Manual Supplement
00809-0600-4420, Rev AA
July 2012

Smart Wireless Gateway User Interface Terminology Guide

This document describes the terms, user fields, and parameters used in the Smart Wireless Gateway Web Based User Interface.

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NOTE
To quickly find any content or term press ctrl+F.

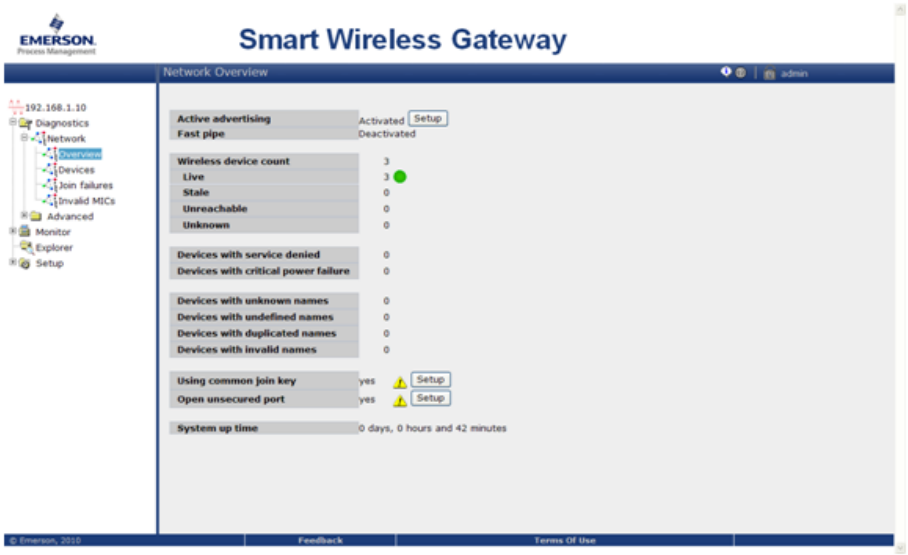
HOME PAGE

Terms	Description
Diagnostics	View status of communications, client server parameters, and more.
Monitor	User created screens for viewing data from field devices.
Explorer	Basic view of values from field devices.
Setup	Configure the Gateway for operation, security and host system integration.

EMERSON
Process Management

DIAGNOSTICS

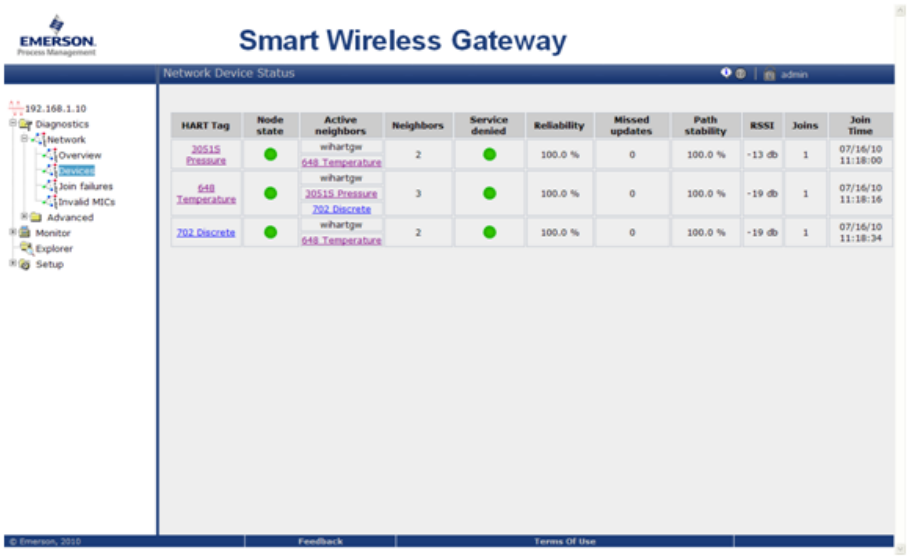
Diagnostics> Network>Overview



Terms	Description
Active Advertising	Shows whether active advertising is activated or deactivated. Active advertising causes the WirelessHART network to send wireless messages looking for new or unreachable devices to join the network. Active advertising is automatically activated for 60 minutes when the Gateway is first powered up, a device becomes unreachable, or no devices are found. Clicking on setup will navigate to the network speed page in the web based user interface.
Fast Pipe	Shows whether fast pipe is activated or deactivated. Fast pipe creates a dedicated channel for communication to the selected device. Used for large data transfers (valve signatures, meter verifications, etc…).
Wireless Device Count	Total number of expected field devices.
Live	Number of field devices that are currently communicating on the WirelessHART network.
Stale	Number of field devices that have missed several consecutive updates, but are not yet classified as unreachable. When a device is classified as stale, point data for Modbus and OPC is given a bad status.
Unreachable	Number of field devices that have not communicated for 10 minutes or more. (also considered offline) When a device is classified as unreachable, point data for Modbus and OPC is given a bad status.
Unknown	Number of field devices with an unknown state (i.e. not live, late, stale, etc…).
Wired HART Device Count	Number of wired HART field devices that are communicating via a WirelessHART adapter.
Devices With Service Denied	Number of field devices that have been denied bandwidth because a) too many devices are on the WirelessHART network or b) the device has asked for an update rate not currently supported by the Gateway. Clicking on details will navigate to the network devices page in the web based user interface.
Devices That Need Neighbors	Number of field devices that require another field device (neighbor) to ensure more robust or optimal communications.
Devices With Critical Power Failure	Number of field devices that have reported low supply voltage alert. These devices have enough power to communicate but may have stopped reporting the regular updates.

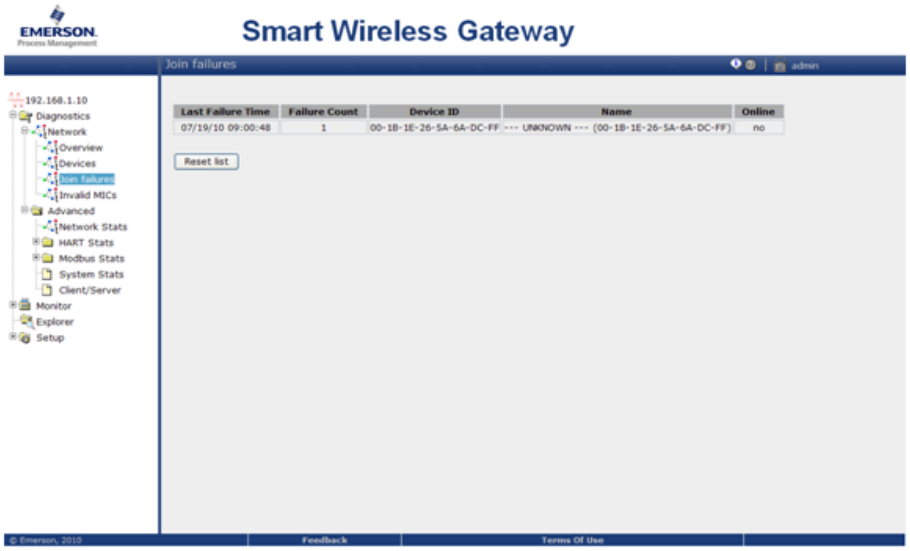
Terms	Description
Devices With Unknown Names	Number of field devices whose HART long tag or HART message is not currently known (typical during the join process).
Devices With Undefined Names	Number of field devices whose HART long tag or message has been left blank.
Devices With Duplicated Names	Number of field devices with duplicate HART long tag or HART message.
Devices With Invalid Names	Number of field devices whose HART long tag or HART message begin with a '-' or contains either a '.' or ','.
Devices With Duplicated Ids	Number of field devices with duplicate device ids. This should rarely appear because all devices require unique device ids.
Network At Device Count Limit	Indicates if the maximum number of devices (100) has been reached. This field only appears in the web based user interface if true.
Network Radio Interface Lost	Indicates if the Gateway has lost communications to the radio. This field only appears in the web based user interface if true.
Factory Support Accounts Enabled	Indicates whether manufacturing and engineering default accounts are enabled. These accounts are used to program factory settings, model number, serial number, optional functionality. Also need to be enabled to perform Gateway firmware updates. This field only appears in the web based user interface if true.
Using Common Join Key	Indicates whether any field devices are using the common join key when in access control list mode. This field only appears in the web based user interface if true.
Open Unsecured Port	Indicates whether any unsecure communication ports (non-SSL enabled Ethernet) are enabled on the security protocols page. This field only appears in the web based user interface if true.
Device Join Failure	Indicates whether a field device has requested to join the WirelessHART network and failed (typically due to security reasons, wrong join key, not on access control list, etc…). This field only appears in the web based user interface if true.
Device Invalid MIC	Indicates whether a field device has an invalid message integrity check. This field only appears in the web based user interface if true.
System Up Time	The total time the system has been operational without an interruption (power-cycle, failure, etc…does not include application restarts).

Diagnostics> Network>Devices



Terms	Description
Hart Tag	32 character HART long tag (or 32 character HART message for wired HART 5 devices).
Node State	The state of the device: live, late, stale, joining, unreachable, or unknown. Green = live, Red = stale, joining, unreachable, or unknown. Hover over the node state icon for a more descriptive message.
Active Neighbors	HART Tag of other field devices with connections to this field device.
Neighbors	Number of other field devices with connections to this field device.
Service Denied	Indicates whether the field device has been denied bandwidth because a) too many devices are on the WirelessHART network or b) the device has asked for an update rate not currently supported by the Gateway.
Missed Updates	Total number of updates that have not been received by the Gateway. A…x…C…D… (x indicates a missed update where B should have been). This is a life time statistic that must be reset manually or via a Gateway restart.
Reliability	Percentage of expected data packets that have been received by the Gateway. 100.0% reliability means that every expected data packet was received. This number is rounded to the nearest 1/10th percent. This is a life time statistic that must be reset manual or via a Gateway restart.
Path Stability	Percentage of transmitted packets that have successfully reached their destination over a given path. Maximum for the field device and its strongest neighbor. Neighbor A path stability = 100, Neighbor B path stability = 90, Path Stability = 100. Calculated in 15 minute cycles.
Rssi	Maximum received signal strength indication (dBm) for the field device and its strongest neighbor. Neighbor A RSSI = -35 dBm, Neighbor B RSSI = -75 dBM, RSSI = -35 dBM. Calculated in 15 minute cycles.
Joins	Number of times the field device has joined the network since the last system reset.
Join Time	Time that the field device made its last successful join.

