

1 Purpose

This document describes the differences between the new software version **tiamo 2.5** and its predecessor **tiamo 2.4**.

2 New features

New instruments

- The 855 Robotic Titrosampler can be operated with or without robotic arm.

New instrument firmware

- New firmware version for the 888 Titrande: 5.888.0023

General

- Optrodes are recognized as separate sensors. They are available in the commands **DET U**, **MET U** and **MEAS U** with selectable wavelength.

Workplace program part

- It is now possible to select **not defined** as sensor name on the **General/ Hardware** tab in all titration commands, measuring commands, calibration commands and dosing commands that use sensors. A prompt appears in the run asking, similarly to the setting for the device name, which sensor of the required type from the configuration should be used for the determination.

Database program part

- It is now possible to select a fixed report for sample data in the report designer.
- A line number with a dark gray background in the determination overview now indicates that the determination contains a determination comment.

Method program part

- The **888 Titrande** can now be selected as device type in the commands **KFT Ipol** and **KFT Upol**.
- It is now possible to titrate from both MSB1 and MSB2 with the 888 Titrande in the commands **DET**, **MET**, **SET** (pH, U, Ipol, Upol) and **KFT** (Ipol, Upol).

Manual control program part

- Optrodes can be used for measurements (measured quantity **U**) with selectable wavelength in the Manual control.

3 Improvements

General

- Starting with version 2.5, tiamo also runs on Windows 8.1 operating system and Windows Server 2012 R2.
- Starting with version 2.5, tiamo runs in JRE 8 runtime environment with current time zone settings.
- The Metrohm device drivers have been updated for tiamo 2.5.
- tiamo 2.5 has been tested under Windows 10.

Workplace program part

- If during a determination the exit track was stopped before the **DATABASE** command was processed, then no determination data was stored. Now it can be defined in the **EXIT** and **ERROR** track commands that the **DATABASE**, **EXPORT** and **REPORT** commands should always be executed in the exit track or error track, even after such a track was stopped by pressing the **[Stop]** button. As before, all other commands will be canceled after a stop.

Database program part

- The determinations stored in the database are smaller now, since the administration of the measuring point lists has been improved.
- Time can now be displayed on the x-axis on the control charts.
- The toolbar now contains an icon for the export of determinations.

Method program part

- In the evaluation of the standard addition for the commands **STDADD man**, **STDADD dos** and **STDADD auto**, the coefficient of determination R^2 is now also displayed. The coefficient of determination is also available as command variable **COD** for calculations.
- The input range for the threshold value was extended to **0.0001 - 10.0** in the MEAS Cond command for the minimum evaluation and the maximum evaluation.

Configuration program part

- PDF files created in tiamo can now be merged without requiring a password using the **Configuration ▶ Tools ▶ Options... ▶ PDF ▶ Modifying the document allowed** menu item. However, this is only possible if the **Settings according to 21 CFR Part 11** check box is **not** activated in the **Configuration ▶ Tools ▶ Security settings...** dialog.

4 Fixed bugs and problems

Workplace program part

- If during a Karl Fischer titration (KFT) with the setting **Drift correction = automatic** it was titrated to a drift of 0.0 µL/min (i.e. overtitrated), then the value for the automatic drift correction was not updated in the following titration.

Database program part

- If a report template was opened for a selected determination and the **[PDF]** button was used to output the report as a PDF file, then the program crashed if the report template window was closed before the PDF was generated.
- Not all cycles were executed in the recalculation of determinations that contain a **LOOP** command with the stop condition **Maximum run time** activated.

Method program part

- The provided method **SP - Automatic pipetting (tubing) & titration.mmet** was not correct and has been improved.
- The error message **035-618 Missing e-mail template** was displayed if a method check was performed for a method with a **WAIT** command and the **Message by e-mail** check box activated but the **Use e-mail template** check box not activated in the **Send e-mail** dialog window.

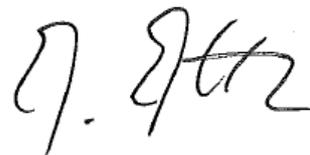
5 Compliance

The current software version does not contain any modifications that affect conformity of **tiamo** regarding 21 CFR Part 11 and GAMP.

Herisau, June 23, 2015



P. Hunziker
Vice President,
Head of Development



M. Matter
Head of Quality Management