ft**

# Add up to 8 units

If a single IQ WiFi does does not cover the location as desired, you can add up to eight (8) additional nodes to eliminate dead spots and boost overall network performance.\*

\*IQ WiFi will not increase the speed coming from the customer's ISP (Internet Service Provider) but can ensure the customer is getting the best coverage throughout their location. Please note that not all buildings are the same, and building materials, wireless interface, and other factors can limit Wi-Fi range.



# INSTALLING THE IQ WIFI

### CONNECTING THE WIRES









- 1. Plug the barrel jack end of the power supply into the "DC-IN" port
- 2. Connect the provided ethernet cable into the "WAN" port
- Connect the opposite end of the provided ethernet cable into the "ETHERNET" port on the modem\*.
- 4. Plug in your power supply to the wall outlet. System may take up to 3 minutes to power up.

\*Please note: If you are installing IQ WiFi to run in parallel to the customer's primary network, plug the ethernet cable into an available port on the customer's existing router

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# SETTING UP THE NETWORK



5 •	6	8
12:55 P 02/01/10	11:25 AM Jan 29 2021 Activate WI-FI  Convected	
🔧 SETTINGS	Eagle_Eye 5     Eagle_Eye 2.4	Proce the physical
ADVANCED SETTINGS	Eagle_Eye S     Eagle_Eye 2.4     Add Wi-Fi network	WPS button on IQ WIFI
ENTER CODE (1111, 2222)	◆ ♦ ∅ + Å	
	Touch "WPS Push Button"	
WI FI	7	
Once the IQ WIFI has powered up	49 ACTIVATE WPS	Connected to Wr-Fi network "IO WiFi 800062"
completely, the power LED will stop flashing.	Press connect to start WPS pairing.	ОК
Activate WPS on IQ Panel. ( <i>Open settings</i>	CANCEL CONNECT	IQ Panel will confirm when
valid code, choose WI-FI.)	Touch "CONNECT"	connection is complete. (If, fails repeat from step 5)

\*Please note: Connecting manually from IQ Panel choose Network Name (SSID) IQ WIFI XXXXXX (the "X" represents the MAC address printed on the label located on the bottom of the IQ WIFI). Default password is the serial number printed on the bottom label of the IQ WIFI.

\*Using WPS mode, IQ WIFI will auto connect to 2.4 or 5 GHz based on optimized signal per environment.

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# MANAGING IQ WIFI FROM IQ PANEL

You may choose to improve the WIFI network by adding additional "agents" to the network (up to 7). Agents must be within range of IQ WIFI in order to sync wirelessly.



Example of where controllers and agents may be placed for best performance.

Choose your location to maximize your mesh WI-FI network. Ensure desired location has an available power outlet. Connect both ends of the power supply to an available outlet.\*

\* You may choose to connect your agents power close to your controller during the pairing process and move to your desired location once pairing is complete. Once the agent has powered up completely, the power LED will stop flashing. Activate WPS on the controller, then activate WPS on the agent









installation, devices, WI-FI

devices, IQ WI-FI, IQ WI-FI



After the initial setup, update you're IQ WIFI to the latest version of firmware and validate that the IQ WIFI mesh is on the same version of firmware 2 IQ Wi-Fi SETTINGS Kin.m 3 ADVANCED SETTINGS ENTER CODE (1111, 2222) Agent-EAMILY Agent-FAMILY INSTALLATION C -WiFi Point (2) - Firmware 1.0.0rc DEVICES DEVICES DEVICES DEVICES Agent-FAMILY Custom 3 CHECK FOR UPDAT ~  $(\uparrow)$ U **REBOOT ALL** SP\_DF03C2 2.4GHz WI-FI DEVICES You have the latest version o If you are having problems, or speed ustom Agent-FAMILY () ~ firmware for IQ Wi-Fi is slower than expected. Reboot All. 2.4GHz IQ WI-FI IQ WI-FI Touch agent **DEVICES** icon to verify the version Current agent firmware Open settings tray, touch of firmware on each added agent. settings, advanced settings, type valid code, touch Touch the CHECK FOR UPDATE icon to update

\*Note: If adding an additional agent to a preexisting IQ WIFI to improve wireless performance validate that the firmware on the IQ WIFI mesh is the same and if it is not, update.

the entire IQ WIFI mesh.