Diagnostics> Network>Join failures

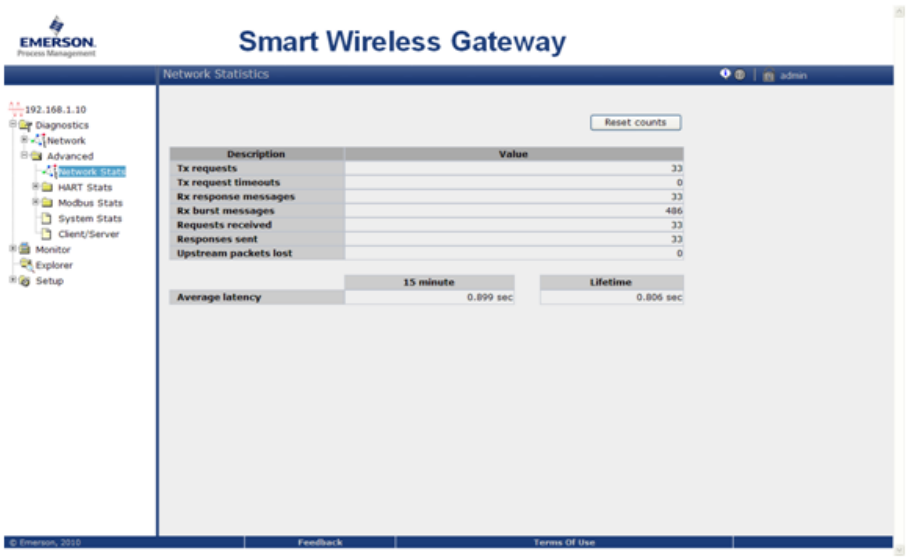


Terms	Description
Join Failure	When a field device fails to join the WirelessHART network. Most join failures are due to security reasons (missing or incorrect join key, not on access control list, etc…).
Last Failure Time	Time the field device last attempted to join the WirelessHART network.
Failure Count	Number of failed join attempts for this field device.
Device ID	Unique device identification number. All WirelessHART devices should begin with 00-1E-1B. The next 4 digit represent the device type. The last 6 vary from device to device.
Name	HART tag of the field device. Generally unknown if in a join failure state.
In Access Control List	Indicates if the Device ID appears in the access control list (only when in access control mode).
Online	Indicates if the field device is communicating with the WirelessHART network.
Reset List	Clears all entries for the join failure table.
Edit Access Control List	Navigates to the access control list page in the web based user interface.

Diagnostics> Network>Invalid MICs

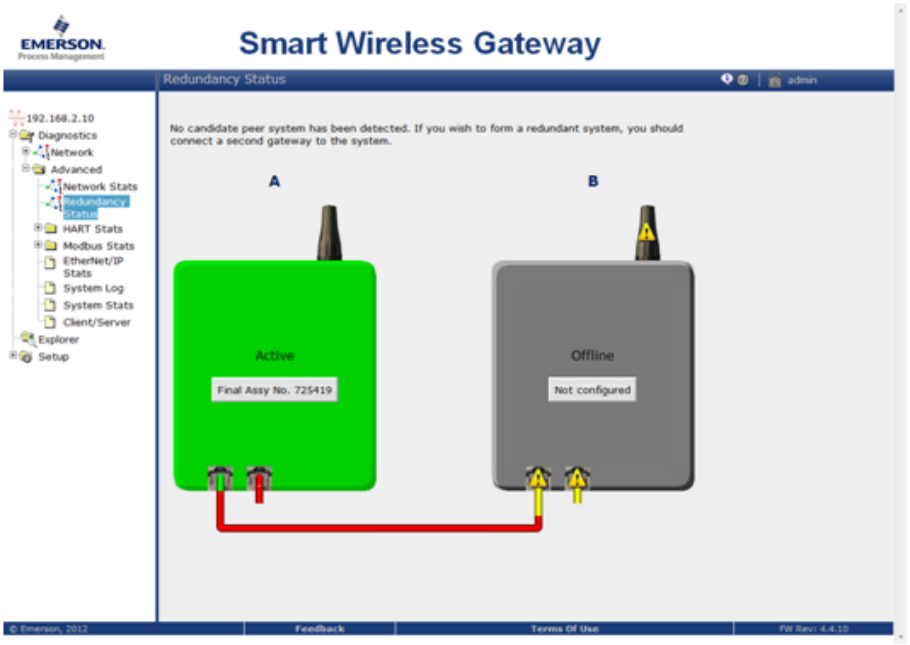
Terms	Description
Message Integrity Check	Diagnostic in each data packet that allows the Gateway to verify the packet source and contents.
Invalid MIC	Packet received from field device is not valid. May indicate a security problem.

Diagnostics> Advanced>Network Stats



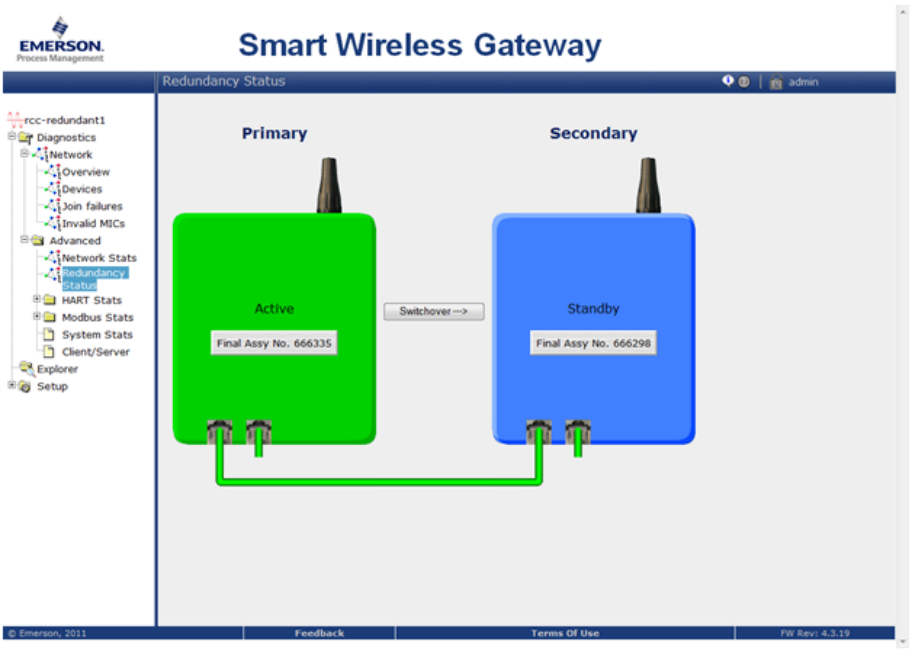
Terms	Description
Tx Requests	Number of HART messages sent / transmitted by the radio to the field devices.
Tx Request Timeouts	Number of time there was no response from the field devices.
Rx Response Messages	Number of HART message responses received by the radio from the field devices. Equal to Tx requests – Tx request timeouts.
Rx Burst Messages	Number of burst/published messages received from the field devices. These messages that are pushed from the device and not requested/polled for.
Requests Received	Number of HART messages requested by a user application. These messages are forwarded to the radio to be transmitted. Examples of user applications are the Gateway's web based user interface, asset management software, device configuration software, etc…
Responses Sent	Number of HART message responses received from field devices that are then forwarded on to the requesting user application.
Average Latency	Time difference between when a message is time stamped in a field device and when it is received by the Gateway's WirelessHART radio. This value is the average latency for the entire WirelessHART network.
Average Reliability	Percentage of expected data packets that have been received by the Gateway. 100% reliability means that every expected data packet was received. This value is the average reliability for the entire WirelessHART network.
Reset Counts	Resets all values for this table. (does not include latency or reliability)

Diagnostics> Advanced> Redundancy Status



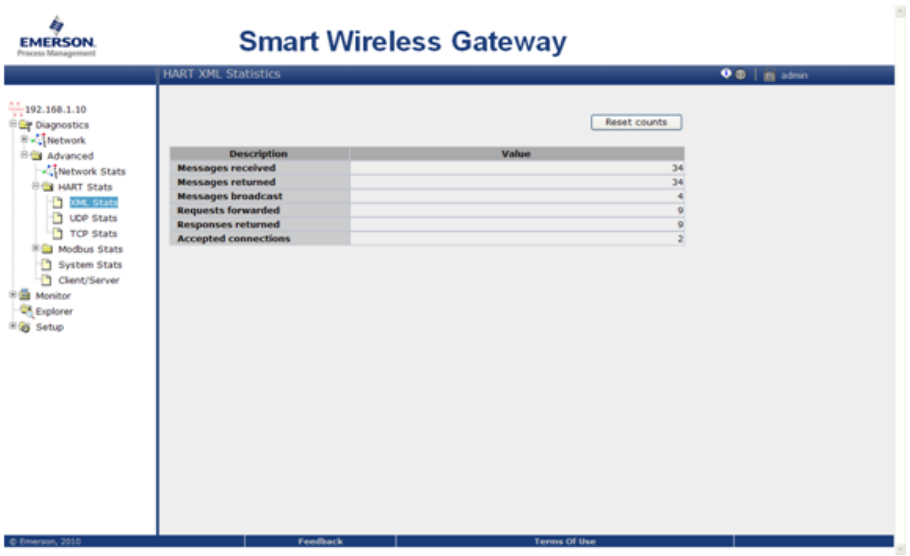
Terms	Description
Active	This gateway is currently in communication with the user. The final assembly number is shown in the middle.
Not Configured	The redundant gateway must be configured in the redundancy mode and have the firmware option enabled.

Diagnostics> Advanced> Redundancy Status



Terms	Description
Switchover	Use this button to switch from the primary gateway to the secondary gateway. Commonly used to switch out gateways without loss of network.
Standby	Now shown with the standby assembly number.

Diagnostics> Advanced>HART Stats>XML Stats



Terms	Description
Hart Xml	Refers to HART communications over XML protocol. This is associated with the AMS Wireless Configurator and AMS Secure communication protocols.
Messages Received	Number of messages the Gateway has received from a client application (this is typically AMS Wireless Configurator).
Messages Returned	Number of messages the Gateway has returned to a client application (this is typically AMS Wireless Configurator).
Messages Broadcast	Number of periodic (scheduled) messages the Gateway has received from a client application. This is typical when AMS Wireless Configurator has been setup to poll for device alerts using the Alert Monitor application.
Requests Forwarded	Number of messages the Gateway has forwarded to field devices. Not all messages received are forwarded because some information is cached in the Gateway.
Responses Returned	Number of messages the Gateway has received from field devices in response to forwarded requests.
Accepted Connections	Number of total connections from client applications accepted over time (not the current number of connections).
Reset Counts	Resets all values for this table.

