SOFTWARE RELEASE NOTES

Sensi+ GLA533-NG Natural gas analyzer software
SW V1.3.0

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1. Purpose and Basic Description

These release notes detail new features, functional changes and bug fixes made to the 3KXG165000S0001 Sensi+ GLA533-NG Natural gas analyzer Software.

1.1. Highlights for this software release

The main improvement in this software release focuses on optimizing pump management to enhance malfunction detection and improve instrument uptime. A new feature has been implemented to conduct diagnostic on each pump. Following diagnostic, a pump can be flagged as failed and will be excluded from the pump rotation cycle. Additionally, the software release includes the capability to manage pump revision B, which extends the pump manifold’s lifetime.

1.1.1. IMPORTANT NOTE

It is mandatory to use this SW Version (V1.3.0) since this software version introduces the management for a new pump revision introduced in June 2024.

2. Prerequisites

- The current software version installed on the analyzer must be at least V1.1.x.
  - Contact ABB Service support team otherwise.
- Official Software release of the Sensi+ GLA533-NG Natural gas analyzer.
  - Download link: https://library.abb.com/d/3KXG165000S0001

2.1.1. SW update procedure

Refer to Sensi+ User’s guide:
https://library.abb.com/d/3KXG165001R4201

2.1.2. Notes

The following ID’s (ex: NGICOS-xxxx or GLANG-xxxx) are used to identify the items in the release notes. They refer to an ABB internal tracking tool unique ID for a better support to customers when mentioning a specific item.
2.1.3. **New Features**

GLANG-622  **Pump Manifold Replacement** - If a pump manifold must be replaced, follow the latest Service Procedure SPA-533-PMPMAN (Rev.C or more). **A MANDATORY additional step requires to select the pump manifold revision from the menu Maintenance -> Service -> Replace Pump Manifold.**

GLANG-530  **Pumps Management** - Improved the pump's failure detection algorithm. If a failure is detected in operational mode, the pump is switched to the next good pump and an event is logged. A manual pump diagnostic will be required to confirm the pump failure through the following menu:

Remote Desktop HMI - Maintenance -> Validation -> Added a Pump Diagnostic menu to start manually a diagnostic on a pump. If the pump is detected as defective, it is marked as FAILED and is removed from the operational pump switch cycle.
GLANG-542  Remote Desktop HMI – By default, the analyzer’s built-in firewall blocks all requests coming from public IP address ranges. Users with administrator rights can now override this protection by entering individual exceptions (up to two) in the Firewall Exceptions field. User must make sure to comply with their local IT security rules when adding such exceptions.

GLANG-281  Desktop Remote HMI -> Reports - Added the report "Configuration" to extract the analyzer’s configuration in a .tsv format.

### 2.1.4. Improvements

GLANG-276  Pumps Management - Improved robustness when the analyzer starts on a defective pump.

GLANG-1229  Alarms - Added an event “PUMP_{n}.OBOX.P_NOISE_HIGH” to provide a feedback when a pump has been switched due to an Optobox pressure noise above the alarm limit for a sustained time period. This condition is likely be caused by a faulty pump. A manual pump diagnostic is required to confirm the pump failure.

GLANG-941  Alarms - Added an event “PUMP_{n}.CELL_PRESSURE_HIGH” to provide a feedback when a pump has been switched due to a cell pressure above the alarm limit for a sustained time period. The elevated cell pressure might be caused by a faulty pump or pressure valve, a clogged filter (slow cell pressure response time) or an external pressure transient impacting the system. A manual pump diagnostic is required to confirm the pump failure.

GLANG-393  Alarms - Changed the name of the error generated when the H2S exceeds its High High alarm threshold. Changed from "S1_VALVE_REQ_CLOSE" to "DO_01_ACK_ALARM_ENABLED". Same convention is also used for other gases "DO_[xx].ACK_ALARM_ENABLED".