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# RENAMING YOUR NETWORK NAME (SSID)





\*Note: By default the IQ WIFI will broadcast two visible Network Names (SSID) for 2.4GHz and 5GHz and two hidden Network Names (SSID) for Security 2.4GHz or 5GHz XXXXXX. Once SSID has been updated, you will need to reconnect to IQ Panel using WPS mode or manually.

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#### **CREATING A GUEST NETWORK**





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## **TESTING YOUR SPEED**





#### Touch the **TEST MY SPEED** button

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### **REBOOTING IQ WIFI MESH**





Open settings tray, touch settings, advanced settings, type valid code, touch installation, devices, WI-FI devices, IQ WI-FI

Touch the REBOOT ALL button

\*IQ WiFi will not increase the speed coming from the customer's ISP (Internet Service Provider) but can ensure the customer is getting the best coverage throughout their location. Please note that not all buildings are the same, and building materials, wireless interface, and other factors can limit Wi-Fi range.

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# **RENAMING CONTROLLER OR AGENTS**





\*When renaming a controller or agent, please note that the unique name entered can't have any spaces.

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#### **VIEWING CONNECTED DEVICES**





\*Note: When viewing connected devices, you can manage internet connectivity by unchecking (not internet) the checkbox of a connected device.

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# MANAGING IQ WIFI FROM WEB INTERFACE



After all the physical connections are made (see steps 1-4 on page 10), the back-haul mesh activation can be enabled through the web interface, without accessing the IQ Panel settings. https://192.168.105.1 Wifi Mesh From Chrome go to 192.168.105.1 NETWORK Basic Controller \$ Device Role Colsys WIFI MESH EasyMesh On-board Connect a New Mesh Device (Wifi will select the back-haul band automatically) Optimize Mesh Network Optimize Mesh Network (It will take a few minutes) **Authorization Required** ADVANCED Display Mesh Network Map Runtime Topology Please enter your username and password. Touch the Connect a New Mesh Device to Username admin STATIC LEASES trigger WiFi back-haul band automatically. Password PORT FORWARDING Clear Login Navigate to Colsys NETWORK tab and select WIFI MESH Login with default user name and password: Username: admin Password: XXXXDBC0000XX Within 2 minutes press the WPS button on an additional IQ WIFI. JOHNSON CONTROLS CONFIDENTIAL AND PROPRIETARY

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#### SOFTWARE UPDATES FROM WEB



A software update can be done manually after	er downloading an upd	lated version of firmware from the dealer site.
1 ⊕ https://192.168.105.1 ℃	3	4 Firmware Upgrade/Backup Settings
From Chrome go to 192.168.105.1	SYSTEM	Firmware Upgrade Backup/Restore Settings
2 Colsys	CHANGE PASSWORD	Firmware Upgrade: Choose File no file selected
Please enter your username and password. Username admin Password	FIRMWARE UPGRADE / BACKUP SETTINGS	Touch the <b>Choose File</b> icon find the downloaded file located on your computer.
Login Clear	REBOOT	Firmware Upgrade         Backup/Restore Settings           Firmware Upgrade         Backup/Restore Settings
Colsys	Navigate to <b>SYSTEM</b> tab, and down to	Firmware Upgrade: Choose File Q0.4.9.bin
Login with default user name and password: Username: admin Password: XXXXDBC0000XX	FIRMWARE UPGRADE / BACKUP SETTINGS	Press <b>Upgrade</b> icon once the updated file has been selected.

\*Note: Once a software update has been kicked off, could take as long as 20 minutes plus the time to reboot. LEDs on the IQ WIFI will flash indicating it is updating.