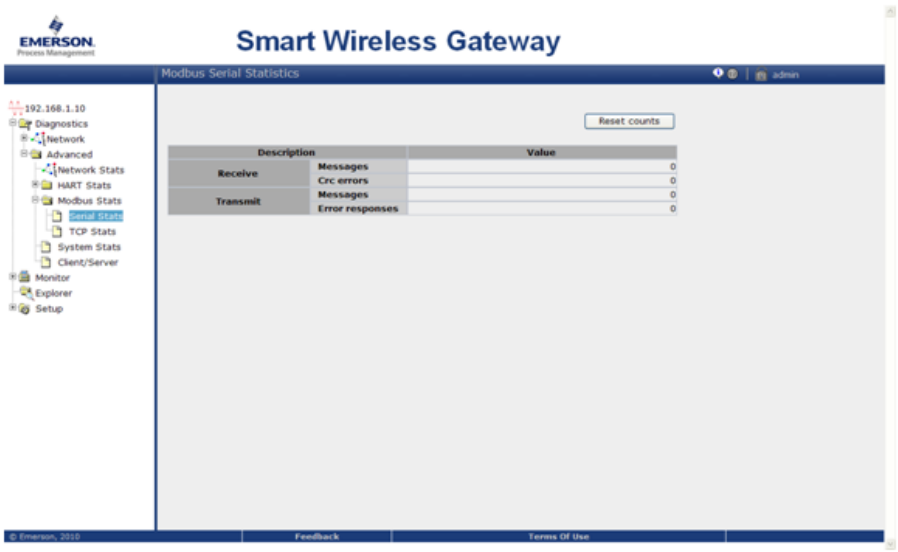
Diagnostics> Advanced>HART Stats>UDP Stats

Terms	Description
Hart Udp	Refers to HART communications over UPD protocol. This is associated with the HART UDP Port communication protocol.
Messages Received	Number of messages the Gateway has received from a client application (this is typically AMS Wireless Configurator).
Messages Returned	Number of messages the Gateway has returned to a client application (this is typically AMS Wireless Configurator).
Messages Broadcast	Number of periodic (scheduled) messages the Gateway has received from a client application. This is typical when AMS Wireless Configurator has been setup to poll for device alerts using the Alert Monitor application.
Requests Forwarded	Number of messages the Gateway has forwarded to field devices. Not all messages received are forwarded because some information is cached in the Gateway.
Responses Returned	Number of messages the Gateway has received from field devices in response to forwarded requests.
Accepted Connections	Number of total connections from client applications accepted over time (not the current number of connections).
Reset Counts	Resets all values for this table.

Diagnostics> Advanced>HART Stats>TCP Stats

Terms	Description
Hart Tcp	Refers to HART communications over TCP protocol. This is associated with the HART TCP Port and HART TCP Port Secure communication protocol.
Messages Received	Number of messages the Gateway has received from a client application (this can be any HART enabled host).
Messages Returned	Number of messages the Gateway has returned to a client application (this can be any HART enabled host).
Messages Broadcast	Number of periodic (scheduled) messages the Gateway has received from a client application.
Requests Forwarded	Number of messages the Gateway has forwarded to field devices. Not all messages received are forwarded because some information is cached in the Gateway.
Responses Returned	Number of messages the Gateway has received from field devices in response to forwarded requests.
Accepted Connections	Number of total connections from client applications accepted over time (not the current number of connections).
Reset Counts	Resets all values for this table.

Diagnostics> Advanced>Modbus Stats>Serial Stats

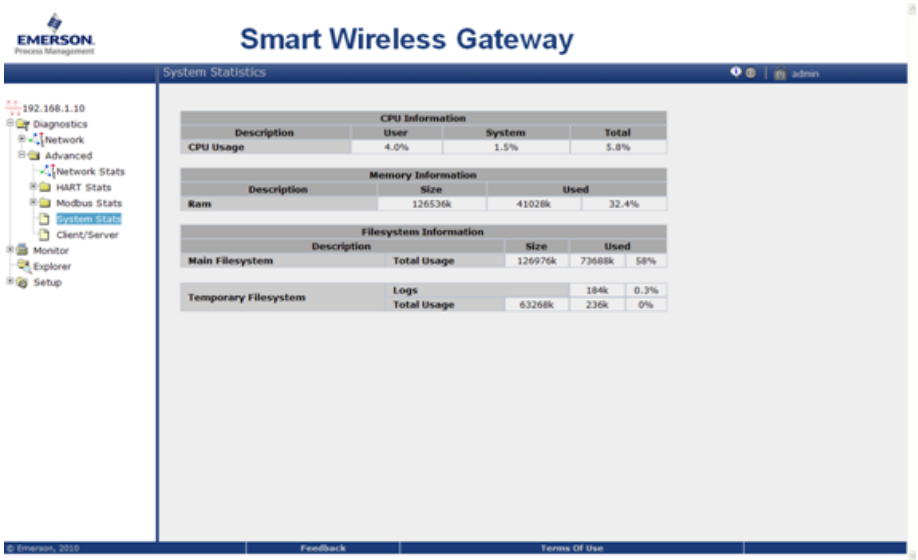


Terms	Description
Messages Receive	Number of messages received from the Modbus master device.
Crc Errors	Number of cyclic redundancy check errors. Crc errors generally indicate noise in transmission or problems with data integrity.
Messages Transmit	Number of response messages transmitted from the Gateway.
Error Responses	Number of error response messages transmitted from the Gateway.
Reset Counts	Resets all values for this table.

Diagnostics> Advanced>Modbus Stats>TCP Stats

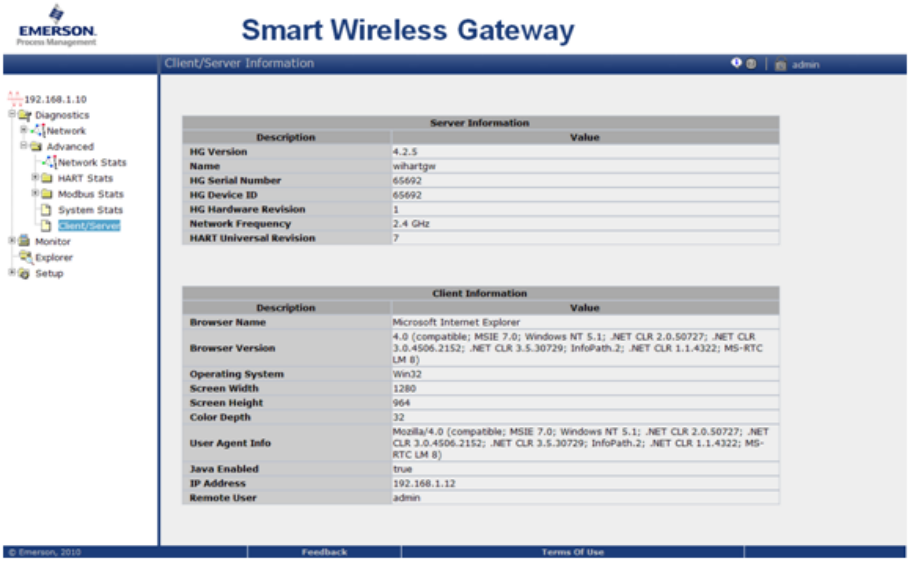
Terms	Description
Messages Received	Number of messages received from the Modbus TCP device.
Messages Transmitted	Number of response messages transmitted from the Gateway.
Error Responses	Number of error response messages transmitted from the Gateway.
Open Connections	Number of current connections from Modbus TCP masters.
Accepted Connections	Number of total connections from Modbus TCP masters accepted over time (not the current number of connections).
Reset Counts	Resets all values for this table.

Diagnostics> Advanced>System Stats



Terms	Description
Cpu Usage	Central Processing Unit (CPU) utilization (time used by a process) by application or kernel.
User	Percentage of CPU utilization that occurred while executing at the user level (application).
System	Percentage of CPU utilization that occurred while executing at the system level (kernel).
Total	Combine Percentage CPU utilization, User + System.
Ram	Random Access Memory.
Size	Total memory or disk space.
Used	Portion of memory or disk space that has been used.
Main Filesystem	Disk space reserved for Gateway operating system, user interface pages and configuration data.
Temporary Filesystem	Disk space reserved for log files, custom pages, and custom trends.
Logs	Disk space taken by diagnostic log files.

Diagnostics> Advanced> Client/Server



Terms	Description
Server	The WirelessHART Gateway web server application.
Client	PC client that is currently logged onto the Gateway.
Hg Version	WirelessHART Gateway firmware version. Version 3.7.1 is the initial release version for WirelessHART.
Name	Hostname assigned to the Gateway.
Physical Address	Hardware MAC address for the primary and secondary Ethernet ports.
Hg Serial Number	Gateway serial number (or final assembly number).
Pm Serial Number	Program manager serial number from Dust Networks.
HG Model Number	Gateway model number.
Hg Device Id	Gateway unique identification number.
Network Frequency	Radio frequency band that wireless field network operates. Typically this is 2.4 GHz, but 900 MHz was available for pre-WirelessHART networks. All WirelessHART networks are 2.4 GHz.
Hart Universal Revision	The major revision of HART specification that applies to this Gateway.
Browser Name	The web browser application that is currently accessing the Gateway.
Browser Version	The web browser version.
Operating System	Operating system of the PC client currently accessing the Gateway.
Screen Width	Screen width resolution for the PC client.
Screen Height	Screen height resolution for the PC client.
Color Depth	Number of colors (in millions) used by the PC client to render images.
User Agent Info	Information provided by web browser for further identification.
Java Enabled	Indicates whether Java script is enabled.
IP Address	IP address of the PC client.
Remote User	User role used to log into the Gateway.

EXPLORER

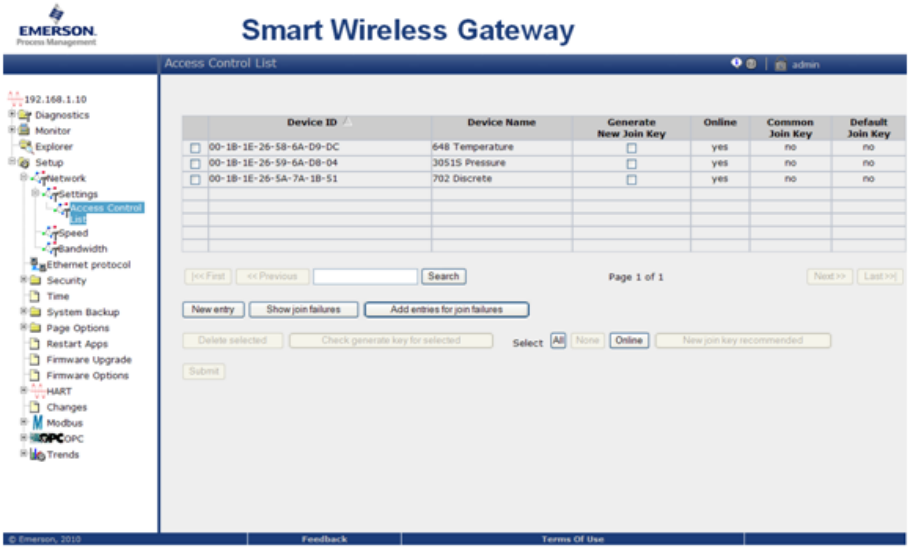
Terms	Description
Hart Tag	32 character HART long tag (or 32 character HART message for wired HART 5 devices).
HART Status	HART status parameter, this is the overall field device status. Hover over the status icon for a more descriptive message.
Last Update	Time stamp of the last measurement received by the wireless field device.
PV	Value of the HART primary variable (1st variable).
SV	Value of the HART secondary variable (2nd variable).
TV	Value of the HART tertiary variable (3rd variable).
QV	Value of the HART quaternary variable (4th variable).
Burst Rate	Interval in which the field device transmits it's measurement data to the Gateway. Some field devices burst multiple messages and at different rates. For Burst rates under 1 minute this is reported in seconds. For Burst rates of 1 minute or greater this is reported in hh:mm:ss.

