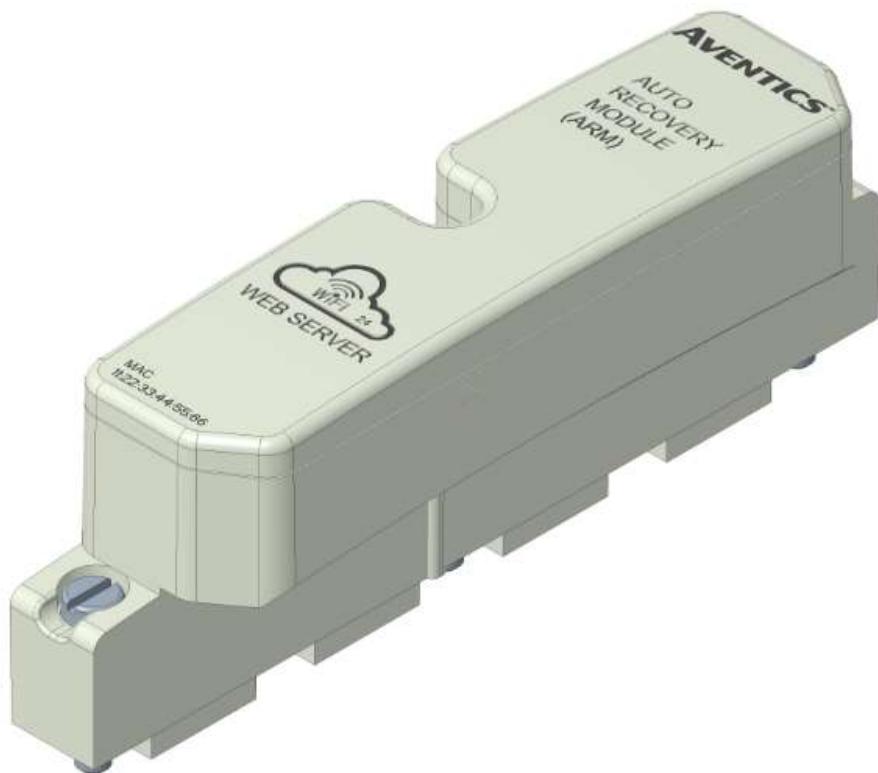


AVENTICS™

G3 Series Wireless Auto Recovery Module Quick Start Manual



Conditions for use of this product

(1) AVVENTICS G3 Manifold ("the PRODUCT") shall be used in conditions;

- i) Where any problem, fault or failure occurring in the PRODUCT, if any, shall not lead to any major or serious accident.
- ii) Where the backup and fail-safe function are systematically or automatically provided outside of the PRODUCT for the case of any problem, fault or failure occurring in the PRODUCT.

(2) The PRODUCT has been designed and manufactured for the purpose of being used in general industries.

ASCO L.P. shall have no responsibility or liability including but not limited to any and all responsibility or liability based on contract, warranty, tort, product liability for any injury or death to persons, loss or damage to property caused by the product that are operated or used in application not intended or excluded by instructions, precautions or warnings contained in AVVENTICS Technical, User, Instruction, Safety manuals or bulletins.

Safety precautions

Before using this product, please read this manual and the relevant manuals carefully and pay attention to safety and product application. The following symbols are used in the manual to identify important safety, installation and application information.



Caution symbol indicates a possible hazard which may cause injury or equipment damage.



Note symbol indicates important information regarding equipment installation and setup.

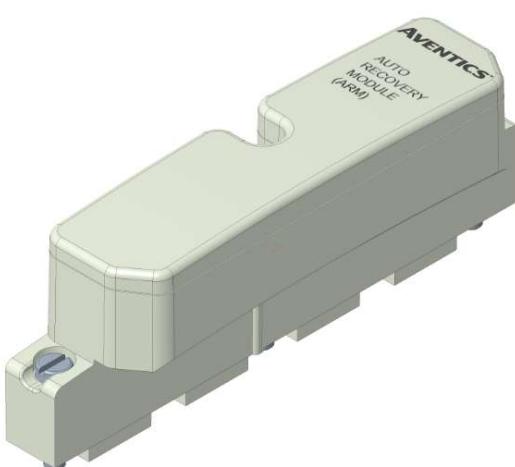
AVVENTICS™ G3 Series Wireless ARM Quick Start Manual

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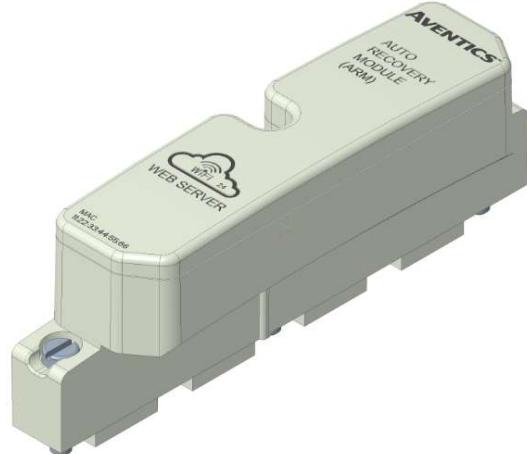
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Auto Recovery Module (ARM) Introduction

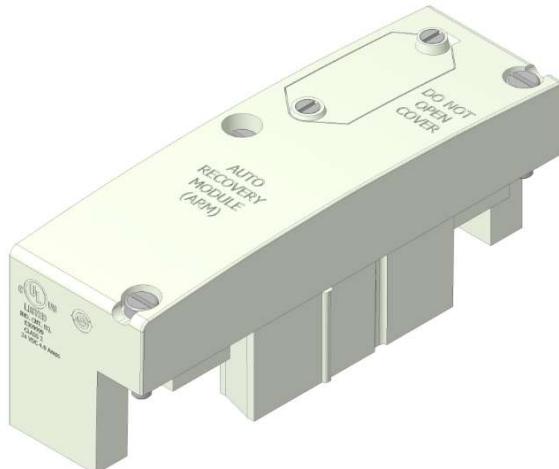
The Auto Recovery Module (ARM) is an optional memory module that is installed between the node and the valve adapter module and is used to backup the manifold system parameters even during catastrophic failure. During the power-up process the communication module reads the configuration of the manifold, including any user settable parameters of I/O modules, and stores the information in its non volatile memory. Once the information is stored, it is disconnected from the power circuits while still mechanically attached to the manifold.



