ABB

# AWIN GW100
## Release Notes

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Release: January 2022

Document Number: 3BNP102932

Document Revision: C

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# 1    About This Release Note

This release note describes the new functionalities, the fixed problems, and the known problems in the AWIN GW100 firmware revision 1.5-2 (2112061116).

## 1.1    How Firmware Works in AWIN GW100 WirelessHART Gateway?

AWIN GW100 WirelessHART gateway is delivered with the released firmware.
The firmware includes both WirelessHART gateway functionalities and the built-in webserver.
Therefore, the capability of the AWIN GW100 is based on the firmware version it is running.

> It is possible to upgrade the firmware on the AWIN GW100 unit using the device's built-in webserver.

## 1.2    Release Notes Conventions

Conventions to be used are listed below:

– The words in proper names of screen elements (for example, the title in the title bar of a window, the label for a field of a dialog box) are initially capitalized.

– The names of the keyboard keys are boldfaced.

- Initial capital letters are used for the name of the keyboard key if it is labeled on the keyboard. For example, **Return** key or <**Return**>.
- Lowercase letters are used for the name of the keyboard key that is not labeled on the keyboard. For example, **space bar**, **comma key** and so on.
- In descriptions, the word "key" is used in conjunction with its name. For example, pressing **Return key** initiates the process.
- In tables and procedures, angle brackets replace the word "key". For example, press <**Return**>.
- A dash is used to indicate that you must simultaneously press several keys. For example, <**Ctrl-C**> indicates that you must hold down the **Control** key while pressing the C key.
- The phrase "press and release" is used to indicate that you sequentially press several keys. For example, to close a window, press and release <**Alt**> and then <**F4**>. This indicates that you press and release the **Alt** key and then you press and release the **F4** function key.

– The names of push and toggle buttons are boldfaced.

- Initial capital letters are used for the name of a push or toggle button labeled on the display. For example, **OK** button.
- In descriptions, tables and procedures, the word "button" is used in conjunction with its name. For example, pressing the **OK** button initiates the process.

– The names of menus and menu items are boldfaced.

- Initial capital letters are used for the name of menus listed in the menu bar.
  For example, **File** menu.

## 1.3     Released Versions and Related Documentation

This release is concerned with the following versions of the AWIN GW100 product.

**Table 1: AWIN GW100 Version Information**

| Type | Version |
|------|---------|
| Firmware version | 1.5-2 (2112061116) |
| Hardware version | Rev 01 |

A complete list of documentation applicable to AWIN GW100 along with its version information (valid at the time of release notes publishing) is presented in Table 2.

**Table 2: AWIN GW100 Documentation**

| Document ID | Title | Latest Revision |
|-------------|-------|-----------------|
| 3BNP102906 | AWIN GW100 Product Datasheet | B |
| 3BNP102683D2 | Quick Setup Guide | B |
| 3BNP102910 | Quick Start Guide | B |
| 3BNP102911 | Bulk Configuration Guide | B |
| 3BNP102912 | AWIN GW100 User Manual | D |
| 3BNP102683D3 | AWIN GW100 - Specific Conditions of Use | B |

AWIN GW100 is tested and validated with System 800xA and the reference WirelessHART library (WirelessHART_AWIN Library). The compatibility details are provided in Table 3.

| ! | Compatibility with older versions is not guaranteed. Projects should evaluate this beforehand. |
|---|---|

**Table 3: System 800xA Compatibility with AWIN GW100 Gateway.**

| Item | Tested Version |
|------|----------------|
| System 800xA | 6.0 |
| CI867ModbusTCPHwLib | 2.10-11 |
| WirelessHART_AWIN Library* | 1.0-8 |
| ModbusTCPCommLib | 6.0.0-1 |

* This library is provided as a sample reference library for customer projects.

## 1.4     WirelessHART Products Supported in this Release

All ABB native WirelessHART devices connect to the AWIN GW100 gateway.

AWIN GW100 has been tested with the following products, shown in Table 4.

> [!] The use of non-ABB devices should be approved by the product manager.

> [!] AWIN GW100 is not designed to be used with Wimon100, SmartSensor HCHC and the wireless condition monitoring software from ABB. AWIN GW100 connects to Wimon100 and SmartSensor HCHC but it does not support HART-IP protocol which is required by the ABB condition monitoring software (WDM).

