



AIR. NOTHING ELSE.

# RELEASE NOTES MAS-100 ATMOS SW 1.9.1, 1.9.2 & 1.9.4

## SERVICE INFORMATION LETTER 2024-10 V3.0

|                          |   |
|--------------------------|---|
| <b>Product affected:</b> | MAS-100 Atmos   |
| <b>Change level:</b>     | <input type="checkbox"/> mandatory<br><input checked="" type="checkbox"/> recommended by MBV<br><input type="checkbox"/> for information only |

## 2. REASON AND OVERVIEW

This document describes SW changes and their effects on the use of the instrument and the quality and regulatory impact.

Last instrument assembled with application software 1.7 was **60376**.

Instruments assembled with application software 1.9.1 or 1.9.2 are **60382 - 60389**.

Instruments assembled with application software 1.9.1 or 1.9.2 but updated to 1.9.4 by MBV are **60377 - 60381**.

First instrument assembled with application software 1.9.4 will be **60390**.

It is recommended to perform the update during the yearly calibration.

### 3. SW CHANGES

#### Change History

| VERSION | CHANGES   | DATE       |
|---------|---|------------|
| 1.9.4   | <ul style="list-style-type: none"> <li>- Error regarding Cancellation of the as found calibration if no as left calibration was performed after installing a new application software corrected</li> <li>- Error regarding language selection corrected</li> </ul>  | Jan. 2025  |
| 1.9.2   | <ul style="list-style-type: none"> <li>- Audit Trail/Sampling Archive Export in the SysAdmin role re-added to the dashboard</li> </ul>  | Nov. 2024  |
| 1.9.1   | <ul style="list-style-type: none"> <li>- Manual decompression in case of pressure sensor failure added (see SIL-2023-11-30 MAS-100 Atmos pressure sensor failure V2.0)</li> <li>- Consistent Certificate number and dates over all time zones ensured</li> <li>- Solved: Calibration re-seal issue (instrument appeared sealed without successful calibration)</li> <li>- Solved: Time zone issue at Date/time input (date was unintended changed even if only the Time was changed)</li> <li>- Solved: Minor bugs</li> <li>- Improved: Automatic time check (duration before 30 seconds, actual 60 seconds)</li> <li>- Improved: switching off behavior (with pop-up shutdown "Yes" / "No")</li> <li>- User Admin can unlock instrument</li> <li>- Service engineer can download anonymized audit trail</li> </ul> <p>Unintentional errors:</p> <ul style="list-style-type: none"> <li>- Cancellation of the as found calibration if no as left calibration was performed after installing a new application software</li> <li>- Audit Trail/Sampling Archive Export in the SysAdmin role no longer appears on the dashboard</li> <li>- The language is now only available in English</li> </ul> | Sept. 2024 |
| 1.7     | <ul style="list-style-type: none"> <li>- First official Release</li> </ul>  | Apr. 2022  |

### 4. COMPATIBILITY MATRIX HW/SW

|    |          | SW    |                       |                       |        |
|----|----------|-------|-----------------------|-----------------------|--------|
|    |          | V 1.7 | V1.9.1<br>(RETRACTED) | V1.9.2<br>(RETRACTED) | V1.9.4 |
| HW | REV. 2.4 | X     | X                     | X                     | X      |
|    | REV. 2.5 | X     | X                     | X                     | X      |
|    | REV. 2.6 | X     | X                     | X                     | X      |

## 5. COMPARABILITY OF SAMPLING RESULTS

It is good practice to perform an as found measurement prior any upgrade as well as an adjustment including as left measurement afterwards. In this case, if a calibration and adjustment is not desired or possible a reduced qualification as described in chapter 7 of this document, by comparing the parameters before and after the update is sufficient. Since there are no changes to the air path and the pressure sensor, the collection efficiency has not changed and the measurement results are identical.

Please note:

If you have followed the reduced qualification process as described in chapter 7 of version 1.0 and 2.0 of this SIL, an as found calibration is no longer possible with the application software version 1.9.1 and 1.9.2. If you are affected by this case, please contact [service@mbv.ch](mailto:service@mbv.ch) to discuss how to proceed and upgrade to application software version 1.9.4. The update to application software 1.9.4 eliminates all restrictions regarding the sequence of the as found or as left calibration and any resulting interruptions of the calibration that currently exist when updating from 1.7 to 1.9.1 or 1.9.2. An as found calibration is therefore also possible again.

## 6. REGULATORY TESTS

These tests have not been repeated but are still applicable:

- General safety IEC 61010-1 (ed.3): the safety depressurization feature is implemented in the application SW. As the application SW is not in the scope of IEC 61010-1, the safety relevant parts as per IEC 61010-1 remain the same.
- EMC test IEC 61326-1 (ed.2)

## 7. COMPARE PARAMETERS

1. Log in as system administrator
2. On the browser-based user interface click on the submenu 'DIAGNOSTICS'.
3. Download the service file according to chapter 4.8.3 Downloading the service file, in the [instrument user manual](#)
4. Perform the Application Software update according to 4.8.4. Uploading the application software
5. Log in as system administrator
6. On the browser-based user interface click on the submenu 'DIAGNOSTICS'.
7. Download the service file according to chapter 4.8.3 Downloading the service file, in the instrument user manual

8. Unzip the downloaded files
9. Compare the parameters  
The .json files can be opened and compared with text editors, somewhat more elegant is for example

<https://jsondiff.com/>

Show:  1 unequal value

```
1. {
2.   "VersionInfo": {
3.     "AppVersion": "1.9.1",
4.     "HwVersion": "2.3",
5.     "ImageVersion": "MBV Linux Distro 0.1.0 (mbv-dist)",
6.     "Model": "MAS-100 Atmos",
7.     "OsVersion": "Linux version 4.19.72-yocto-standard (oe-user@oe-host)"
8.   }
9. }
10.
```

```
1. {
2.   "VersionInfo": {
3.     "AppVersion": "1.7.0",
4.     "HwVersion": "2.3",
5.     "ImageVersion": "MBV Linux Distro 0.1.0 (mbv-dist)",
6.     "Model": "MAS-100 Atmos",
7.     "OsVersion": "Linux version 4.19.72-yocto-standard (oe-user@oe-host)"
8.   }
9. }
10.
```

Compare the parameters of the following files:

adjustment-data.json: remains unchanged, as no calibration is performed

adjustment-parameters.json: to check the adjustment parameters (proof of same working points)

instrument-components.json: to check the components "SerialNumber" (proof of same hardware)

instrument-settings.json: the settings have not been changed

instrument-versions.json: the new application software version is displayed there the parameters are therefore different

10. If the parameters of the documents before and after the update of the application software match as described above, the shortened qualification is considered successful.

MBV AG

Stäfa, 2025-01-23 CHA