ARM Clip Module



Wireless ARM Clip Module



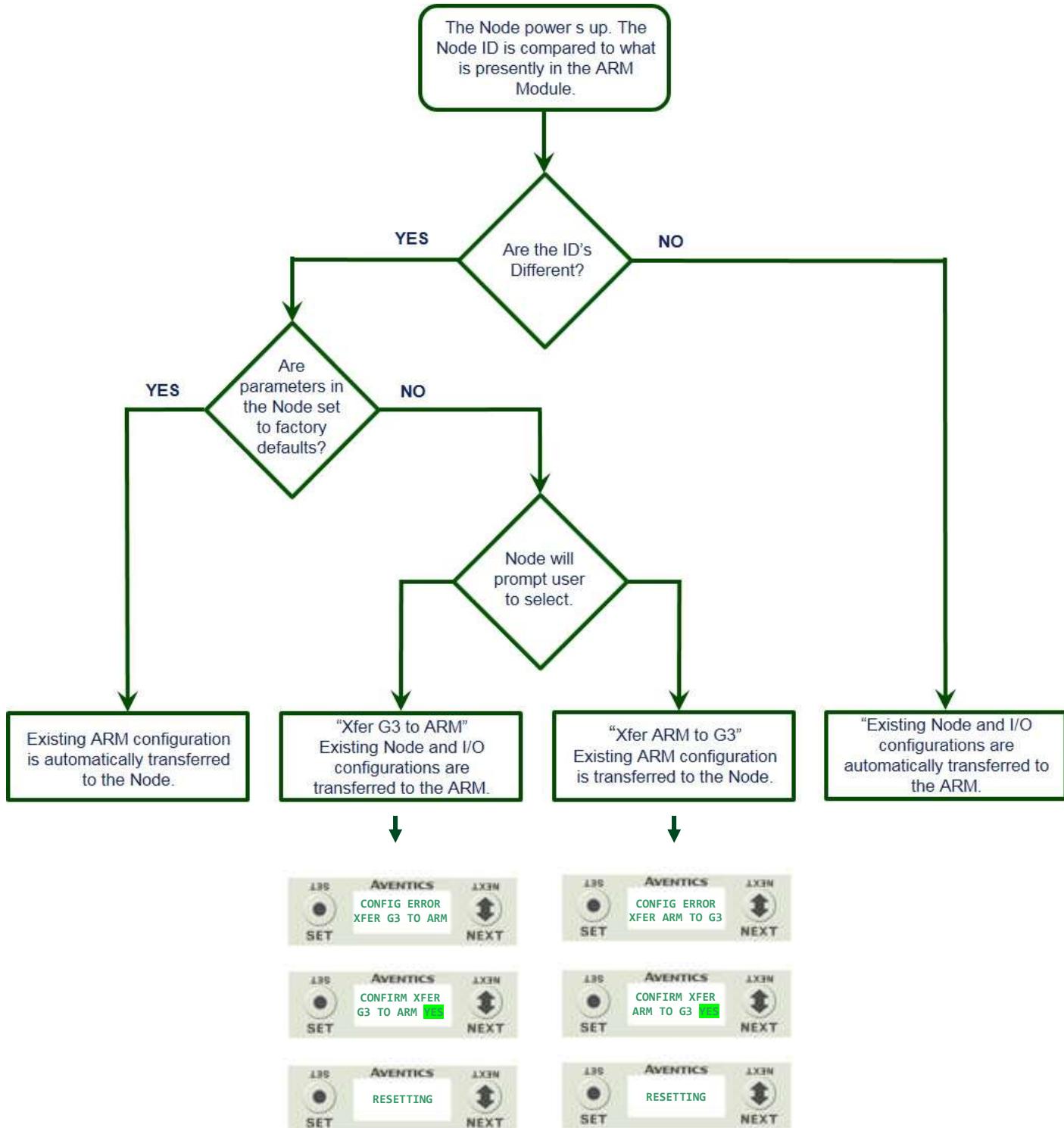
ARM Module (Legacy)

Description	Replacement Part Number
ARM Clip Module	240-383
Wireless ARM Clip Module	240-382
ARM Module (Legacy)	240-182

AVVENTICS™ G3 Series Wireless ARM Quick Start Manual

1. ARM Process Flowchart

ARM function is described in the following flowchart

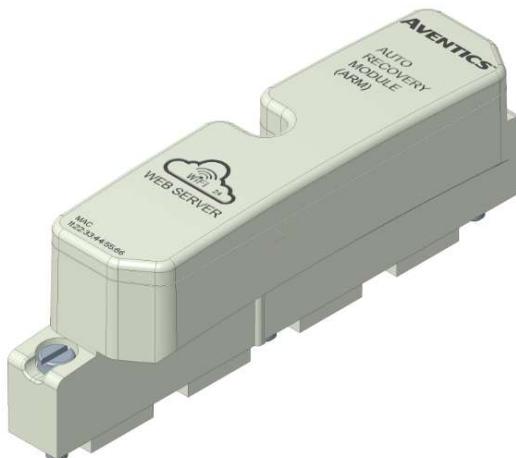


AVVENTICS™ G3 Series Wireless ARM Quick Start Manual

2. Wireless ARM

The Wireless ARM supports standard ARM functionality with the addition of a WIFI accessible diagnostic web server. The web server allows the user to connect to the Wireless ARM to access manifold parameters and diagnostics using any WIFI enabled device including computers, tablets and smartphones.

Description	Replacement Part Number
Wireless ARM Clip Module	240-382



Wireless ARM Minimum Build Firmware Requirements		
Protocol	Part Number	Firmware
EtherNet/IP DLR	240-325	Rev 1.01 Build 43980
ProfiNet	240-240	Rev 1.01 Build 43980

AVENTICS™ G3 Series Wireless ARM Quick Start Manual

3. Connecting to the Wireless ARM (Computer or Mobile Device)

Once a G3 manifold equipped with a Wireless ARM is powered on; the Wireless ARM will broadcast its SSID.

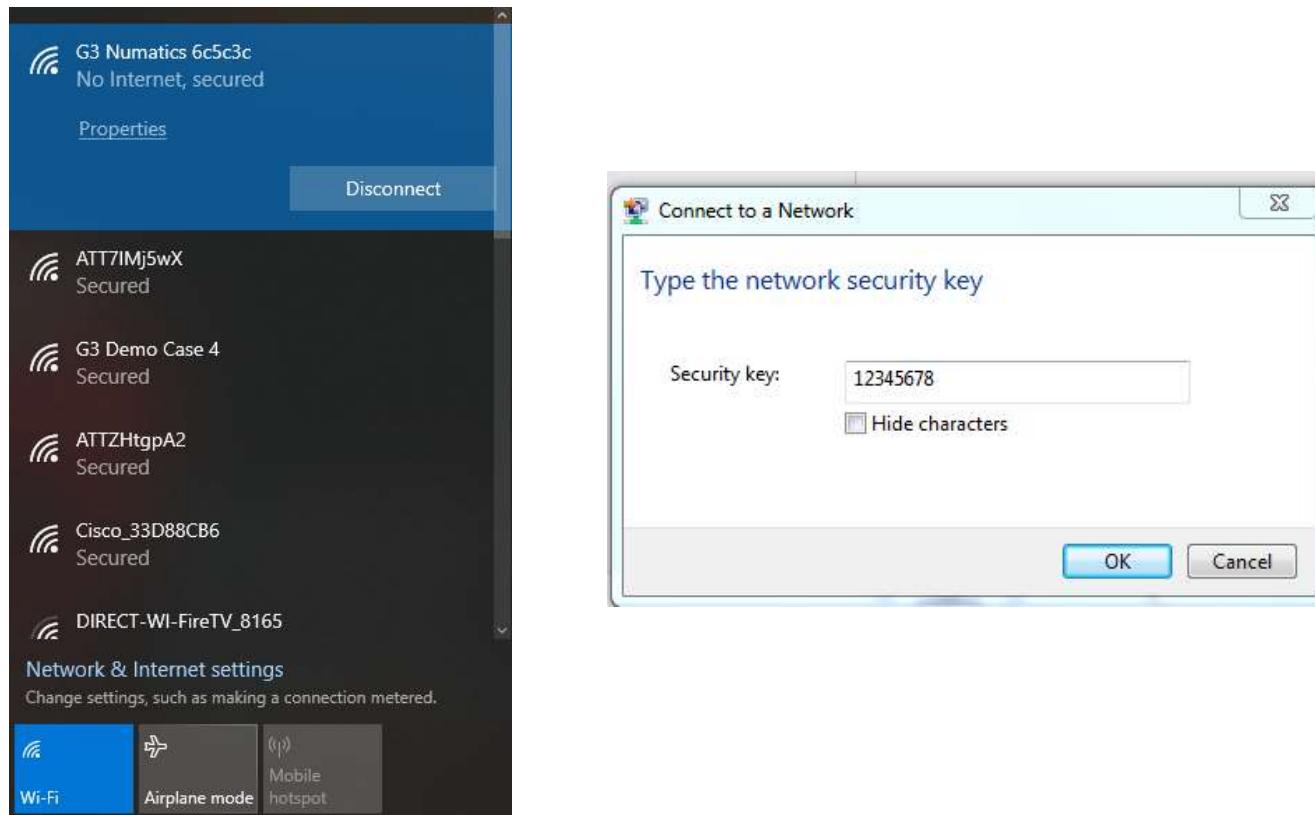
Locate the Wireless ARM broadcast ID

On the computer or mobile device; open available WIFI connections. In this example the SSID is Broadcast as "G3 Numatics 6c5c3c". Each Wireless ARM Clip's SSID is unique and comprised of the last 6 digits of the Wireless ARM Clip's MAC ID.