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# RENAMING DEFAULT NETWORK NAME (SSID) FROM WEB



	3	4		
@ https://192.106.106.1		Name	EAGLE_EYE 2.4	
From Chrome go to 192.168.105.1		Security Mode	WPA2 - Personal	
	NETWORK	Password	c4c4c4c4	Edit
	WIEL MESH	Hidden	Disabled	
Authorization Required	WITTPIEST	Scroll down	the page to locate the	e WiFi SSID
Please enter your username and password.	ADVANCED	Settings. Pr	ress the Edit button to	make
Username admin Password	STATIC LEASES	changes fro	m the default settings	
	PORT	Edit Primary Network(2.4	G Hz)	
Login     Gear	FORWARDING	Name		EAGLE_EYE 2.4
	Navigate to	Security Mode		WPA2 - Personal \$
Colsvs	NETWORK tab and	Password (8-64 characters)		c4c4c4c4
QUALITY OF LIFE	select WIFI MESH	Hidden		
Login with default user name and password: Username: admin Password: XXXXDBC0000XX		Enter a unique	Network Name (SSIE	)) and password.

\*Note: Once you have touched the save and apply to the Network Name (SSID) you will need to reconnect to the new unique Network Name (SSID) with the updated password.

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### **CREATING A GUEST NETWORK FROM WEB**



1	3	4
From Chrome go to 192.168.105.1	NETWORK	Enable Guest Network(2.4G Hz) Scroll down to WiFi Settings, and touch the
Authorization Required Please enter your username and password.	WIFI MESH ADVANCED	Enable Guest Network (2.4GHz or 5GHz)
Username admin Password	STATIC LEASES	5
🔲 Login 🥘 Clear	FORWARDING	Name         Guest 800092           Security Mode         WPA2 - Personal
	Navigate to NETWORK tab and select WIELMESH	Password 1912DBC000049
Login with default user name and password: Username: admin Password: XXXXDBC0000XX		Touch the <b>Edit</b> icon and create a unique Network Name (SSID) and password.

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# RENAMING CONTROLLER OR AGENTS FROM WEB



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\*Note: Controller and agent unique names can't support spaces

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# VIEWING CONNECTED DEVICES FROM WEB



://192.168.105.1		WAN LAN
From Chrome go to 192.168.105.1	NETWORK	
Colsys	WIFI MESH	
Authorization Required lease enter your username and password.	ADVANCED	Navigate to LAN (Local Area Network)
Username admin	STATIC LEASES	5 Connected Device
Password	PORT	Hostname
I Login Clear	FORWARDING	android-2eaOf6dee24fca7O
	Navigate to	Nates-MBP
Molsys	select ADVANCED	Nates-iPhone
ogin with default user name and password:		android-f3cdO4c815afd744
Isername: admin		Scroll down to Connected Devices to view
assword: XXXXDBC0000XX		Hostname. IPv4 -Address. Leasetime remainin

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# WAN SETTINGS



	3	4
s://192.168.105.1	NETWORK	WAN LAN
Colsys	WIFI MESH	
Authorization Required Please enter your username and password.	ADVANCED	Navigate to WAN (Wide Area Network)
Username admin	STATIC LEASES	5 Internet LAN Status Uptime: 6d 0h 52m 58s
Password	PORT FORWARDING	MAC-Address 3C3178/80/00 RX:8632 MB (453194 Pkts) TX: 275.56 MB (1235939 Pkts) IPv4: 192.168.1.66/24
	Navigate to <b>NETWORK</b> tab and select <b>ADVANCED</b>	Connection Type VHCP client PPPoE
ogin with default user name and password: Jsername: admin Password: XXXXDBC0000XX		Scroll down and click on <b>Connection Type</b> to select the proper ISP

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**PPPoE** is a **connection** protocol (mainly for xDSL **connections**). Using that protocol a PC can **connect** to a network **and** receive an IP. PPPoE is a way to encapsulate network traffic, based on credentialed access (i.e. username and password provided from an ISP).

**Static IP** means that regardless of the **connection method**/request the same Network Interface Card (PC) will be issued one, pre-defined IP that will never change.

**DHCP** is a way for a network to allocate unique IP addresses to the devices (i.e. computers and smartphones, etc.) within it so that traffic can be delivered back-n-forth without confusion.

