MSA
The Safety Company

Operating Manual

SUPREMA Calibration

Software for Fire and Gas Warning Units

Order No.: 10154656/01

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Contents

GB

1 Safety Regulations

1.1 Correct Use

The program SUPREMA Calibration can be used for calibrating measuring points with passive detectors connected to a SUPREMA system.

This operating manual describes SUPREMA Calibration version 2.4.0.x.

WARNING!

Use of SUPREMA Calibration is only approved for SUPREMATouch systems with firmware 3.01.06, 3.02.01 and higher and SUPREMA systems with firmware 2.06.04.

It is imperative that this operating manual be read and observed when using the product. In particular, the safety instructions, as well as the information for the use and operation of the product, must be carefully read and observed. Furthermore, the national regulations applicable in the user's country must be taken into account for a safe use.

WARNING!

Only trained individuals should use SUPREMA Calibration. Before taking over calibrations from the SUPREMA Calibration on a SUPREMA the data needs to be checked.

DANGER!

This product is supporting life and health. Inappropriate use, maintenance or servicing may affect the function of the device and thereby seriously compromise the user's life.

Before use the product operability must be verified. The product must not be used if the function test is unsuccessful, it is damaged, a competent servicing/maintenance has not been made, genuine MSA spare parts have not been used.

Alternative use, or use outside this specification will be considered as non-compliance. This also applies especially to unauthorised alterations to the product and to commissioning work that has not been carried out by MSA or authorised persons.

1.2 Liability Information

MSA accepts no liability in cases where the product has been used inappropriately or not as intended. The selection and use of the product are the exclusive responsibility of the individual operator.

Product liability claims, warranties also as guarantees made by MSA with respect to the product are voided, if it is not used, serviced or maintained in accordance with the instructions in this manual.

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1.3 Safety and Precautionary Measures

- All calibrations made with a PC must be checked for correctness on the SUPREMA system, or they must be checked for correctness on the PC after they have been read back to the PC.
- Ensure that no unauthorised persons have access to a computer running SUPREMA Calibration.
- If an error message appears and the cause of the error is unclear or the error cannot be fixed, contact MSA.
- It is the responsibility of the user to check all data entered with SUPREMA Calibration.

⚠ WARNING!

Because the calculation of the relative sensitivity is based on the most recent *First calibration* before the calibration is carried out, incorrect values could result from a *First calibration* carried out directly on the SUPREMA.

⚠ WARNING!

Only applicable for firmware versions lower than 3.02.01:
No calibration data from calibrations carried out directly on the SUPREMA are stored in the database used by SUPREMA Calibration. This is why no reports are available for calibrations and *First calibrations* carried out directly on the SUPREMA.

2 Hardware and System Requirements

2.1 System Requirements

Supported Operating Systems

- Windows 7 x86/x64
- Windows 10 x86/x64

Hardware Requirements

Recommended Minimum: Pentium 1,5 GHz or higher with 2 GB RAM

Minimum disk space:

- x86 – 2 GB
- x64 – 4 GB

Minimum screen resolution: 1024x768

Recommended screen resolution: 1280x1024

2.2 Interfaces

The PC must be equipped with:

- USB port or
- Serial port

If no USB port driver is installed, Windows will detect a new device after connecting the SUPREMA via USB cable for the first time. The driver should be installed automatically. If the driver is not installed automatically, it is possible to install the driver from the SUPREMA Calibration CD.

2.3 Supported SUPREMA versions

- SUPREMATouch firmware 3.02.01 and higher
- SUPREMATouch firmware 3.01.06
- SUPREMA 2.06.04

For SUPREMATouch firmware or SUPREMA with a firmware version lower than 3.02.01 some functions of SUPREMA Calibration are not available. Where applicable, the reduced functional range is mentioned in this manual.

The SUPREMA manual referred to in this manual is the SUPREMATouch manual, 10121863, rev. 03. While the references will not work, the relevant content can be found in the SUPREMA manual as well.