Select the connection and enter the network security key.

The default network security key is 12345678

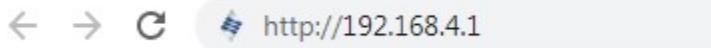
Verify the computer/Mobile device is connected to the Wireless ARM Clip.



- Default Security Key is **12345678**

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Open an internet browser and connect to the G3 Wireless ARM webserver by typing the IP address.
(default IP address HTTP:// 192.168.4.1).



CONNECTION TYPE SELECTION



WELCOME TO THE G3 WIRELESS ARM LANDING PAGE.

G3 VALVE SYSTEM WITH WIRELESS ARM



View only

Status data and configuration can only be viewed.

**Configuration &
Parameter changes**

Status data and configuration can be viewed and manipulated.

"View Only" and "Configuration & Parameter changes" buttons are displayed.

- View Only – connects to the G3 Webserver with read only access.
- Configuration & Parameter changes – connects to the G3 Webserver with write access.

Select "Configuration & Parameter changes" to open the password protected Configuration & Parameter Webpages with Read and Write Access.



Configuration & Parameter changes are password protected.



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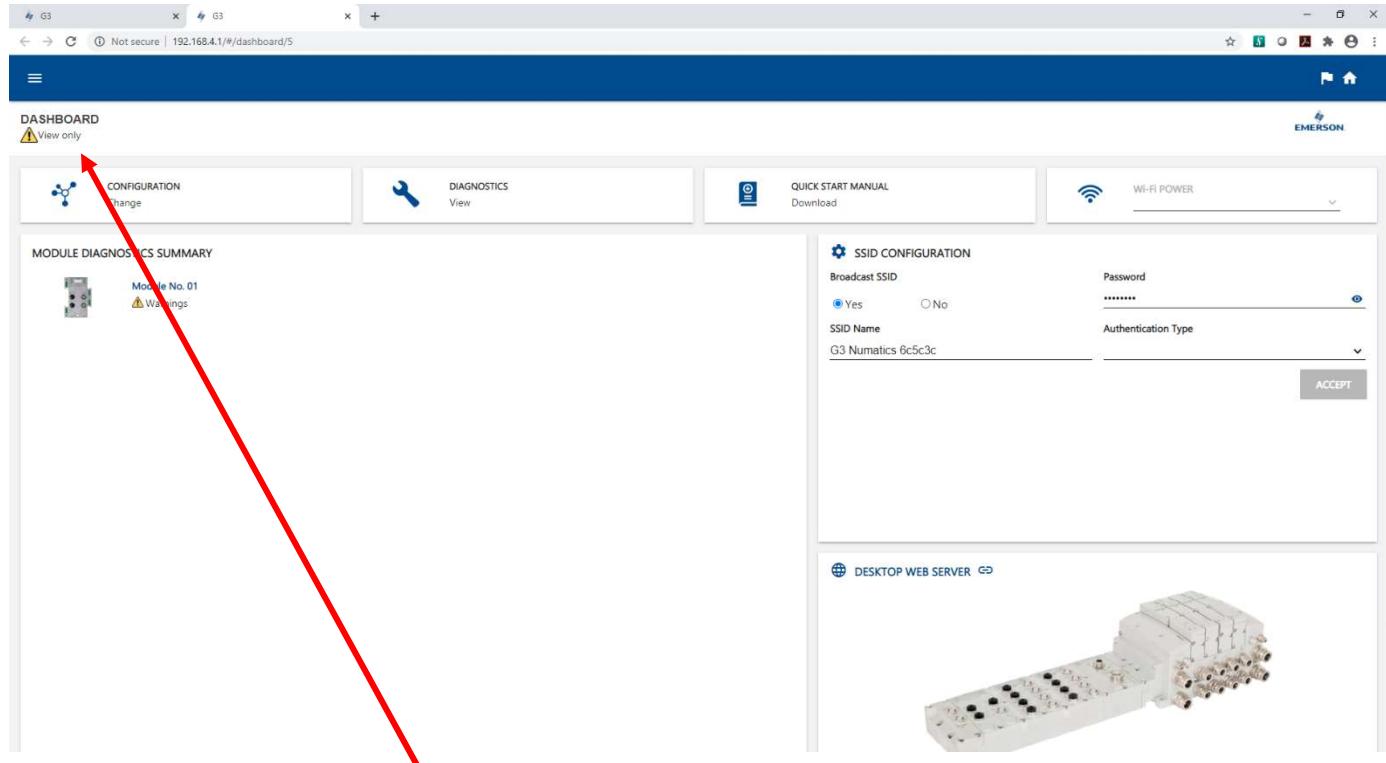
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4. Wireless ARM Webserver in "View Only" mode

"View Only" mode allows the user read only access. Configuration and parameters are locked and unable to be modified. In this mode you can monitor the condition of all of the modules in the G3 sub-bus network.



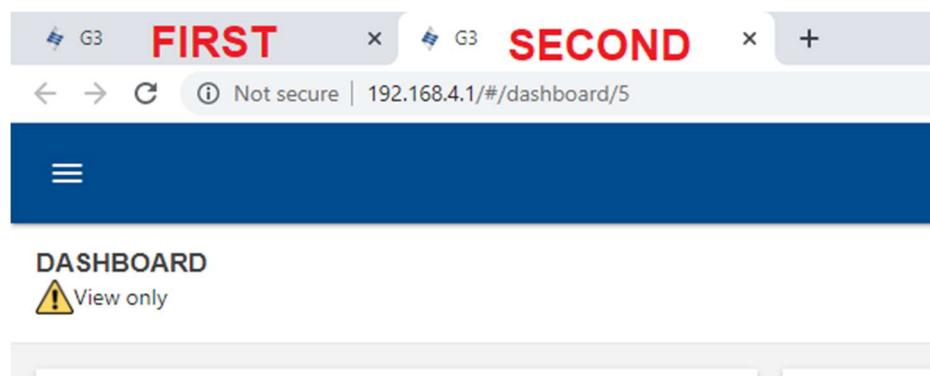
"View Only" mode is identified by the "View only" tag at the top left of the Dashboard page.

DASHBOARD

View only

To exit "View Only" mode and change to "Configuration & Parameter Changes" mode, close the **second** open webpage tab from the top of the screen. The first tab is the landing page where you can select which mode you would like to view the webserver in.

NOTE: If using a smartphone or tablet, you will need to open a Tabs view to close the "View Only" page and go back to the landing page.



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5. Wireless ARM Webserver in “Configuration & Parameter Changes” mode

Once a G3 manifold equipped with a Wireless ARM is powered on the Wireless ARM will broadcast its SSID.

Password Protected Access



PASSWORD REQUIRED

Enter Password



SUBMIT

CHANGE PASSWORD

Enter password to Access the Configuration & Parameter web pages.