GLANG-780  Data Saving - Optimization have been implemented to save only 10 spectra before and 10 spectra after a process alarm is triggered. Also added few critical analyzer alarms to trigger the spectra saving to ease the troubleshooting.
GLANG-636 Service Logs - The .zip package extracted from the Export Service Logs function now includes the analyzer configuration and the time zone.

GLANG-492 Local HMI - Added the date beside the time on the local HMI.

GLANG-394 Local HMI - Added precision on the time format (UTC) on the alarm page of the local HMI.

GLANG-465 Remote Desktop HMI - Instrument Model information added to menu Settings->Configuration->General.

GLANG-417 Events Report - Events report generation progress feedback is now available.

GLANG-395 Remote Desktop HMI - Disable report button 'Generate Now' when report is in progress.

2.1.5. Bug Fixes

GLANG-733 Pump management - With latest SW V1.3, after a power cycle, the analyzer will now start using the previous active pump and not starting on pump#1 as it was previously doing. Impact was that pump#1 usage time was always greater than other pumps.

GLANG-437 Pumps Management - Pumps that are identified as 'FAIL' from the manual Pump Diagnostic will now be excluded from the normal operational pump switch cycle.

GLANG-653 Alarms - Some notifications that should have not been displayed are now hidden from the alarm pages.

GLANG-596 Boot Issue - In some rare cases, the GLA533 may not start the analyzer software after a reboot and requires a manual power cycle to restart correctly. A watchdog to restart the analyzer automatically has been implemented to avoid a manual intervention.

GLANG-616 Local HMI and Remote Desktop HMI - The measurement color wasn't displayed as expected and, in some cases, there was an inconsistency between both HMI Interfaces.

This situation occurred when:

- The measurement was above the trending limit (region where the measurement is good but the precision is less than the specifications)

  AND

- The user set the warning (High) and/or alarm (HighHigh) thresholds above the trending limit.

GLANG-470 Analog Output - All unused AO are now initialized to 4mA at startup.

GLANG-432 Data Management - Any gas process alarm will now trigger to save spectrum in the database.

GLANG-385 Remote Desktop HMI - More time zones are supported.

NGICOS-5458 Remote Desktop HMI - If a report is initiated and its browsing window is closed before the report ends, the current report will NOT be cancelled anymore.

2.1.6. Known Issues

N/A
3. **Additional Information**

3.1. **Software version details**

Build Date: 2024-06-17T11:44:40Z
NGICOS application: 1.3.0-rel-2-ga234
GLA533 Model: 0.58-ge7df
WORKSPACE: 1.3.0-rel-3-gf871
OS: 1.2.0-dev-1-15-gedf9
s400g API: 8.1.20-dev-7-g0d63
ICOS library: 1.1.1-1-gc53b
Skewfit: 1.5-5-gbe03d65-gbe03
ATW library: 2.0.2.2-2022-09-09-436-g3fd0

3.2. **Listing of related documents**

<table>
<thead>
<tr>
<th>Ref #</th>
<th>Document Kind, Title</th>
<th>Document No.</th>
</tr>
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</table>

4. **Addendum**

5. **Revisions**

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<thead>
<tr>
<th>Rev.</th>
<th>Description</th>
<th>Date</th>
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<tbody>
<tr>
<td>A</td>
<td>SW V1.1.3 release of the Sensi+ GLA533-NG Natural gas analyzer</td>
<td>2022-12-22</td>
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<tr>
<td>B</td>
<td>SW V1.2 release of the Sensi+ GLA533-NG Natural gas analyzer</td>
<td>2023-04-24</td>
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<td>C</td>
<td>SW V1.2.1 release of the Sensi+ GLA533-NG Natural gas analyzer</td>
<td>2023-10-16</td>
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<tr>
<td>D</td>
<td>SW V1.3.0 release of the Sensi+ GLA533-NG Natural gas analyzer. Major improvements on pumps management and support pumps rev.B</td>
<td>2024-06-17</td>
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