# LAN SETTINGS



1	3	
From Chrome go to 192.168.105.1 2 Coleve Authorization Required Please enter your username and password. Username admin	NETWORK WIFI MESH ADVANCED STATIC LEASES	Navigate to LAN (Local Area Network)
Password	PORT FORWARDING Navigate to NETWORK tab and select ADVANCED	Connection Type Static address : Really switch protocol IPv4 address 192.108.105.1 IPv4 netmask 255.255.255.0 : After chainging LAN IP (It may take about 2 - 3 minutes), please reconnect LAN client devices (e.g. NB, mobile phone) and access to Web GUI with new IP. Scroll down to <b>IPv4 addresss</b> to change the gateway (router) addresss.

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#### **DHCP SERVER**



) https://192.168.105.1	3	4 WAN	LAN
From Chrome go to 192.168.105.1	NETWORK		
Colsys	WIFI MESH		
Authorization Required Please enter your username and password.	ADVANCED	Navigate to LAN (Loca	al Area Network)
Username admin Password	STATIC LEASES	DHCP Server	
I Login Clear	FORWARDING	Starting IP Address	100
	Navigate to NETWORK tab and select ADVANCED	Number of IP Address	150
Login with default user name and password: Username: admin Password: XXXXDBC0000XX		Scroll down to <b>DHCP Se</b> DHCP settings.	rver to change the

\*Note: DHCP server default settings support up to 150 addresses beginning at 192.168.105.100 through 192.168.105.250

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#### **DHCP RESERVATION**



1) https://192.168.105.1	e 3	4 Hostname
From Chrome go to 192.168.105.1	NETWORK	
2 Colsys	WIFI MESH	Enter a <b>Hostname</b> for the connected device
Authorization Required Please enter your username and password.	ADVANCED	5 MAC-Address
Username admin	STATIC LEASES	3c:21:78:2c:45:7b (102 168 105 200)
Password	PORT FORWARDING	Use the dropdown to select the <b>MAC-Address</b> of the connected device.
Colsys	Navigate to <b>NETWORK</b> tab & <b>STATIC LEASES</b>	6     IPv4-Address
Login with default user name and password:		192.168.105.209 🛊
Username: admin Password: XXXXDBC0000XX		Use the dropdown to select the <b>IPv4-Address</b> and touch <b>Save &amp; Apply</b> .

\*Note: **DHCP** Servers support something called a "**DHCP Reservation**", which essentially allows you to provide a pre-set IP **address** to a specific client based on it's physical **MAC address**. This means that the device will always get the same IP **address** and it will never change.

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#### HOW TO CHANGE ADMIN PASSWORD





\*Note: Default username is admin and default password is the serial number printed on the bottom of IQ WIFI.

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# CONNECTING TO THE NETWORK

# **CONNECTING TO THE NETWORK**



#### Wired Connection:

- Connect your laptop to the IQ WiFi via the LAN port on the back of the controller or agent LAN port.
- Open up a web browser (chrome recommended) and type in the following:
  - \\192.168.105.1 (default gateway address)

#### Wireless Connection:

- The default SSID is "IQ WIFI XXXXXX" and "IQ WIFI XXXXXX 5G". (XXXXXX is the last 6 digits of the MAC address of the IQ WIFI)
- Using the QR code sticker you can auto connect to the default Network Name (SSID)
- WPS mode is also supported for wireless connection.

#### **Default User Name:**

- admin

#### **Default Password:**

- The S/N number printed not he bottom of the IQ WiFi is the default password. Note: Passwords are case sensitive





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# TROUBLESHOOTING

# SEQUENCE TO RESTART YOUR NETWORK





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If you are experiencing difficulty syncing the controller and the agent, we recommend that you move the agent into the same room as the controller during the sync. Then move the agent to a different location.

To sync the controller and the agent (see page 14):

- 1. Place the agent in the same room as the IQ WIFI. Use this agent location only during the sync process.
- 2. Connect the agent to a power source.
- 3. Wait for the agent power LED to light solid GREEN.
- 4. Press the WPS button on the controller and then within two minutes, press the WPS button on the agent.
- 5. Wait for the agent internet LED to light solid GREEN. The agent WiFi LED will slowly blink GREEN when communicating.
- 6. Move the agent to a new location and connect the agent to a power source.