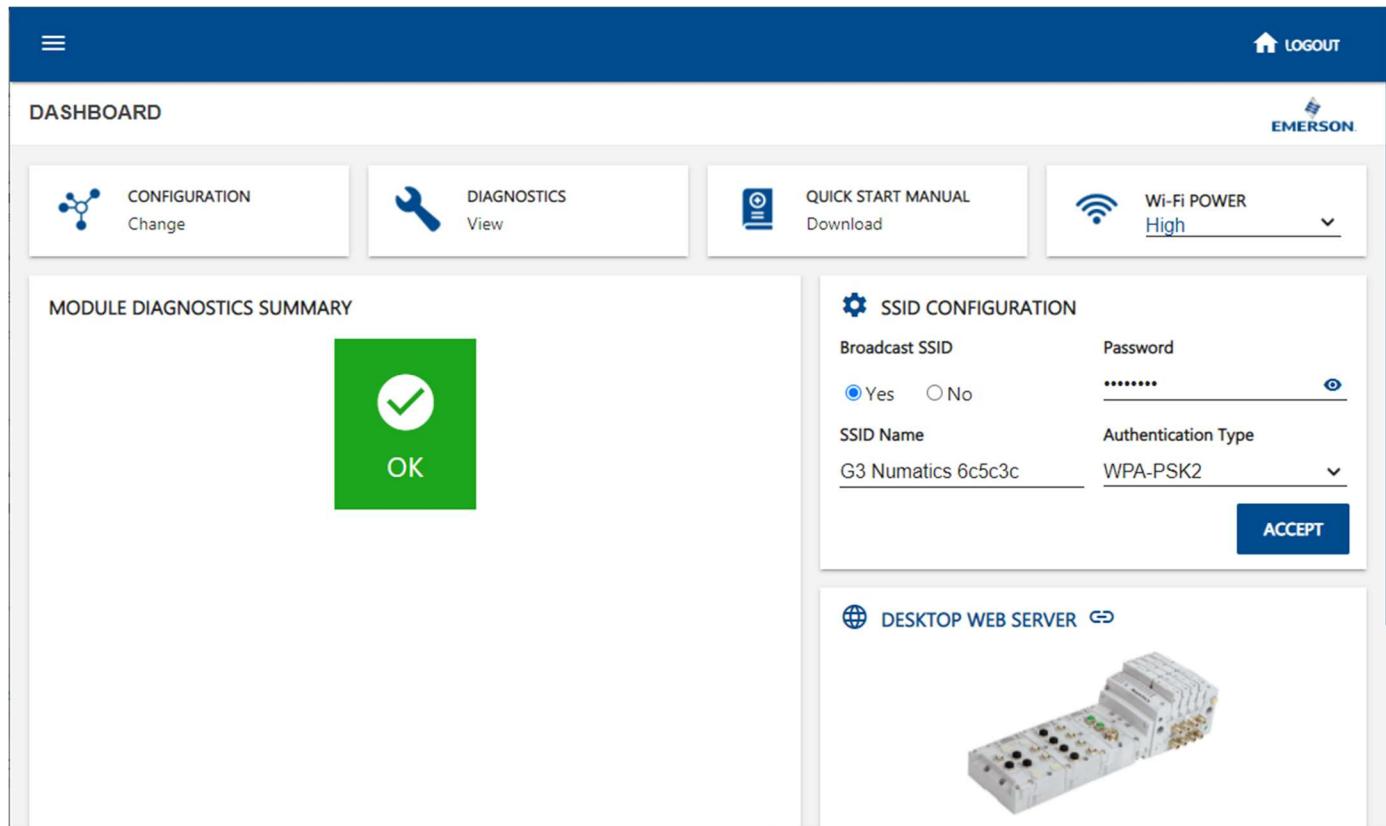


- Default Password is **G3/240-382**

AVVENTICS™ G3 Series Wireless ARM Quick Start Manual

Dashboard

The G3 Wireless ARM Dashboard is displayed.



The screenshot shows the G3 Wireless ARM Dashboard. At the top, there is a navigation bar with a menu icon, a home icon, and a 'LOGOUT' link. The main area is titled 'DASHBOARD' and features four tabs: 'CONFIGURATION Change', 'DIAGNOSTICS View', 'QUICK START MANUAL Download', and 'Wi-Fi POWER High' (selected). Below these tabs, there are two main sections: 'MODULE DIAGNOSTICS SUMMARY' (with a green 'OK' button) and 'SSID CONFIGURATION' (with fields for Broadcast SSID, Password, SSID Name, and Authentication Type, and an 'ACCEPT' button). To the right of these sections is an image of a G3 communication module.

Select the "CONFIGURATION" tab for access to G3 Communication module parameters.



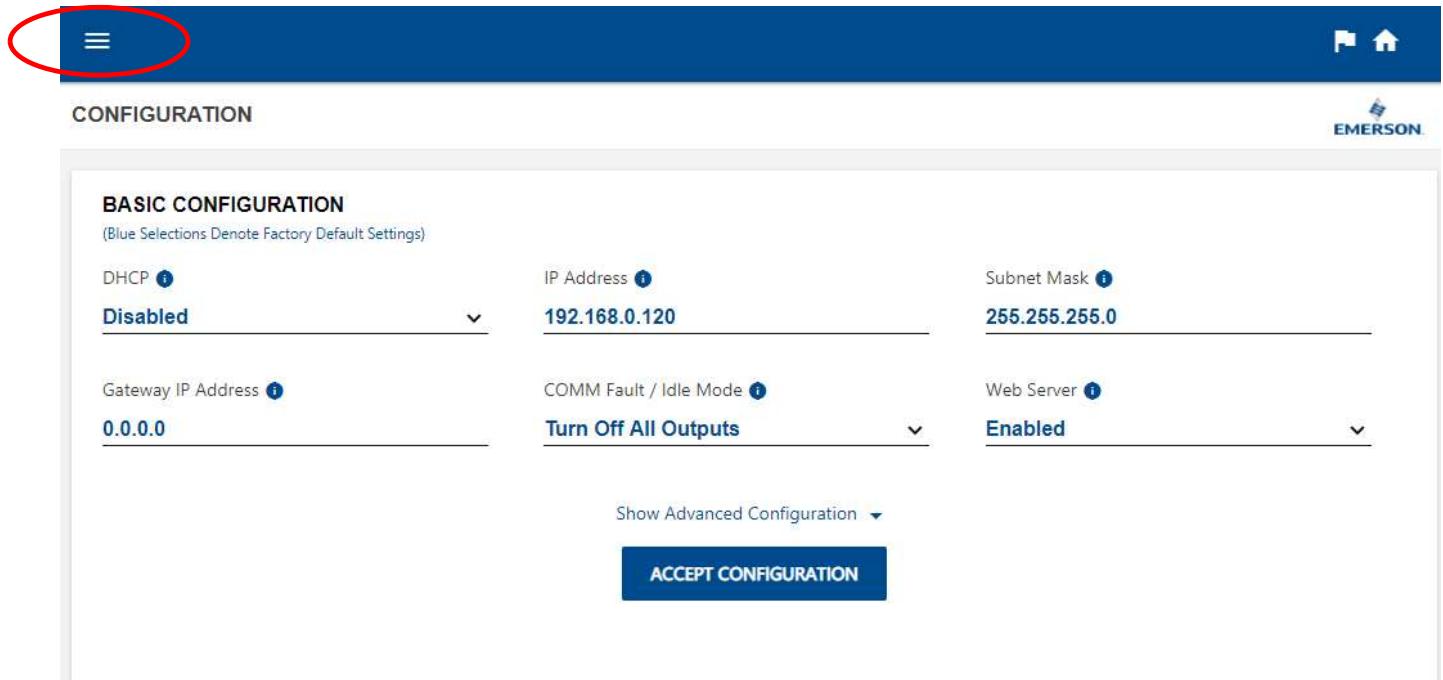
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Configuration
G3 Communication Module Parameters