SETUP

Setup>Network> Settings

Terms	Description
Network Name	User define network name.
Network ID	Identification number that tells field devices what WirelessHART network it belongs to.
Security Mode	Selects whether the Gateway uses a common join key or access control list to determine who can join the WirelessHART network.
Common Join Key	Under this security mode, the entire WirelessHART network uses the same join key in order to join the network.
Access Control List	Under this security mode, the Gateway maintains an access control list where each device has a separate unique join key.
Show Join Key	Allows the user to see the current common join key for the WirelessHART network.
Generate Random Join Key	Causes the Gateway to generate a new common join key. Changes must be submitted before taking affect and will propagate to all wireless devices currently joined to the WirelessHART network.
Rotate Network Key?	Causes the Gateway to generate a new random network key (encryption) on a periodic basis.
Key Rotation Period (Days)	The period of time in days before the Gateway will generate a new random network key.
Change Network Key Now?	Cause the Gateway to generate a new network key. Changes must be submitted before taking affect and will propagate to all wireless devices currently joined to the WirelessHART network.
Submit	Accepts all changes (highlighted in yellow).

Setup>Network> Settings>Access Control List



Terms	Description
Device ID	Unique device identification number. All WirelessHART devices should begin with 00-1E-1B. The next 4 digit represent the device type. The last 6 vary from device to device.
Device Name	The device's HART Tag
Generate New Join Key	Generates a new unique join key for the device.
Online	Indicates the device is communicating on the WirelessHART network.
Common Join Key	Indicates the device is using a common join key.
Default Join Key	Indicates the device is using the default join key.
<<First	Navigates to the first page of this table.
<<Previous	Navigates to the previous page of this table.
Search	Finds the next occurrence of the characters entered into this field.
Next>>	Navigates to the next page of this table.
Last>>	Navigates to the last page of this table.
New Entry	Creates a new entry in this table.
Show Join Failure	Navigates to the join failures page in the web interface.
Add Entries For Join Failure	Creates new entries in this table and populates them with the current join failures.
Delete Selected	Removes the selected entry from this table.
Check Generate Key For Selected	Checks the Generate New Join Key box for all selected entries.
Select All	Selects all table entries.
Select None	Deselects all table entries.
Select Online	Selects all online devices in this table.
Select New Join Key Recommended	Selects all devices with a common join key or a default join key.
Submit	Accepts all changes (highlighted in yellow).

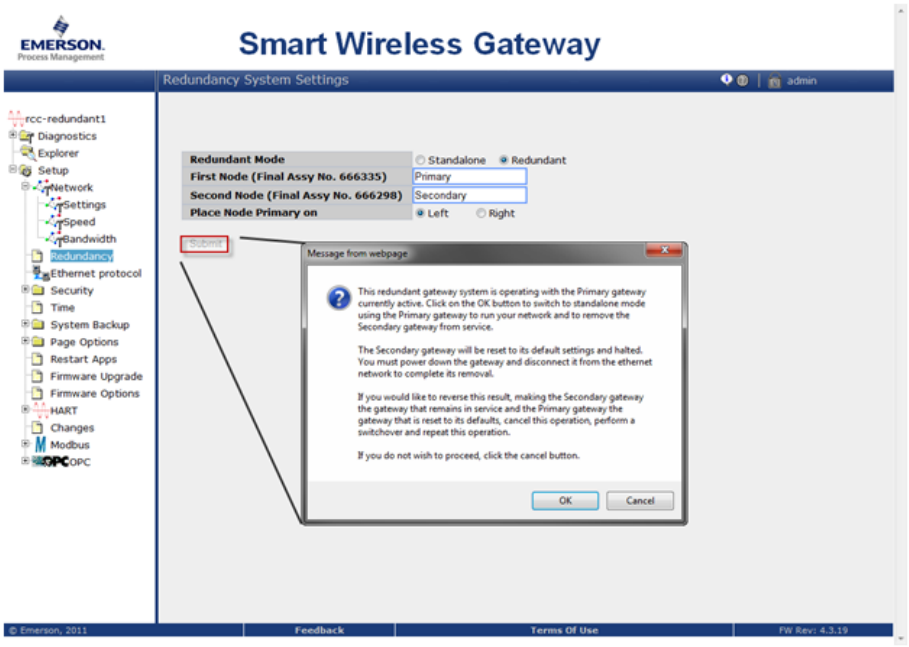
Setup>Network> Speed

Terms	Description
Active Advertising	Shows whether active advertising is activated or deactivated. Active advertising causes the WirelessHART network to send wireless messages looking for new devices to join the network. Active advertising is automatically activated for 30 minutes when the Gateway is powered up.
Duration (Minutes)	Determines how long (in minutes) active advertising will be enabled.
Activate	Causes the WirelessHART network to enter active advertising mode
Fast Pipe	Shows whether fast pipe is activated or deactivated. Fast pipe creates a dedicated channel for communication to the selected device. Used for large data transfers. (valve signatures, meter verifications, etc…)
Inactivity Timeout (Minutes)	Determines how long (in minutes) Fast pipe will remain active when no polled requests are being sent (or idle connection) to the field device.
Device Selector	Selects a device to establish fast pipe.
Activate	Establish a fast pipe connection with the selected field device.

Setup>Network> Bandwidth

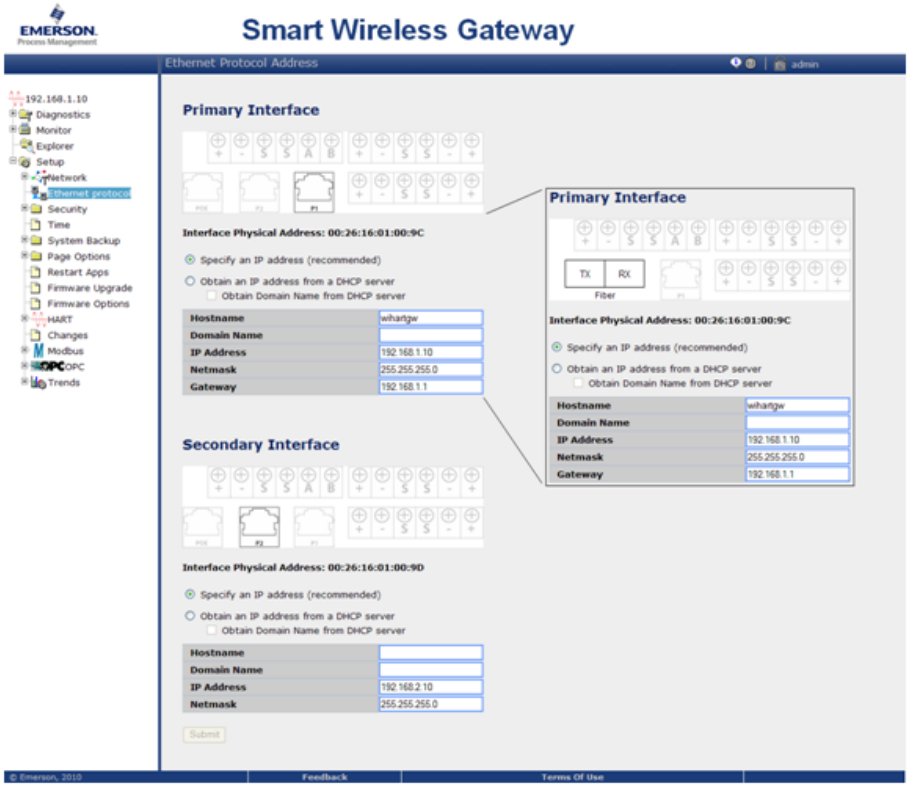
Terms	Description
Analyze Again	Analyzes the WirelessHART network to determine if any devices require more bandwidth.
Update	Changes Gateway network bandwidth settings. This option only appears if a change is required for a device to communicate or if change will help optimize the network. Note that this will temporarily reset the network.

Setup>Network> Redundancy



Terms	Description
Redundant Mode	Use to place the gateway in redundant mode from simplex
First Node	Determine the name of the primary gateway
Second Node	Determine the name of the secondary gateway
Primary Node	Use to make the primary graphic on the left or right

Setup>Ethernet Protocol



Terms	Description
Primary Interface	Refers to Ethernet port 1. (optional may refer to fiber optic port if fiber optic is enabled)
Secondary Interface	Refers to Ethernet port 2. (optional may refer to Ethernet port 1 if fiber optic is enabled)
Obtain An IP Address From A DHCP Server	Causes the associated interface to obtain an IP address from a DHCP server.
Obtain Domain Name From DHCP Server	Causes the associated interface to obtain a Domain Name from a DHCP server.
Specify An IP Address	Causes the associated interface to use a specific IP address.
Hostname	Hostname for the WirelessHART Gateway.
Domain Name	Name of the Domain that the WirelessHART Gateway will join.
IP Address	User specified IP address for the associated interface.
Netmask	User specified netmask for the associated interface.
Gateway	User specified gateway for the associated interface. (not to be confused with the WirelessHART Gateway).
Submit	Accepts all changes (highlighted in yellow).

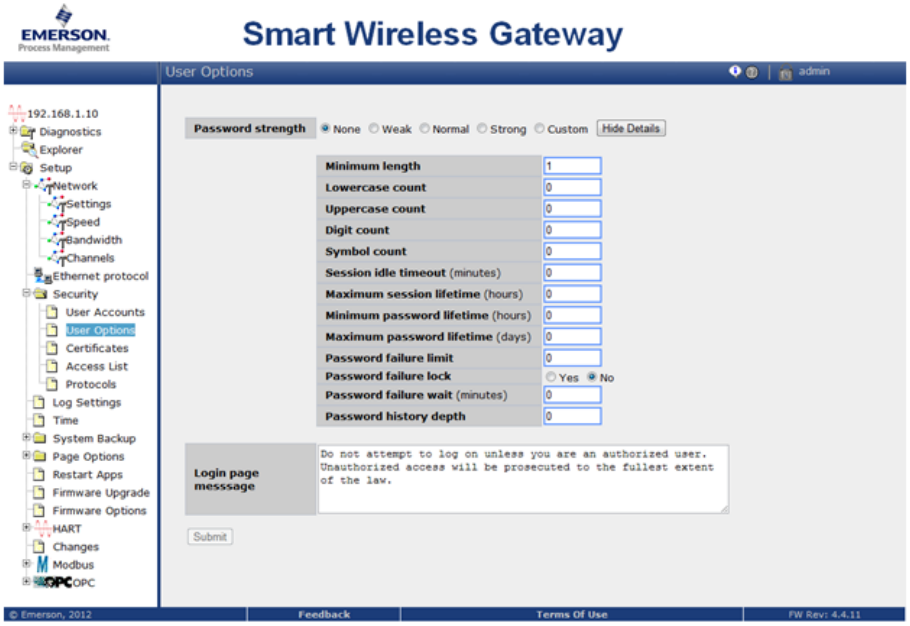
Setup>Security>
User Accounts

Terms	Description
New Administrator Password	Field for entering a new administrator password.
New Maintenance Password	Field for entering a new maintenance password.
New Operator Password	Field for entering a new operator password.
New Executive Password	Field for entering a new executive password.
Confirm	Field to confirm the new password for each user role.
Enable Factory Support Accounts	Allows factory support personnel to log onto the Gateway and change factory settings.
Submit	Accepts all changes (highlighted in yellow).