 At the new location, check the agent power LED and make sure it is solid GREEN.
 If the agent error LED lights up RED, make sure you are within range and try again.

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Make sure that your computer or IQ Panel is connected to the IQ WiFi network. If you do not want to use a WiFi connection, you can connect your computer to the IQ WIFI with an Ethernet cable.

If you changed the admin password and you forgot what it is, reset the IQ WIFI back to factory default settings.



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Check your network and Internet connections:

- 1. Make sure that your WiFi-enabled computer or IQ Panel is connected to the IQ network.
- 2. If you are connected to the IQ network but can not access the Internet, check to see if your Internet connection is working.
- 3. Launch a web browser from a computer or WiFi device that is connected to the network.
- 4. Enter the DEFAULT GATEWAY ADDRESS 192.168.105.1, A login window opens.
- 5. Enter the IQ WIFI admin username and password. The user name is admin.
- 6. The default password is the S/N printed on the bottom label of the Controller. The user name and password are case-sensitive.
- 7. The Home Screen is displayed

4	c
From Chrome go to 192.168.105.1	

ease enter your username and p	assword.
5 Username	admin
6 Password	
Ů	
Login 🛛 🕲 Clear	
Joisvs	

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8. From the web interface Click NETWORK > ADVANCED tab.

The ADVANCED Home page displays.

- 9. Check that an IP address is shown for the WAN Internet IPv4 section.
- 10. If 0.0.0.0 is shown, your IQ WIFI did not obtain an IP address from your Internet service provider (ISP) or from the customers existing network.

If your IQ WIFI cannot obtain an IP address from the WAN, you can force your cable or DSL modem to recognize your new IQ WIFI by restarting your network. For more information, see Sequence to restart your network on page 41. If your IQ WIFI is still unable to obtain an IP address from the ISP, the problem might be one of the following:

- Your Internet service provider (ISP) might require a login program. Ask your ISP whether they require PPP over Ethernet (PPPoE) or some other type of login.
- If your ISP requires a login, the login name and password might be set incorrectly.

8	NETWORK	9 WAN LAN	I.	
	WIFI MESH	Internet		
	ADVANCED	Internet LAI	AN Status	Uptime: 29d 20h 33m 22s MAC-Address: 3C317880:00:91 PY: 2 33 GB (16822756 Ptr.)
	STATIC LEASES			10 15(1)(100/1745) 10 17(1)(100/1745) 192,168,166/24
	PORT FORWARDING	Conr	nnection Type	DHCP client
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# SPECIFICATIONS

**SPECIFICATIONS** 



Part	Description
Process and Memory	SSoC: MT7621DA (MIPS1004Kc dual-core 880MHz, SPI NOR Flash 64MB) Memory: 128MB DDR3 embedded
Connectors	1 DC Power Jack 2 RJ-45 Connectors
LED and Button	LEDs: 4 Single Color LED Buttons: 1 WPS Button on the side 1 Reset button on the back
Antenna	4 Wi-Fi internal antennas
Power Adapter	Input: 100-240VAC, 50-60Hz, 0.3A Max Output: 12 VDC, 1A
Compliance	FCC
Dimensions (H x W x D)	150mm x 89mm x 57.2mm
Weight	172g
Operating Temperature	0°C - 40°C (32°F - 104°F)
Operating Humidity	10% - 90% RH (non-condensing)
Storage Temperature	-20°C -60°C (-4°F - 140°F)
Storage Humidity	5% - 95% RH (non-condensing)

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Network and Software	Notes
Ethernet	LAN and WAN Gigabit Ethernet Ports
Wireless	IEEE 802.11 b/g/n 2.4GHz IEEE 802.11 a/n/ac 5GHz
DHCP	Server, Client
Protocols	IPv4 and IPv6
Guest Network	2.4GHz/5GHz
WiFi EasyMesh Standard	Supported
Ethernet On-Boarding	Supported
Topology Dump	Supported
OTA	Supported
Application	OpenWRT Web GUI Configuration

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