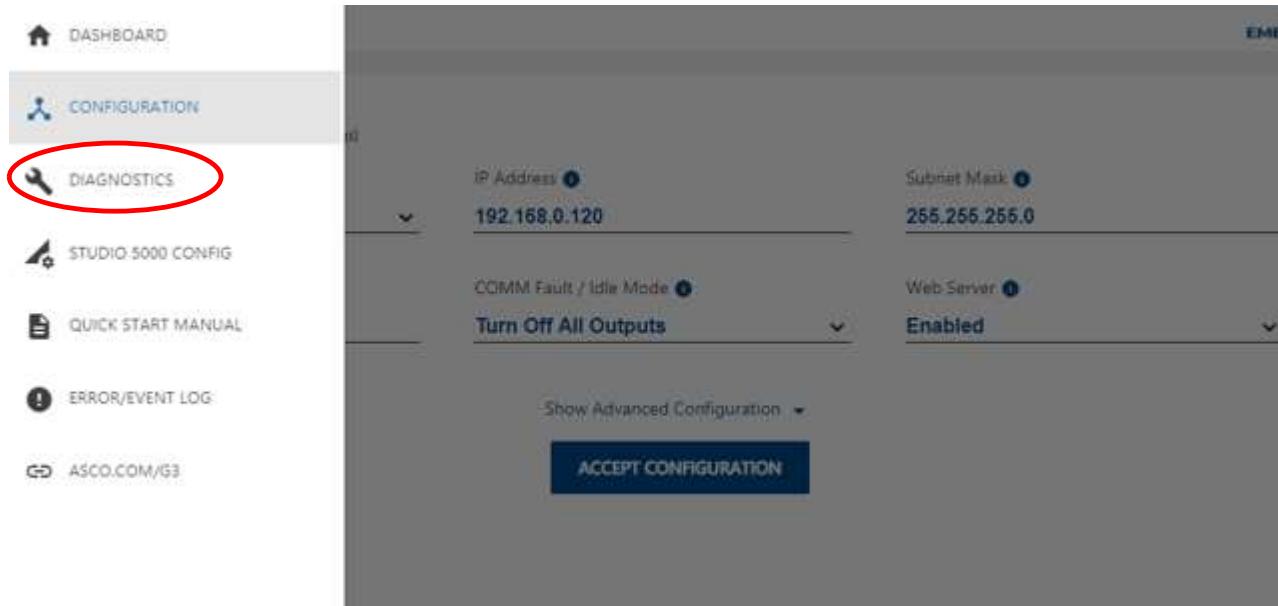
BASIC CONFIGURATION
(Blue Selections Denote Factory Default Settings)

DHCP ⓘ	IP Address ⓘ	Subnet Mask ⓘ
Disabled	192.168.0.120	255.255.255.0
Gateway IP Address ⓘ	COMM Fault / Idle Mode ⓘ	Web Server ⓘ
0.0.0.0	Turn Off All Outputs	Enabled

Show Advanced Configuration ▾

ACCEPT CONFIGURATION

Select the menu options button to access the "DIAGNOSTICS" tab



DIAGNOSTICS

BASIC CONFIGURATION
(Blue Selections Denote Factory Default Settings)

DHCP ⓘ	IP Address ⓘ	Subnet Mask ⓘ
Disabled	192.168.0.120	255.255.255.0
Gateway IP Address ⓘ	COMM Fault / Idle Mode ⓘ	Web Server ⓘ
0.0.0.0	Turn Off All Outputs	Enabled

Show Advanced Configuration ▾

ACCEPT CONFIGURATION

Select the "DIAGNOSTICS" tab for access to G3 manifold diagnostics



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Diagnostics

The G3 Diagnostics Webpage is displayed.

DIAGNOSTICS - CURRENT CONFIGURATION

Comm. Module

Valve Driver Module

Wireless ARM Clip

Module No. 01

HUB 01

Branch 1- Module No. 02

Comm. Module

IP Address: 192.168.1.120

Subnet Mask: 255.255.255.0

Gateway IP Address: 0.0.0.0

Active COMM Link Type: Port 0: 100 Mbps/Full Duplex Port 1: Link Down

MAC Address: 00-15-24-00-ea-46

Node / Input Power: 24.47 V

Comm Node

Part Number: 240-325

Show Advanced Information

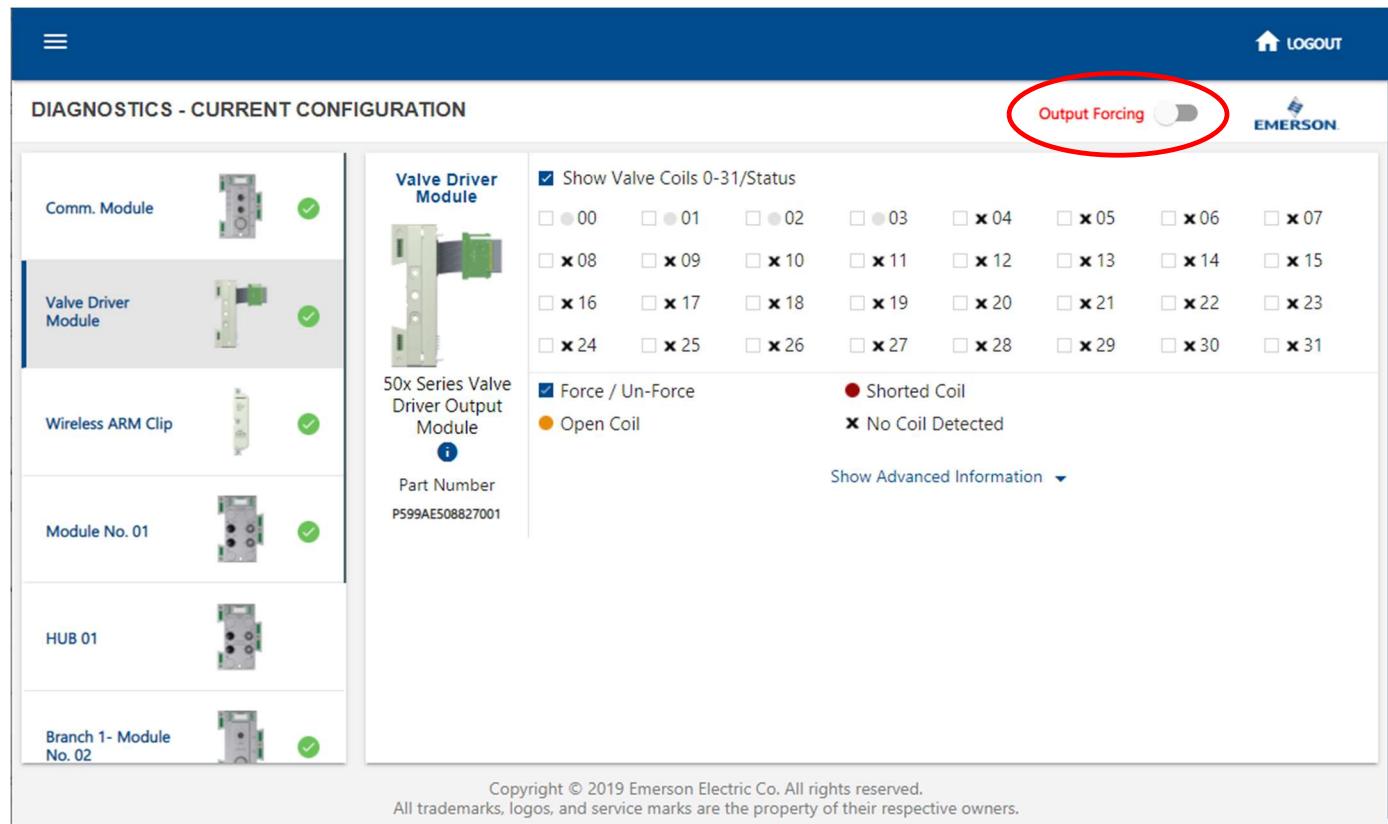
ACCEPT

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Select the Valve Driver Module to display the coil diagnostic information

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The Valve Driver Module coil diagnostic information is displayed. Here you can turn on Output Forcing to test-fire valve coils and outputs.