**Table 4: Compatible Devices**

| Device | Manufacturer | Power Source | Instrument Type | Remarks |
|---|---|---|---|---|
| TTX300-W | ABB | Battery | Temperature | |
| 266PDP-W | ABB | Battery | Pressure | |
| Wimon100 | ABB | Battery | Vibration | No support for WDM software. |
| SmartSensor HCHC | ABB | Battery | Vibration | No support for WDM or AssetInsight software. |
| WHA-ADP-F8B2 | Pepperl+Fuchs | Battery | WirelessHART adapter | |
| Bullet | Pepperl+Fuchs | Loop power | WirelessHART adapter | |
| RAD-WHA | Phoenix Contact | Loop power | WirelessHART adapter | |
| THUM | Emerson | Loop power | WirelessHART adapter | |
| Caliperay 1616 | Mistras | Battery | Thickness Monitor | |
| Vanguard™ Wireless Gas Detector | United Electric Controls | Battery | Gas Detector | Battery lifetime is a constant number. |

## 1.5    Supported Tools

Table 5 shows the lists of tools supported by the AWIN GW100 WirelessHART Gateway. AWIN WirelessHART Gateways Configurator is used for bulk configuration of WirelessHART devices and Modbus map.

**Table 5: Related Documentation**

| Tool ID | Tool Name | Version |
|---------|-----------|---------|
| 3BNP102928 | AWIN WirelessHART Gateways Configurator | Rev A |

FIM from ABB is not supported by the AWIN GW100 gateway. However, the WirelessHART devices from ABB can be configured using the FIM.

# 2      Release Notes

## 2.1     Functionality Changes

This section provides an overview of the functional changes made in the firmware release of AWIN GW100.

### 2.1.1     New Functions

<div align="center">Table 6: New Functions</div>

| Reference | Title | Description |
|---|---|---|
| 1 | Command 9 Caching | Command 9 data is now checked against the stale data timer to determine if the response data is valid for an incoming request. If the response data is "fresh" (within the threshold for the stale data time) then the gateway will respond with the data. |
| 2 | Watchdog Function | A watchdog function continuously monitors the stability of the network manager and resets or reboots the gateway if deemed necessary.<br><br>This is a user configurable function and can be enabled and disabled. By default, it is enabled. |

### 2.1.2     Improvements

<div align="center">Table 7: Improvements</div>

| Reference | Title | Description |
|---|---|---|
| 1 | Internal Error Message | "Internal Error" message removed as a gateway status. Any prior "Internal Error" statuses are replaced with unique, descriptive error messages, which are:<br><br>• Gateway Configuration File is Missing or Corrupt<br>• One or More System Threads Failed to Start Correctly<br>• A Major System Component Failed to Initialize Correctly |
| 2 | Persistent Data Validation | Validation checks added to persistent data loading logic to prevent loading of corrupted device information. |

| 3 | Network Manager Reset Recovery | Periodic check added to look for Access Point (AP) mote on the network. If AP mote is not detected on the network, the system will assume the network is down and toggle the Error LED until the AP is detected.<br><br>• When the initial NM restart is detected, the following error is displayed as the gateway's status:<br>  o "Network Manager Has Reset. System Recovery In Progress"<br><br>• If the AP re-joins the network, the system goes back into the "Network Manager Has Reset. System Recovery In Progress" until the TCP Notification connection has been re-established with the Network Manager:<br>  o Once established, gateway status returns to Normal and system operations can resume |
| 4 | Applications Tracking and Recovery | Applications tracking is enabled to monitor actively running processes, triggering an Error LED and message if any application is detected as missing/crashed. Those applications will be restarted automatically. |
| 5 | Handshaking | Devices webpage updated to show devices in "Handshaking" state while they are exchanging data with the gateway after joining the network. A device will not respond to Modbus request until it is stated as "Connected" in the web manager. |