Setup>Security> Certificates

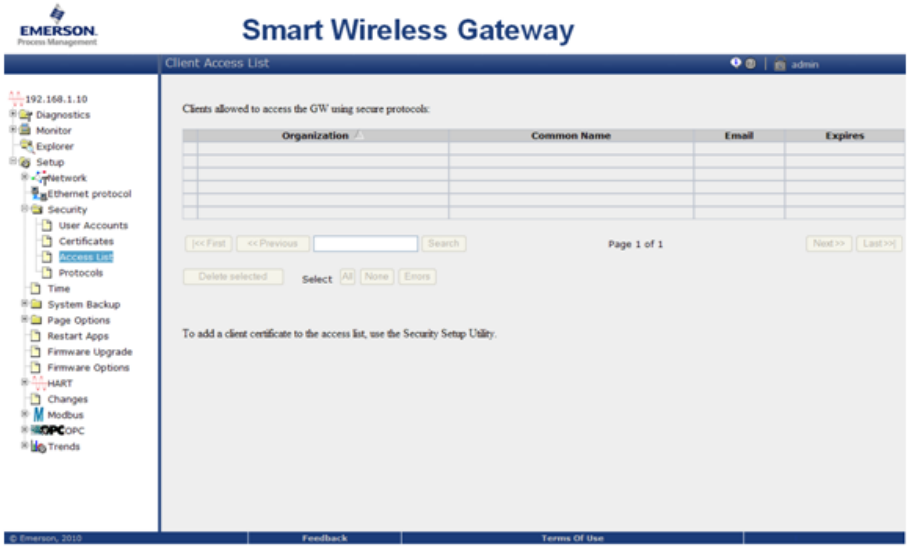
Terms	Description
Import GW Certificate Into Webrowser	Sends Gateway security certificates to the current web browser.
Rebuild GW Certificates	Rebuilds the security certificates for the Gateway. This process may take time and interrupt Gateway communications.

Setup>Security>
User Options



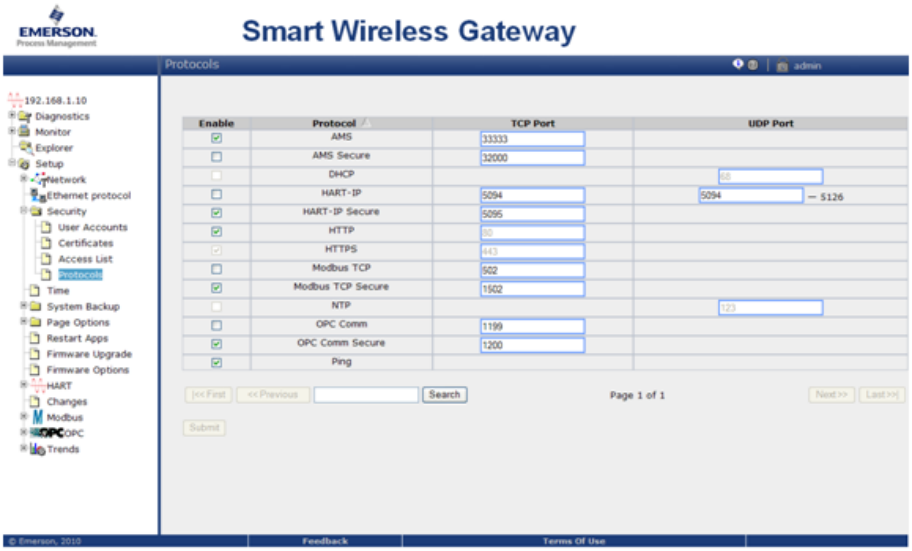
Terms	Description
Minimum length	Minimum number of characters required to establish a new password.
Lowercase count	Minimum number of lower case characters required to establish a new password.
Uppercase count	Minimum number of upper case characters required to establish a new password.
Digit count	How many total characters required to establish a new password.
Symbol count	Number of complex characters required in each password.
Session idle timeout	Minimum idle time allowed on the browser.
Maximum session lifetime	Maximum amount of time one session can be available without authentication.
Minimum password lifetime	Minimum amount of time one password can remain with one user.
Maximum password lifetime	Maximum amount of time one password can remain with one user.
Password failure limit	Amount of times an incorrect password can be submitted before the user is locked from the gateway.
Password failure lock	Used to turn on this feature.
Password failure wait	Amount of time the user must wait until the admin account is unlocked after a failure lockout.
Password history depth	Number of previous passwords that can not be used again.

Setup>Security> Access List



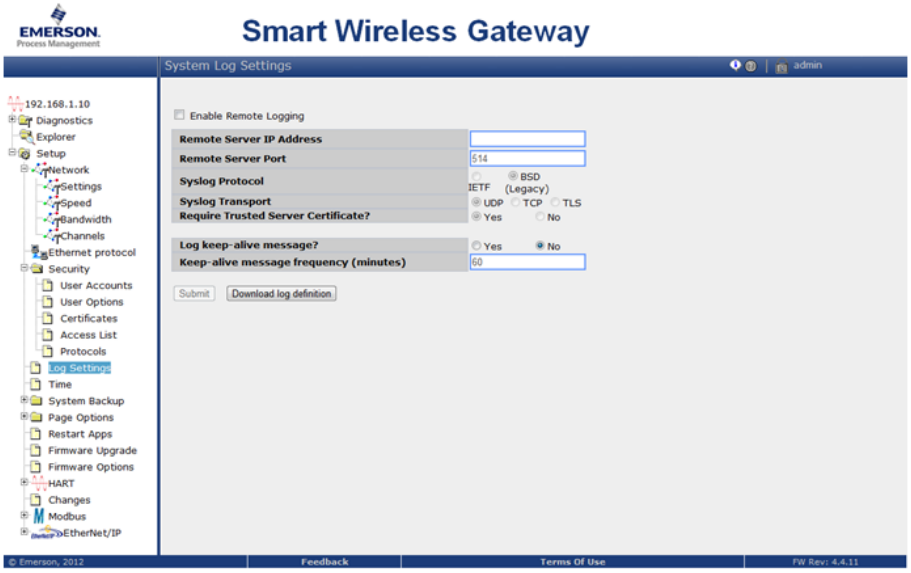
Terms	Description
Organization	The client's organization.
Common Name	The client's name (PC name).
Email	The client's email address.
Expires	Date when client certificate is no longer valid.
<<First	Navigates to the first page of this table.
<<Previous	Navigates to the previous page of this table.
Search	Finds the next occurrence of the characters entered into this field.
Next>>	Navigates to the next page of this table.
Last>>	Navigates to the last page of this table.
Delete selected	Removes the selected entry from this table.
Select All	Selects all table entries.
Select None	Deselects all table entries.
Select Errors	Selects all table entries with error messages.

Setup>Security> Protocol



Terms	Description
Enable	Enables associated communication protocol and opens the specified TCP / UDP port.
Protocol	Type of Ethernet communication protocol.
TCP Port	The TCP port used by the associated communication protocol.
UDP Port	The UDP port used by the associated communication protocol.
AMS Wireless Configurator	Ethernet communication protocol used to talk to asset management hosts.
AMS Secure	SSL enabled Ethernet communication protocol used to talk to asset management hosts. Also requires HTTPS.
HART Port	Ethernet communication protocol used to talk to HART enabled hosts.
HART Port Secure	SSL enabled Ethernet communication protocol used to talk to HART enabled hosts. Also requires HTTPS.
HTTP	Ethernet communication protocol used for the Gateway's web based user interface.
HTTPS	SSL enabled Ethernet communication protocol used for the Gateways web based user interface.
Modbus TCP	Ethernet communication protocol used to talk to Modbus TCP enabled hosts.
Modbus TCP Secure	SSL enabled Ethernet communication protocol used to talk to Modbus TCP enabled hosts. Also requires HTTPS.
NTP	Communication port used to talk to a Network Time Protocol (NTP) server
OPC Comm	Ethernet communication protocol used to talk to the Gateway OPC proxy server.
OPC Comm Secure	SSL enabled Ethernet communication protocol used to talk to the Gateway OPC proxy server. Also requires HTTPS.
Submit	Accepts all changes (highlighted in yellow).
Defaults	Restores the default protocols and port numbers.

Setup>Log Settings



Terms	Description
Remote Server IP Address	The IP address of the machine running the remote Syslog server
Remote Server Port	The protocol port that the remote Syslog server is using
Syslog Protocol	Syslog uses two common formats for logged messages. The newer format is referred to as IETF-Syslog and is defined in RFC 5424. The legacy format is referred to as BSD and is defined in RFC 3164.
Syslog Transport	The transport used for communication with the remote Syslog server. Choices are UDP, TCP or TLS (which is encrypted).
Require Trusted Server Certificate?	When using TLS encrypted communication, the remote Syslog server can use a trusted certificate or can use a certificate unknown to the 1420. Select ‘Yes’ for an added level of security and exchange keys with the 1420 using the Security Setup on remote Syslog server.
Log keep-alive message?	A ‘keep-alive’ message can be sent by the 1420 when no other log activity has occurred. This provides another means for the remote Syslog server to verify communication with the 1420.
Keep-alive message frequency	The frequency the ‘keep-alive’ message is sent when no other log activity has occurred.

Setup>Time

Terms	Description
Your PC's Time	The time used by the PC client.
GW Time	The time currently used by the Gateway.
Difference	The difference between the PC client time and the Gateway time.
Method Used To Set Time	Selected what method to use when setting the Gateway time.
Network Time Protocol (Ntp)	Uses an NTP time server to regulate the Gateway time. Will also require an IP address and packet version of the NTP time server.
Set With PC Time	Uses the current PC client time to set the Gateway time. This will reset the WirelessHART network.
Manual Entry	Uses the Date and Time fields to set the Gateway time. This will reset the WirelessHART network.
Date (Mm/Dd/Yy)	Manually enter the date (mm/dd/yy)
Time (Hh:Mm:Ss)	Manually enter the time (hh:mm:ss)
Submit	Accepts all changes (highlighted in yellow).

Setup>System Backup>Save

Terms	Description
Include diagnostic information in system backup	Saves Gateway diagnostic log information with the system backup file.
Save Configuration	Collects the Gateway configuration data and creates a system backup file. This system backup file is saved on the PC client as a zip file (*.zip). System backups contain user passwords as well as keys used for encrypting communications. Be sure to store downloaded system backups in a secure location.