The screenshot shows the 'DIAGNOSTICS - CURRENT CONFIGURATION' page. On the right, there is a 'Valve Driver Module' section with a table of coil status. The 'Output Forcing' toggle switch is circled in red. Below the table, there are status indicators for 'Shorted Coil' (red dot) and 'Open Coil' (orange dot). A 'Part Number' is listed as PS99AE508827001. At the bottom, there is a note about 2FA for safety.

Coil Number	00	01	02	03	04	05	06	07
x 08								
x 09								
x 10								
x 11								
x 12								
x 13								
x 14								
x 15								
x 16								
x 17								
x 18								
x 19								
x 20								
x 21								
x 22								
x 23								
x 24								
x 25								
x 26								
x 27								
x 28								
x 29								
x 30								
x 31								

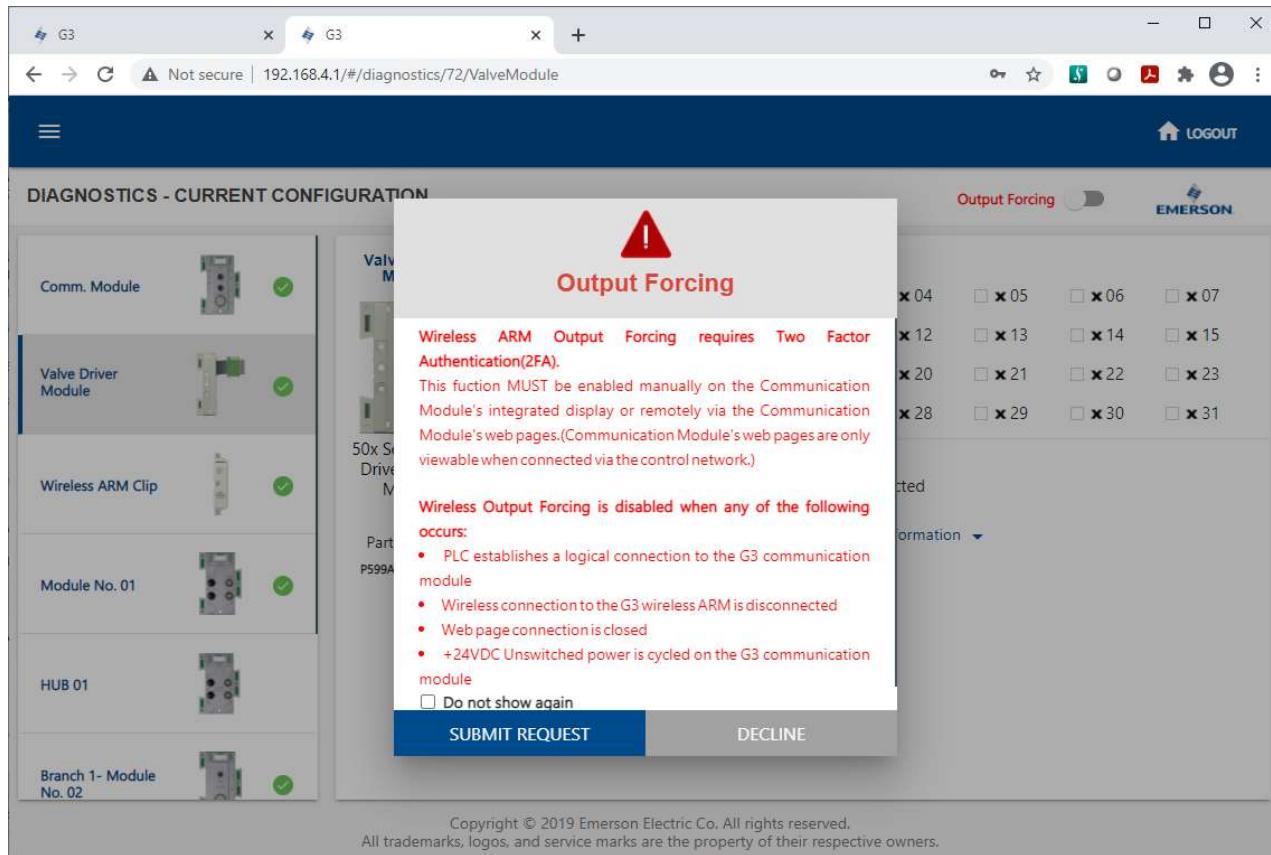
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- To force fire valves and/or other outputs you will need to turn on "Output Forcing" from the top of the page. Two Factor Authentication (2FA) will be required for safety.

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When you turn on "Output Forcing" you will be prompted to authorize this feature via Two-Factor Authentication (2FA). To initiate Output Forcing, first click "SUBMIT REQUEST" to begin 2FA.



2FA can be completed directly from the Graphic Display on the G3 Communication Module, or through the embedded G3 Webserver. Note that to use the G3 Webserver option you will have to remain connected via WIFI to the ARM module AND be directly connected via Ethernet cable to the G3 Communication Module.

- +24VDC Unswitched power is cycled on the G3 communication module

Do not show again

AUTHENTICATING

DECLINE

Once you click "Submit Request", the text will change to "AUTHENTICATING" until the second step of the 2FA has been complete either through the G3 Graphic Display or through the embedded G3 Webpage.



- For safety reasons only one WIFI connection with Output Forcing ON is permitted at a time.



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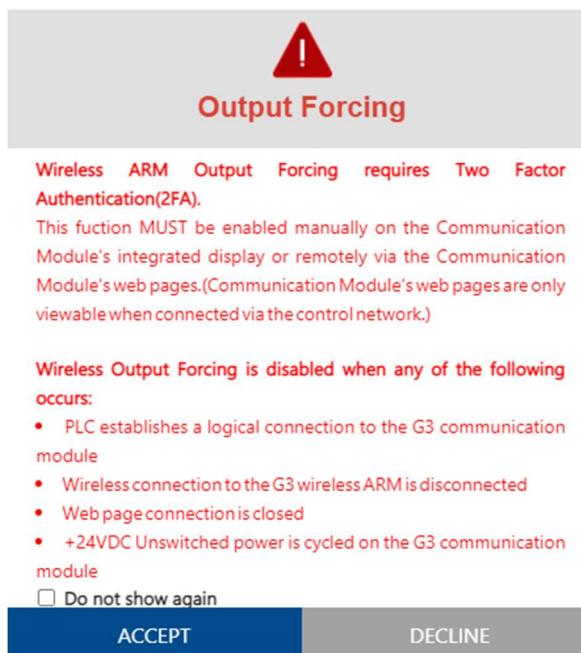
AVENTICS™ G3 Series Wireless ARM Quick Start Manual

Option 1 – Authentication via the G3 Graphic Display:

Once 2FA has been initiated through the Wireless ARM webpage, the Graphic Display on the G3 Communication Module will read "ENABLE WIFI OUTPUTS". To complete the 2FA process and enable output forcing, click the SET button on the module. The display will then flash the message "WIFI OUTPUTS ARE ENABLED" for several seconds.