## 2.1.3   Corrections

**Table 8: Corrections**

| Reference | Title | Description |
|---|---|---|
| 1 | Auto Modbus Map Export / Import | Issue involving export of Auto Modbus mapping with empty <Slave> LongTag fields resolved.<br><br>Resolved issue in Modbus Mapping display logic which incorrectly set table column headers in the event tags were missing from a <Slave> device's XML data. |
| 2 | Device Fast Pipe Status | Issue involving status of device's fast pipe remaining constant between system restarts resolved. |

| 3 | Device Connected Status | Issue involving incorrect connected/disconnected status for devices in web manager resolved. |
|---|---|---|
| 4 | DHCP Assignment | Issue was resolved preventing parsing of correct default gateway IP following IP assignment using DHCP. |
| 5 | Disconnected Device Timestamp | Issue causing timestamp of disconnected devices to update was resolved. |
| 6 | Modbus TCP Connections | Issue fix that was incorrectly allowing new connections after maximum number (4) of client connections had been reached. Inactivity timeout added in the event a client does not gracefully close a connection. After 60 seconds of no activity (data) from a client, the client session is closed, and the port is made available for a new connection. |
| 7 | Command 9/33 Processing | Updated handling to read out current Command 3 data, overwrite any relevant variables provided in Command 9/33 and write updated Command 3 data back into the database along with updating timestamp |
| 8 | Cached Bursting Commands List | Issue fixed that prevented changes in burst configuration from funneling down to displayed cached bursting commands in Instruments webpage |

## 2.2   Known Limitations

**Table 9: Known Limitations**

| Reference | Title | Description |
| --- | --- | --- |
| 1 | Restore Factory Defaults | Currently no feedback is provided to the user while process is executing. May take up to 15 seconds for "Reboot" prompt to be presented. |
| 2 | Firmware upload progress bar | During firmware update the progress bar will remain at 100% for some time before reboot prompt is presented. |
| 3 | Automatic Time sync | Current time zone is fixed to EST |
| 4 | Font in Internet Explorer | Font appears to load as bold when using Internet Explorer. This is not an issue when used with other browsers. |
| 5 | Duplicate Tag names | If two devices with the same tag name are added to the gateway, then they will join the wireless network but will not operate on the Modbus network.<br>Note. Every device in the WirelessHART network should have a unique tag name. |
| 6 | LEDS are off when reboot in process | When the gateway is soft rebooted all LEDS are off for some time before the bootup starts. |
| 7 | Modbus map import from previous revision not supported | Modbus map from rev 1.5-0 cannot be imported in rev 1.5-1.<br><br>Solution: The user shall manually configure the Modbus map as per guidelines in the user manual. |
| 8 | Gateway backup import from previous revision not supported | Gateway backup from rev 1.5-0 cannot be imported in rev 1.5-1. Work around: The user shall manually configure the gateway as per guidelines in the user manual. |
| 9 | Gateway's username cannot be changed independently. | Gateway's username cannot be changed independently. It must be changed with the password as well. |
| 10 | Changing IP address using IO Schedule functionality | It is recommended not to use IO schedule for changing static IP address. The functionality works but will redivert you to new IP address and user will have to sign in again. |
| 11 | Modbus map after reset | Modbus map after cold reset still shows old Modbus map on reboot. However, it is automatically removed once devices join the network. |

## 2.3    Known Errata

Consult relevant ABB bulletin for latest updates.

# 3      Firmware Upgrade

## 3.1      Pre-installation

To upgrade the firmware on AWIN GW100 gateway kindly request the new firmware from the product manager or your technical support contact.

NOTE. Firmware update of AWIN GW100 will reset the device to factory default settings. All previous configurations will be lost.

Make a backup of your gateway's existing configuration before proceeding.

The firmware file is distributed as a ".tar" file which should not be unzipped. It is to be uploaded as-is. Firmware update procedure is provided in detail in the user manual (3BNP102912).

## 3.2      Installation

For installation procedure, refer to the *User Manual (3BNP102912)*.

## 3.3      Post Installation

After the firmware upgrade reboot the gateway and login using the default credentials.

Under the "system" section in the "Monitor" user account you can verify the firmware version running on the gateway. If the gateway was successfully upgraded, then it will be shown in this page.

# 4    Technical Support

For technical support get in touch with your local ABB Contact Center.

# 5    Firmware Revisions History

**Table 10: Firmware Revision Table**

| Version | Release Status | Release Date |
| --- | --- | --- |
| 1.5-0 | Released | Jan. 2019 |
| 1.5-1 | Released | Jan. 2020 |
| 1.5-1 (2005061200) | Released | Jun. 2020 |
| 1.5-2 (2112061116) | Released | Jan. 2022 |

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