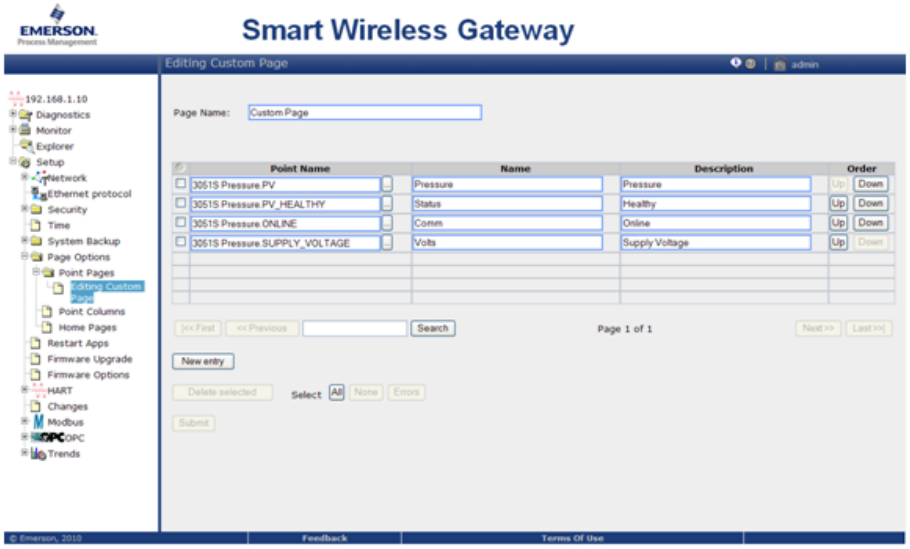
Setup>System Backup>Restore

Terms	Description
Browse…	Opens a navigation window to locate a system backup file (zip file) on the PC client.
Upload Configuration	Restores the select backup file to the Gateway.
Reset Defaults	Returns the Gateway to default factory configuration.

Setup>Page Options>Point Pages

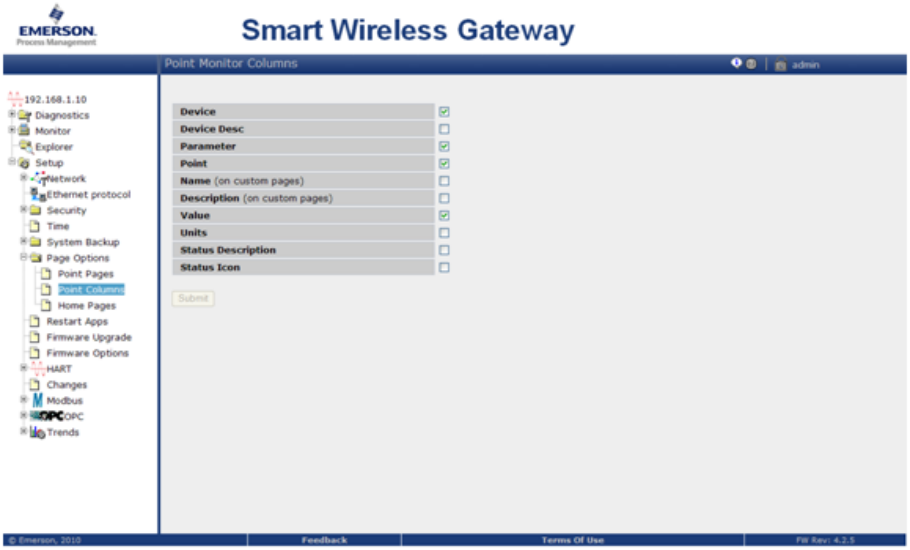
Terms	Description
Name	Name of the custom point page (user specified).
Order	The order in which custom point pages appear in the Monitor section of the navigation menu.
UP	Moves the associated point page up in the navigation order.
Down	Moves the associated point page down in the navigation order.
Actions	The actions you can perform on the associated point page.
Edit	Navigates to the configuration of the associated page and allows the user to make changes.
Delete	Deletes the associated page.
Go to	Navigates to the associated point page in the web interface.
New	Starts a new custom point page.
Submit	Accepts all changes (highlighted in yellow).

Setup>Page Options>Point Pages>Editing Custom Page



Terms	Description
Page Name	The name of this custom point page as it will appear in the navigation menu.
Point Name	Identifies the data point to display. Point Names appear in the format HARTtag.parameter
Name	User specified name for the data point.
Description	User specified description for the data point.
Order	The order in which the associated data point appears on the custom point page.
Up	Moves the associated data point up in the order.
Down	Moves the associated data point down in the order.
<<First	Navigates to the first page of this table.
<<Previous	Navigates to the previous page of this table.
Search	Finds the next occurrence of the characters entered into this field.
Next>>	Navigates to the next page of this table.
Last>>	Navigates to the last page of this table.
Delete selected	Removes the selected entry from this table.
Select All	Selects all table entries.
Select None	Deselects all table entries.
Select Errors	Selects all table entries with error messages.
Submit	Accepts all changes (highlighted in yellow).

Setup>Page Options>Point Columns



Terms	Description
Device	Indicates if the Device column appears as default in the monitoring point pages.
Device Desc	Indicates if the Device Desc column appears as default in the monitoring point pages.
Parameter	Indicates if the Parameter column appears as default in the monitoring point pages.
Point	Indicates if the Point column appears as default in the monitoring point pages.
Name	Indicates if the Name column appears as default in the monitoring custom point pages.
Description	Indicates if the Description column appears as default in the monitoring custom point pages.
Value	Indicates if the Value column appears as default in the monitoring point pages.
Units	Indicates if the Units column appears as default in the monitoring point pages.
Status Description	Indicates if the Status Description column appears as default in the monitoring point pages.
Status Icon	Indicates if the Status Icon column appears as default in the monitoring point pages.
Submit	Accepts all changes (highlighted in yellow).

Setup>Page Options>Home Pages

Terms	Description
GW menu overview	Indicates that the Gateway menu overview is the default home page when logging into the Gateway web based user interface.
Custom Page	Indicates that the Custom Point Page is the default home page when logging into the Gateway web based user interface.
Point monitor	Indicates that the Point Monitor Page is the default home page when logging into the Gateway web based user interface.
HART Status	Indicates that the HART Status Page is the default home page when logging into the Gateway web based user interface.
Quick Point Data	Indicates that the Quick Point Data page is the default home page when logging into the Gateway web based user interface.
Network Status	Indicates that the Network Status page is the default home page when logging into the Gateway web based user interface.
Submit	Accepts all changes (highlighted in yellow).

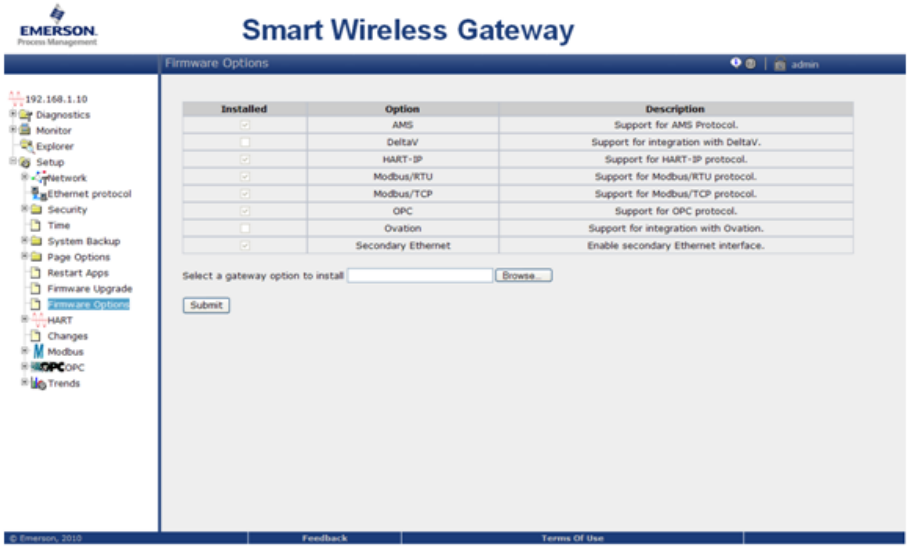
Setup>Restart Apps

Terms	Description
Application software	Software for the web user interface, program manager, operating system, etc…
Suspend Gateway Operations	The Gateway will temporarily be inaccessible via the web based user interface. It will stop reporting Modbus or OPC values or collecting trend data.
Restart	Software reset similar to restarting a PC. This is required for some configuration changes to take affect. A physical power cycle may erase configuration changes before they take affect.
Yes	Begins the restart process.
No	Delays the restart process, configuration changes will be stored in buffer.

Setup>Firmware Upgrade

Terms	Description
Firmware Upgrade	Firmware (sometimes called software) Upgrade; this is a procedure for installing newer/improved firmware in the gateway. This should only be done by recommendation of your Emerson Representative. Please note: A firmware upgrade will require a restart (shut down of wireless system) be sure to carefully follow the recommended upgrade procedure that is supplied with the firmware upgrade.
Firmware Release	A firmware (sometimes called software) release by Emerson that is recommended for upgrading the gateway with new features or improvements in operation
Zip File	A zip file is a file that ends with the extension .zip, this is a compressed file to reduce its size and make it easier to share. Please note: When receiving and saving this file before upgrading do not use any program with offers to decompress or expand the zip file. The gateway will expand the zip file automatically while upgrading.
Browse	To manually look for and find the upgrade zip file. After receiving a firmware upgrade from Emerson save the zip file in a location that is accessible by the gateway. Use Browse to locate this file and select it.
Upgrade	Begins the Firmware upgrade process after the proper Firmware upgrade zip file was located using Browse.

Setup>Firmware Options



Terms	Description
Firmware Options	Firmware Options are items that are normally installed by the factory; these options are called out in the initial factory order and are normally not needed to be changed in the field. This Firmware Options process allows the gateway user to reconfigure the gateway for use with different systems, which may be added in the field at a later date. Please note: A firmware upgrade may require a restart (shut down of wireless system) be sure to carefully follow the recommended firmware options procedure that is supplied with the firmware option's file.
Gateway Option	A file with the extension .txt that has been supplied by your Emerson representative specifically to make an operational interface change for this particular gateway. Option files are issued for specific gateways by serial number and can be used only by the gateway with that specific serial number. Option files are reusable in the appropriate gateway. Please note: The Firmware option file changes the gateway's factory defaults to the new option settings. Contact your Emerson representative for an option file if one is needed.
Installed	Shows gateway interface options that are currently installed. A check mark in the box indicates that a particular interface option has been installed. No check indicates it has not. Please note: Not all interface options are compatible with one another; so if some boxes are not checked that is appropriate.
Option	These are various interfaces that can be used to communicate with the gateway. A short definition of the interface is in the column labeled "Description."
Description	A short definition of each user interface option available in the gateway.
Browse	To manually look for and find the firmware option file (.txt). After receiving a firmware upgrade from Emerson save the zip file (do not unzip it) in a location that is accessible by the gateway. Use Browse to locate this file and select it.
Submit	Begins the Firmware option process after the proper firmware options file was located using Browse.