Once "WIFI OUTPUTS ARE ENABLED" stops flashing the graphic display will show the option to "DISABLE WIFI OUTPUTS". To exit Output Forcing mode you may either press the SET button on the G3 Communication Module, or turn Output Forcing off using the Wireless ARM webpage.



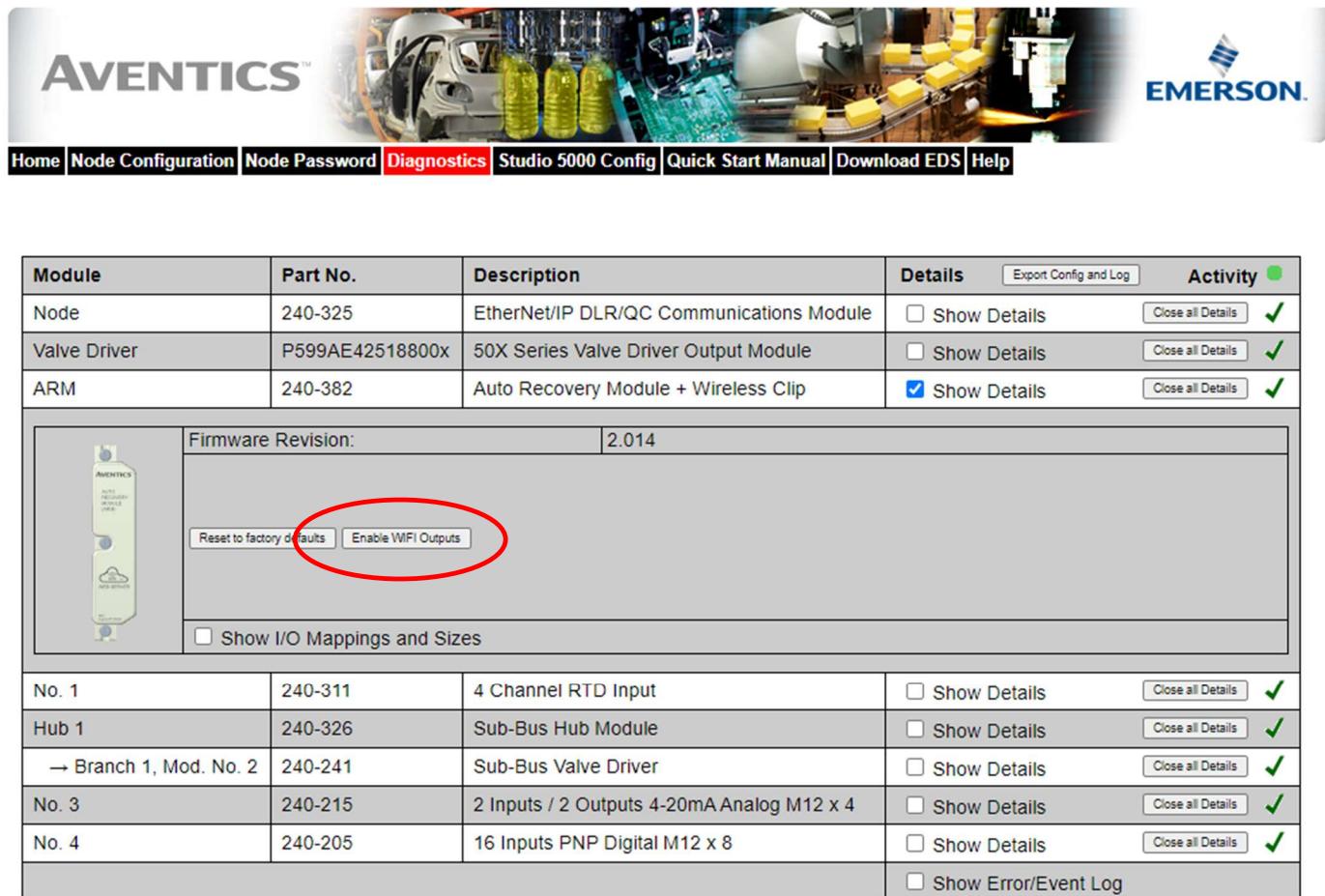
On the Wireless ARM webpage the blue button text will now read "ACCEPT". Click this button to continue with Output Forcing turned on. Output Forcing will remain on until it is turned off via the Wireless ARM webpage or the G3 Graphic Display, or until the WIFI connection with the ARM is terminated.

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Option 2 – Authentication via the G3 Comm Module Webpage:

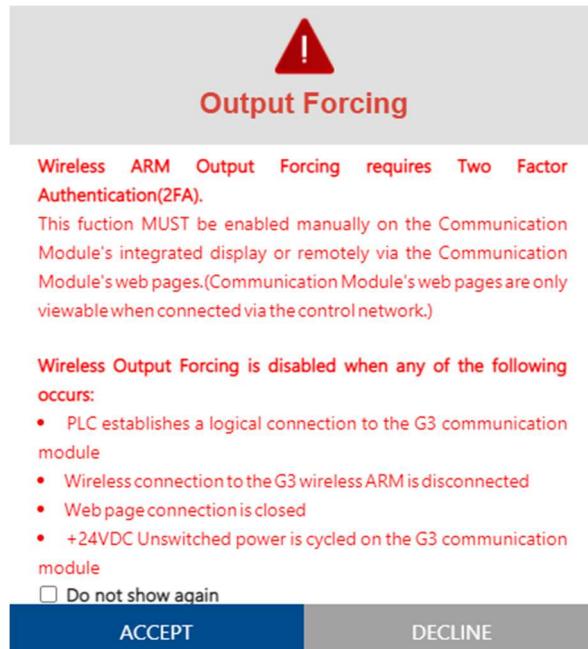
Once 2FA has been initiated through the Wireless ARM webpage, you can authorize the second phase of the authentication process via the G3 Node's embedded webpage. To do so, first connect to the Comm Module via an Ethernet cable, and by entering the module's IP Address into a web browser.

Once on the webpage, click the "Diagnostics" tab and locate the Wireless ARM in the module list. Click the box that is marked "Show Details" to see the full list of options.



Module	Part No.	Description	Details	Activity					
Node	240-325	EtherNet/IP DLR/QC Communications Module	<input type="checkbox"/> Show Details <input type="button" value="Close all Details"/>	✓					
Valve Driver	P599AE42518800x	50X Series Valve Driver Output Module	<input type="checkbox"/> Show Details <input type="button" value="Close all Details"/>	✓					
ARM	240-382	Auto Recovery Module + Wireless Clip	<input checked="" type="checkbox"/> Show Details <input type="button" value="Close all Details"/>	✓					
<table border="1"><tr><td rowspan="2"></td><td>Firmware Revision: 2.014</td></tr><tr><td><input type="button" value="Reset to factory defaults"/> <input type="button" value="Enable WiFi Outputs"/></td></tr><tr><td colspan="2"><input type="checkbox"/> Show I/O Mappings and Sizes</td></tr></table>						Firmware Revision: 2.014	<input type="button" value="Reset to factory defaults"/> <input type="button" value="Enable WiFi Outputs"/>	<input type="checkbox"/> Show I/O Mappings and Sizes	
	Firmware Revision: 2.014								
	<input type="button" value="Reset to factory defaults"/> <input type="button" value="Enable WiFi Outputs"/>								
<input type="checkbox"/> Show I/O Mappings and Sizes									
No. 1	240-311	4 Channel RTD Input	<input type="checkbox"/> Show Details <input type="button" value="Close all Details"/>	✓					
Hub 1	240-326	Sub-Bus Hub Module	<input type="checkbox"/> Show Details <input type="button" value="Close all Details"/>	✓					
→ Branch 1, Mod. No. 2	240-241	Sub-Bus Valve Driver	<input type="checkbox"/> Show Details <input type="button" value="Close all Details"/>	✓					
No. 3	240-215	2 Inputs / 2 Outputs 4-20mA Analog M12 x 4	<input type="checkbox"/> Show Details <input type="button" value="Close all Details"/>	✓					
No. 4	240-205	16 Inputs PNP Digital M12 x 8	<input type="checkbox"/> Show Details <input type="button" value="Close all Details"/>	✓					
<input type="checkbox"/> Show Error/Event Log									

To approve the authentication, click the button labeled "Enable WiFi Outputs".



