
Emerson™ Smart Wireless Gateway 4.6 User Guide

Introduction	page 1
HART® adapter support	page 1
Custom user security roles	page 2
Stale data configuration	page 3

1.0 Introduction

This document is designed to assist users with the new navigation within the Smart Wireless Gateway Firmware. Only the updates for this version of the firmware are included in this document.

2.0 HART® adapter support

2.1 System Settings>Protocols>HART

The HART adapter control has returned to the firmware in version 4.6. The control allows all the HART adapters on the network to be shown as devices on the device page. This will also change the device count on the page if there are any adapters on the network.

Figure 1-1. HART Gateway Set up Page

HART Gateway Set up

Gateway Name
wihartgw8
 Use ethernet protocol hostname for Gateway name

Allow adapters to be seen as field device
 Yes No

Save Changes Cancel

3.0 Custom user security roles

3.1 System Settings>Users>User Accounts

The user functions Executive, Operator, and Maintenance all have customizable User Privileges. Admin privileges can be selected for each user function type in the table on the *User Accounts* page. To see the list of customizable roles, log in as the admin user.

Figure 1-2. User Accounts Page

System Settings >> Users >> User Accounts

Gateway

Network

Protocols

Users

User Accounts

User Options

User Accounts

Note: New passwords must be at least 1 character in length.

Name	Function	Edit
maint	Maintenance	<input type="button" value="Edit"/>
oper	Operations	<input type="button" value="Edit"/>
admin	Administrator	<input type="button" value="Edit"/>
factory	Factory	<input type="button" value="Edit"/>
exec	Executive	<input type="button" value="Edit"/>

1 - 5 of 5 results 5

User Privileges

Admin Privileges	Executive	Operator	Maintainer
Certificate Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Change ACL Settings	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Change EtherNet/IP Settings	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Change IP Address	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Change Modbus Settings	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Change OPC Settings	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Change Protocols and Ports	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Change Time Settings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Delete Inactive Devices	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Edit HART Details	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Enable Logging	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Enable/Disable Features	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reset To Default	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Restart The Gateway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Restore Backup	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Save Backup	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Upgrade Features	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Upgrade Firmware	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
View HART Gateway Details	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
View Network Settings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4.0 Stale data configuration

4.1 System Settings>Network>Network Settings

The Gateway will set the value of *HART_Tag.*_HEALTHY* to **'false' (0)** if the field device publishes a variable status of **'bad'** indicating the value's quality cannot be guaranteed. The default setting of the firmware will set the value of *HART_Tag.*_HEALTHY* to **'false' (0)** if a burst message containing an updated value of the variable is not received within a minimum timeout of 90 seconds of the expected receive time or eight missed updates, whichever is longer. These two values are configurable in the Network Settings page of the Gateway Firmware (see Figure 1-3).

Figure 1-3. Network Settings Page

The screenshot shows the 'Network Settings' page. On the left is a navigation menu with categories: Gateway, Network (selected), Channels, Network Settings (selected), Access Control List, Network Statistics, Protocols, and Users. The main content area is titled 'Network Settings' and contains the following fields and options:

- Network name:** myNet
- Network ID:** 22
- Join Key:** Four masked input boxes (*****).
- Show join key
- Rotate network key?:** Yes, No
- Change network key now?:** Yes, No
- Security mode:** Common join key, Access control list
- Active Advertising:** Yes, No
- Stale Data Detection:**
 - Missed updates: 8
 - Minimum timeout: 90

At the bottom of the form are two buttons: 'Save Changes' and 'Cancel'.

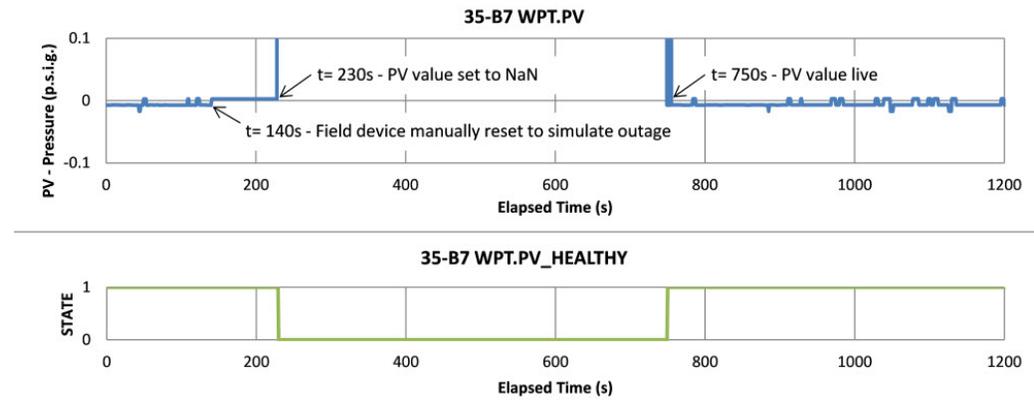
The minimum number of missed updates can now be set to as low as 2, and the minimum timeout can be set to 0 seconds. This means that if a device is set with a 1-second update rate, and the stale data is configured to its minimum (2 missed updates and 0 second timeout), the Gateway will set the value **'false' (0)** to the *HART_TAG.*_HEALTHY* in 2 seconds.

Note

Modifying the defaults should only be used for special situations. Changing the settings below the default settings could cause false reports of a **'bad'** connection during any short term network disruption. For this reason, use caution when changing the stale data settings from the default and make sure to verify your configuration before setting it up for production.

Figure 1-4 shows example register values during a simulated field device failure. In this example, a standard wireless pressure transmitter set for an update period of four seconds is manually reset at $t=140s$ to simulate an intermittent failure. Note that the PV holds the last value until the Gateway's stale timer expires 90 seconds later. In this example, the Gateway Modbus® communication interface is configured to return a value of NaN for all floating point values if an error is detected.

Figure 1-4. Register Values during Simulated Field Device Failure



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