Setup>HART> Gateway

Terms	Description
Use internet protocol hostname for gateway name	Uses the hostname field under the Internet protocol page to replace the Gateway name. This is a one time action that happens when the box is checked. Further hostname changes will not be reflected on this page unless the box is rechecked.
Gateway Name	HART Tag for the Gateway.
HART Master Type	Indicates whether the Gateway is communicating as the HART primary or secondary master. Most host systems operate as a secondary master and leave primary master status to a handheld device.
Primary	The Gateway will have priority status when issuing commands to wireless field devices.
Secondary	The Gateway will yield to commands given to the wireless field device by a primary master.
Network Retry Count	Number of times the Gateway will attempt to resend a message when it does not get a confirmation.
Submit	Accepts all changes (highlighted in yellow).

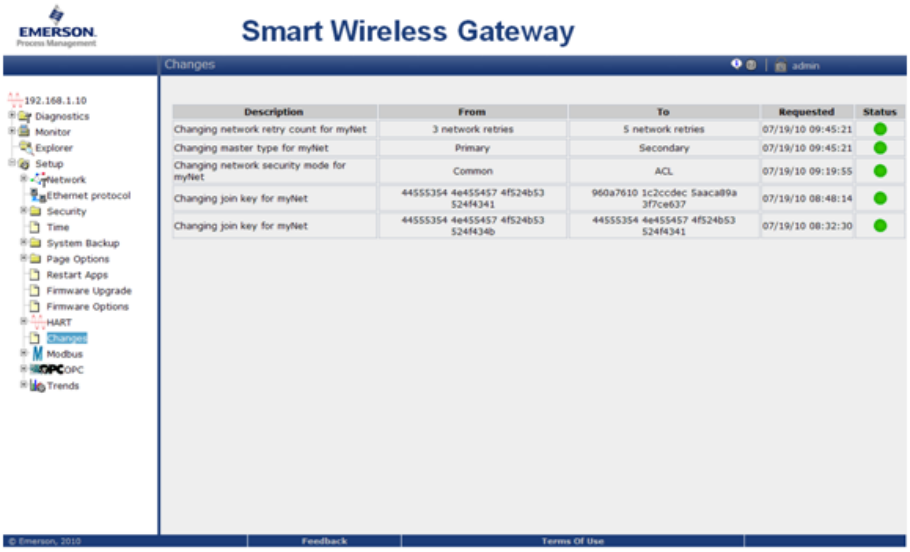
Setup>HART>Device

Terms	Description
Device ID	Unique device identification number. All WirelessHART devices should begin with 00-1E-1B. The next 4 digits represent the device type. The last 6 vary from device to device.
HART Tag	Configures the HART long tag (32 characters) or HART message (32 characters, only used for HART 5 wired devices connected via a WirelessHART adapter)
Short Tag	Configures the HART tag (8 characters). Typically used for short displays like a local LCD.
Descriptor	Configures descriptive message. (16 characters).
Units	Configures the engineering units of measure.
Burst Rate	Configures the interval in which the wireless field devices transmit measurement data to the Gateway.
Delete	Removes the wireless field device from the WirelessHART network.
% Range	Percentage of user defined range associated with the HART primary variable.
Edit	Configure the lower range limit and upper range limit.
<<First	Navigates to the first page of this table.
<<Previous	Navigates to the previous page of this table.
Search	Finds the next occurrence of the characters entered into this field.
Next>>	Navigates to the next page of this table.
Last>>	Navigates to the last page of this table.
Submit	Accepts all changes (highlighted in yellow).

Setup>HART> Hierarchy

Terms	Description
Include Gateways	Enables the Gateway to be seen as a field device on device specific pages (monitor, explorer, etc…)
Include Adapters	Enables WirelessHART adapters (Smart Wireless THUM adapter) to be seen as a field device on device specific pages (monitor, explorer, etc…)
Submit	Accepts all changes (highlighted in yellow).

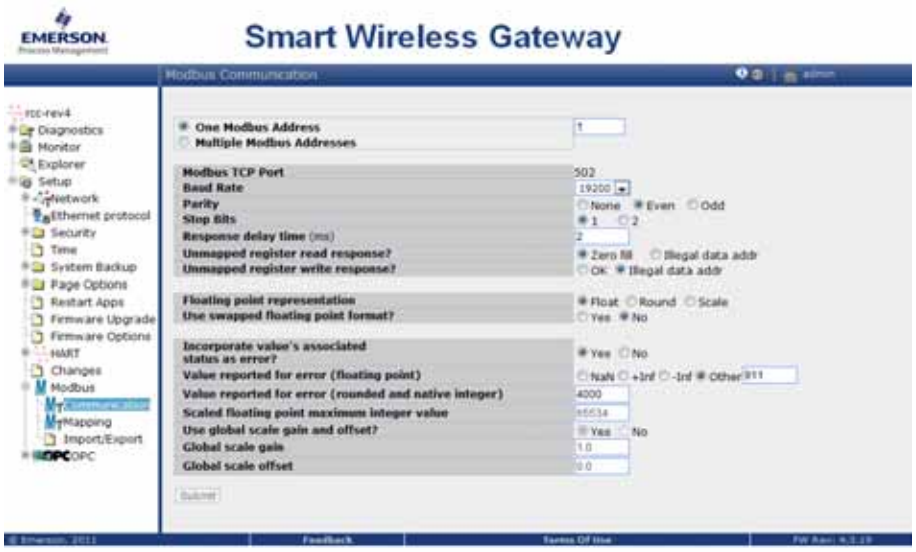
Setup>Changes



Terms	Description
Description	Provides a description of what changes have been submitted.
From	Initial value.
To	Final value.
Requested	Timed the change was submitted.
Status	Indicates if the change has been successful, is in process, or has failed.

MODBUS

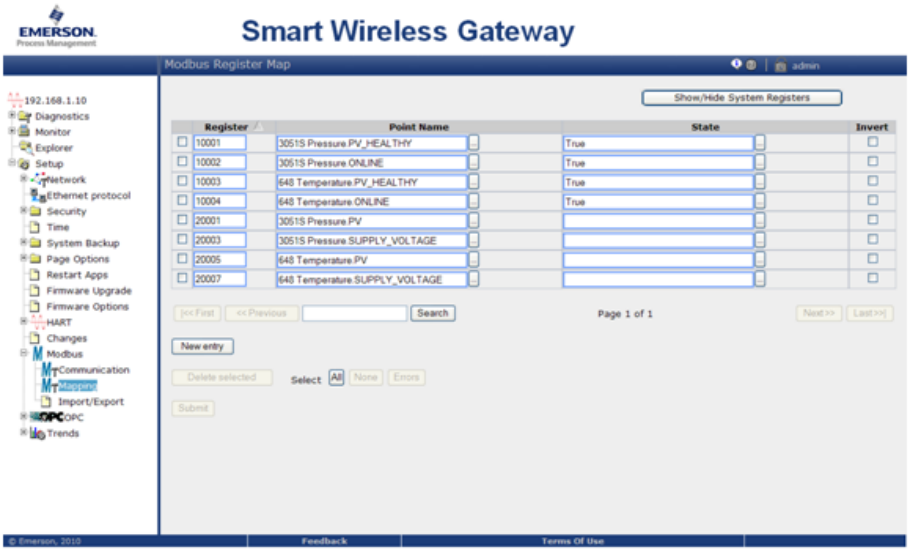
Setup>Modbus> Communication



Terms	Description
One Modbus Address	Selects a single Modbus RTU slave address to be used.
Multiple Modbus Addresses	Allows multiple Modbus RTU slave address to be used. These addresses are configured per point in the Modbus mapping page.
Modbus TCP Port	The TCP Port used to access Modbus TCP data directly from the Gateway. Note this is a different port than the SSL enabled Modbus TCP data.
Baud Rate	Communication speed for Modbus RTU.
Parity	Selects whether parity is used for Modbus RTU messages and whether it is even or odd.
Stop Bits	Sets the number of stop bits for Modbus RTU messages.
Response delay time (ms)	After receiving a request, the Gateway will wait this long before it sends a response.
Unmapped register read response?	The response the Gateway sends if no point data is mapped to the register during a read request. The Gateway can either return zero for the requested register or Illegal data addr.
Unmapped register write response?	The response the Gateway sends if no point data is mapped to the register during a write request. The Gateway can either return OK for the write request or Illegal data addr.
Floating Point Representation	The format that Modbus data is given.
Float	Floating point number that is given over two 16 bit Modbus registers.
Round	Rounded integer that is given over one 16 bit Modbus register. If the measured value = 2711.97, the rounded value = 2712.
Scale	Scaled integer that is given over one 16 bit Modbus register. The Gateway uses the equation y=Ax-(B-32768). y = scaled integer returned by the Gateway, A = gain, x = measured value, B = offset.
Use swapped floating point format?	Reverses which significant register used in a floating point representation.
Incorporate value's associated status as error?	If the HART variable status indicates a critical failure or if there is a loss of communications, it will be reported through the Modbus register.

Terms	Description
Value reported for error (floating point)	Chooses what value is reported if the value's associated status indicates a critical failure. Only used if the Gateway is using float representation.
NaN	Not a number is reported if the value's associated status indicates a critical failure.
+Inf	Positive infinity is reported if the value's associated status indicates a critical failure.
-Inf	Negative infinity is reported if the value's associated status indicates a critical failure.
Other	User defined value is reported if the value's associated status indicates a critical failure.
Value reported for error (rounded or native integer)	User defined value is reported if the value's associated status indicates a critical failure. Only used if the Gateway is using rounded or scaled representation
Scaled floating point maximum integer value	Highest integer proportional to the measured value. Default = 65534. This is generally the highest integer value accepted by the host system.
Use global scale gain and offset?	Determines if scaled integers use the Global scale gain and offset or unique gain and offsets for each measured value.
Global Scale Gain	Gain used by all measured values for scaled integers. The Gateway uses the equation y=Ax-(B-32768). y = scaled integer returned by the Gateway, A = Global scale gain, x = measured value, B = Global scale offset.
Global Scale Offset	Offset used by all measured values for scaled integers. The Gateway uses the equation y=Ax-(B-32768). y = scaled integer returned by the Gateway, A = Global scale gain, x = measured value, B = Global scale offset.