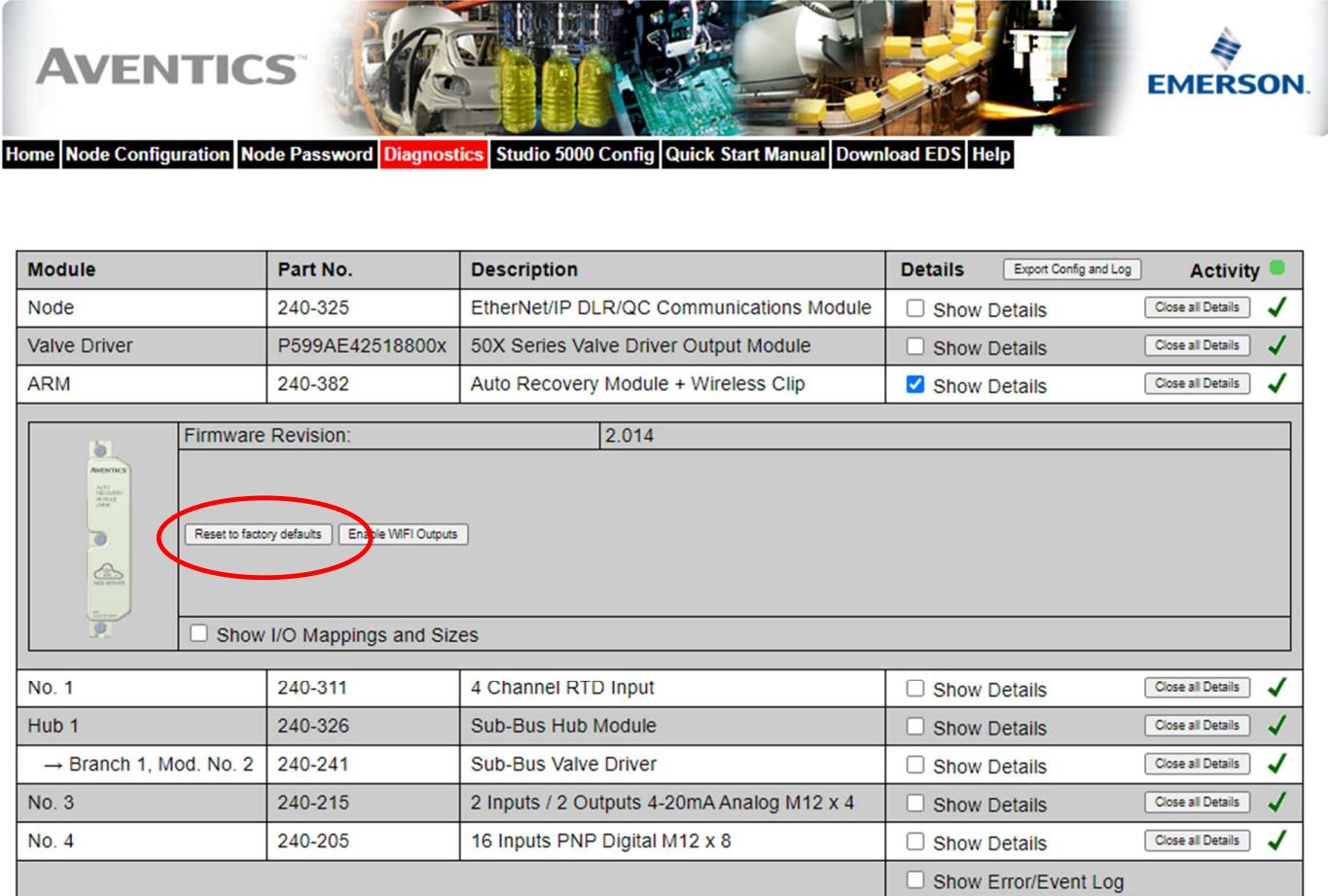
On the Wireless ARM webpage the blue button text will now read "ACCEPT". Click this button to continue with Output Forcing turned on. Output Forcing will remain on until it is turned off via the Wireless ARM webpage or the G3 Graphic Display, or until the WIFI connection with the ARM is terminated.

AVENTICS™ G3 Series Wireless ARM Quick Start Manual

6. Returning Wireless ARM to Factory Defaults

To return the Wireless ARM to Factory Default settings, log into the G3 Communication Node embedded webserver (240-325 Ethernet/IP DLR or 240-240 Profinet node). To do this, disconnect the PLC communication from the node and connect a laptop computer via the node directly or through a switch. Set your laptop's IP Address to match the same first 3 octets of the node (i.e. 192.168.003.XXX), and the last octet to an address that is not the same as the node.

To access the webserver, type the IP Address of the node into any internet browser. From the Home page, select the "Diagnostics" tab from the top of the page. Locate the Wireless ARM in the module list and click "Show Details". The window will expand to show you more detail about the ARM. Click the "Reset to factory defaults" button.



Module	Part No.	Description	Details	Activity
Node	240-325	EtherNet/IP DLR/QC Communications Module	<input type="checkbox"/> Show Details <input type="button" value="Close all Details"/>	✓
Valve Driver	P599AE42518800x	50X Series Valve Driver Output Module	<input type="checkbox"/> Show Details <input type="button" value="Close all Details"/>	✓
ARM	240-382	Auto Recovery Module + Wireless Clip	<input checked="" type="checkbox"/> Show Details <input type="button" value="Close all Details"/>	✓

ARM Details:

	Firmware Revision: 2.014
<input type="button" value="Reset to factory defaults"/> <input type="button" value="Enable WiFi Outputs"/>	
<input type="checkbox"/> Show I/O Mappings and Sizes	

No. 1	240-311	4 Channel RTD Input	<input type="checkbox"/> Show Details <input type="button" value="Close all Details"/>	✓
Hub 1	240-326	Sub-Bus Hub Module	<input type="checkbox"/> Show Details <input type="button" value="Close all Details"/>	✓
→ Branch 1, Mod. No. 2	240-241	Sub-Bus Valve Driver	<input type="checkbox"/> Show Details <input type="button" value="Close all Details"/>	✓
No. 3	240-215	2 Inputs / 2 Outputs 4-20mA Analog M12 x 4	<input type="checkbox"/> Show Details <input type="button" value="Close all Details"/>	✓
No. 4	240-205	16 Inputs PNP Digital M12 x 8	<input type="checkbox"/> Show Details <input type="button" value="Close all Details"/>	✓
			<input type="checkbox"/> Show Error/Event Log	

Technical Support

For technical support, contact your local AVENTICS distributor. If further information is required, please call AVENTICS Technical Support Department at (248) 596-3337.

Issues relating to network setup, PLC programming, sequencing, software related functions, etc. should be handled with the appropriate product vendor.

Information on device files, technical manuals, local distributors, and other AVENTICS products and support issues can be found on the Emerson web site at www.Emerson.com.