Setup>Modbus> Mapping



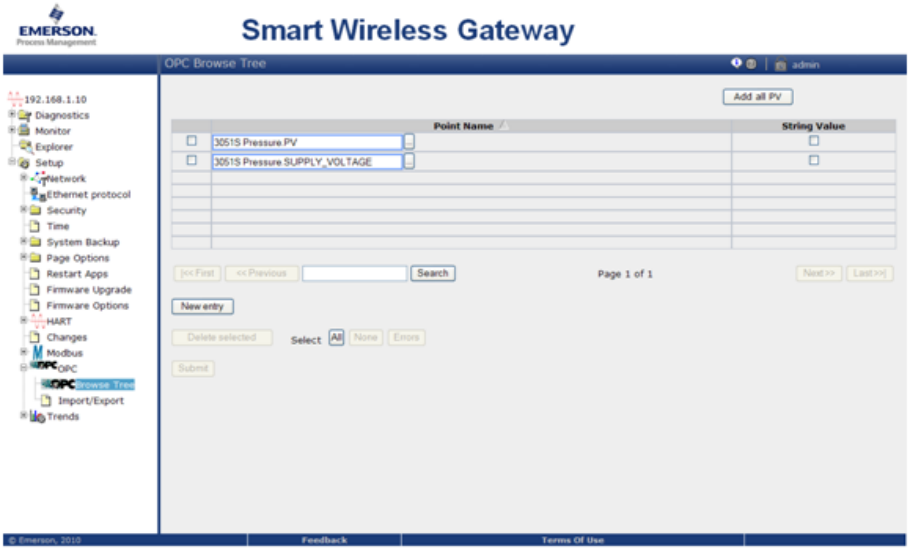
Terms	Description
Show / Hide System Registers	Shows/Hides predefined system registers. 49001 = current year, 49002 = current month, 49003 = current day, 49004 = current hour, 49005 = current minute, 49006 = current second, 490007 = messages received
Address	Modbus RTU slave address. Only used if multiple Modbus addresses is selected on the Modbus Communication page.
Register	Memory location used to reference point data via Modbus protocol. Modbus holding register.
Point Name	Assigned data point in the format HARTtag.parameter.
State	For Booleans, indicates which value will be reported as a 1. For integers, identifies a particular bit to be reported as a 1. Reserved for registers less than 20000.
Invert	Switches the 0 or 1 response for discrete state values.
Gain	Unique register gain used for scaled integer format. Not used if global scale gain and offset is selected on the Modbus Communication page.
Offset	Unique register offset used for scaled integer format. Not used if use global scale gain and offset is selected on the Modbus Communication page.
<<First	Navigates to the first page of this table.
<<Previous	Navigates to the previous page of this table.
Search	Finds the next occurrence of the characters entered into this field.
Next>>	Navigates to the next page of this table.
Last>>	Navigates to the last page of this table.
New Entry	Creates a new entry in this table.
Delete Selected	Removes the selected entry from this table.
Select All	Selects all table entries.
Select None	Deselects all table entries.
Select Errors	Selects all table entries that have an error message.
Submit	Accepts all changes (highlighted in yellow).

Setup>Modbus> Import/Export

Terms	Description
CSV file	Comma delimited or comma separated file format.
Browse…	Opens a navigation window to locate a Modbus mapping backup file (CSV file) on the PC client.
Upload Configuration	Restores the selected Modbus mapping backup file to the Gateway.
Download Configuration	Collects the Gateway Modbus mapping data and creates a backup file. This Modbus mapping backup file is saved on the PC client as a CSV file (*.csv).

OPC

Setup>OPC>Browse Tree



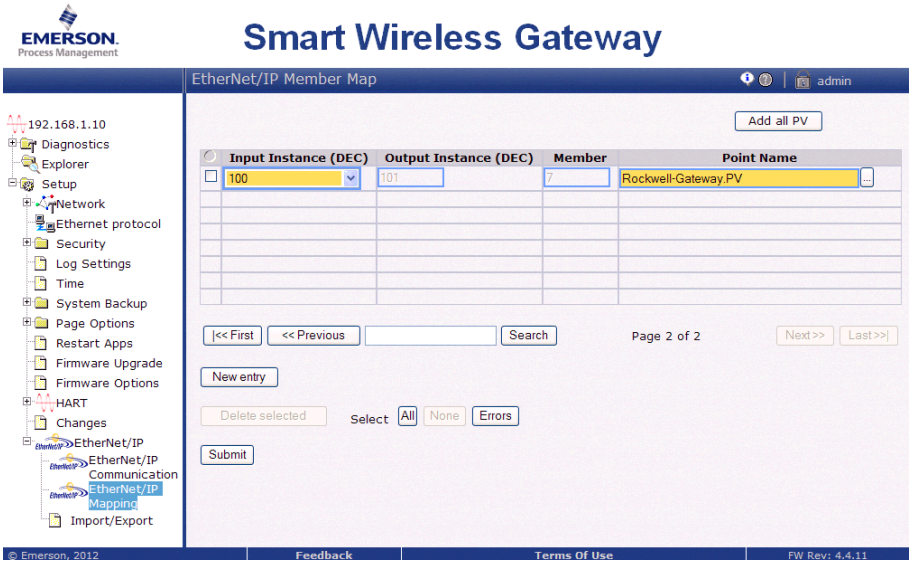
Terms	Description
Add all PV	Inserts a new table entry for the primary value of every wireless field device.
Point Name	Assigned data point in the format HARTtag.parameter.
String Value	Cause point data to be represented in a string of characters rather than the default 32 bit floating point.
<<First	Navigates to the first page of this table.
<< Previous	Navigates to the previous page of this table.
Search	Finds the next occurrence of the characters entered into this field.
Next>>	Navigates to the next page of this table.
Last>>	Navigates to the last page of this table.
New entry	Creates a new entry in this table.
Delete selected	Removes the selected entry from this table.
Select All	Selects all table entries.
Select None	Deselects all table entries.
Select Errors	Selects all table entries that have an error message.
Submit	Accepts all changes (highlighted in yellow).

Setup>OPC> Import/Export

Terms	Description
CSV file	Comma delimited or comma separated file format.
Browse…	Opens a navigation window to locate an OPC browse tree backup file (CSV file) on the PC client.
Upload Configuration	Restores the select OPC browse tree backup file to the Gateway.
Download Configuration	Collects the Gateway OPC browse tree data and creates a backup file. This OPC browse tree backup file is saved on the PC client as a CSV file (*.csv).

ETHERNET/IP™

Setup>EtherNet/IP> EtherNet/IP Mapping



Terms	Description
Input Instance	EtherNet/IP Input Static Assembly Instance - 496 bytes.
Output Instance	EtherNet/IP Output Static Assembly Instance - 496 bytes.
Member	EtherNet/IP Instance Member in which data will get produced or consumed.
Point Name	Assigned data point in the format HARTtag.parameter.
New entry	Creates a new entry in this table.
<<First	Navigates to the first page of this table.
<<Previous	Navigates to the previous page of this table
Search	Finds the next occurrence of the characters entered into this field.
Next>>	Navigates to the next page of this table.
Last>>	Navigates to the last page of this table.
Delete Selected	Removes the selected entry from this table.
Select All	Selects all table entries.
Select None	Deselects all table entries.
Select Errors	Selects all table entries that have an error message.
Submit	Accepts all changes (highlighted in yellow).

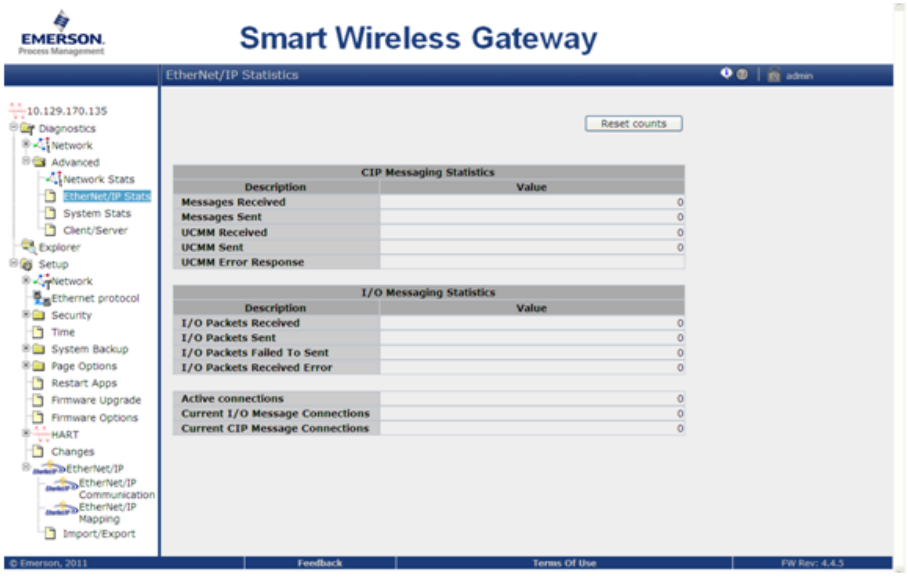
Setup>EtherNet/IP> EtherNet/IP Communication

Terms	Description
Assembly Object Type	EtherNet/IP use Static assembly object.
EtherNet/IP TCP Port	The TCP Port used to access EtherNet/IP TCP data directly from the Gateway.
EtherNet/IP UDP Ports	The UDP Ports used to access EtherNet/IP UDP data directly from the Gateway.
Incorporate value's associated status as error?	If the HART variable status indicates a critical failure or if there is a loss of communications, it will be reported through the EtherNet/IP member.
Value reported for error (floating point)	Chooses what value is reported if the value's associated status indicates a critical failure. Only used if the Gateway is using float representation
NaN	Not a number is reported if the value's associated status indicates a critical failure.
+Inf	Positive infinity is reported if the value's associated status indicates a critical failure.
-Inf	Negative infinity is reported if the value's associated status indicates a critical failure.
Other	User defined value is reported if the value's associated status indicates a critical failure.
Value reported for error (native integer)	User defined value is reported if the value's associated status indicates a critical failure. Only used if the Gateway is using integer representation

Setup>EtherNet/IP> Import/Export

Terms	Description
CSV file	Comma delimited or comma separated file format.
Browse…	Opens a navigation window to locate a EtherNet/IP mapping backup file (CSV file) on the PC client.
Upload Configuration	Restores the select EtherNet/IP mapping backup file to the Gateway.
Download Configuration	Collects the Gateway EtherNet/IP mapping data and creates a backup file. This EtherNet/IP mapping backup file is saved on the PC client as a CSV file (*.csv).

Diagnostics > Advanced > EtherNet/IP Stats



Terms	Description
Message Received	Total number of class 3 Received messages.
Message Sent	Total number of class 3 Sent messages.
UCMM Received	Total number of UCMM Received messages.
UCMM Sent	Total number of UCMM Sent messages.
UCMM Error Response	Total number of failed UCMM Read/Write Request.
I/O Packets Received	Total number of received class 1 packets.
I/O Packets Sent	Total number of sent class 1 packets.
I/O Packets Failed to Sent	Number of packets that's failed to sent.
I/O Packets Received Error	Number of packets that's failed to receive.
Active connections	Total number of connections that are established with EtherNet/IP Adapter (Smart Wireless Gateway).
Current I/O Message Connections	Shows total number of active Class 1 connections.
Current CIP Message Connections	Shows total number of active Class 3 connections.
Reset Counts	Clicking on this button will reset all EtherNet/IP Statistics counts to zero.

Smart Wireless Gateway

Manual Supplement
00809-0600-4420, Rev AA
July 2012

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