2.4 Software Requirements

The following software has to be installed to use SUPREMA Calibration:

- SUPREMA Manager, version 2.4.0.x or higher

To use SUPREMA Calibration, a database has to be created with SUPREMA Manager.This database must include the dataset for the SUPREMA to be calibrated.

3 Installation

Administration rights are required for installation.

3.1 Installation Process

(1) Insert data carrier.

Run the setup file on the data carrier to install both MSA-App and SUPREMA Calibration.

Follow the instructions of the installation wizard.

(2) Start the SUPREMA App on the PC.

To start SUPREMA Calibration, use the following path:
Start/Programs/MSA/MSA-App/MSAApp

If the software PrimaX Manager is installed on the PC there will be two entries under MSA: “MSA-App” and “MSAApp”. For running SUPREMA Calibration start the “MSA-App” entry.

(3) **After completing the setup start the software once with administrator rights/permission.**

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4 MSA-App

SUPREMA Calibration and other software programs from MSA run as plug-ins inside the host application MSA-App. When SUPREMA Calibration is installed, MSA-App is part of this installation.

The screen of the MSA-App has the following layout:

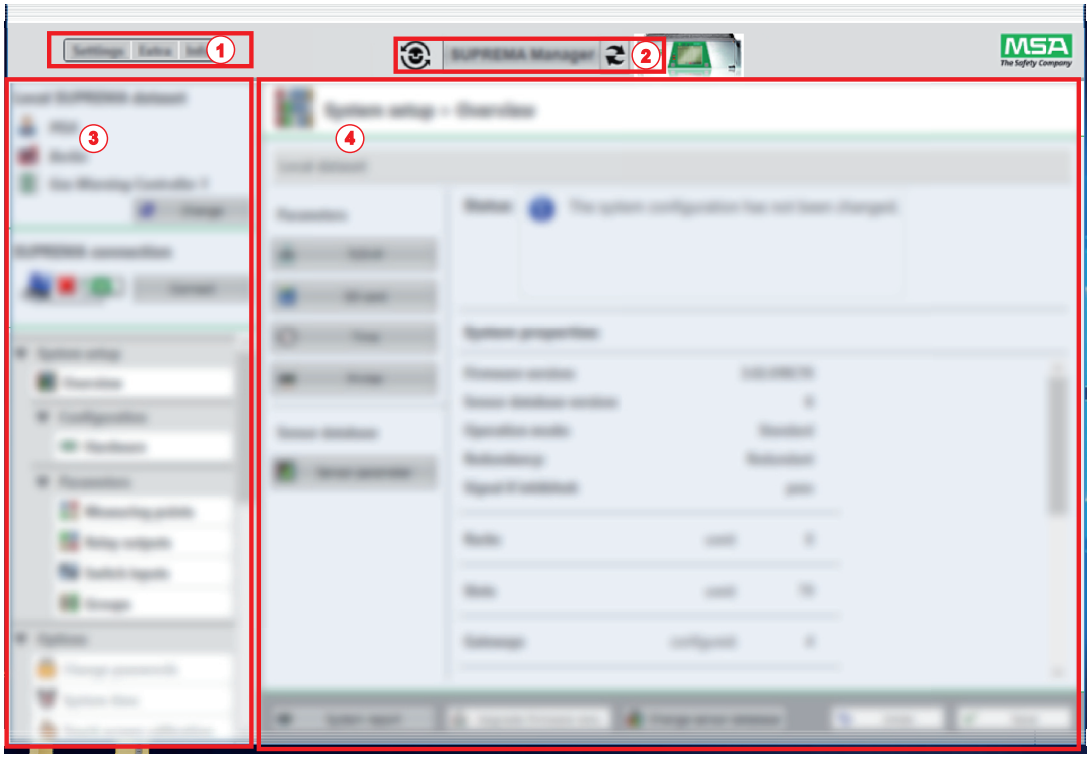

Fig. 1 MSA-App Screen Layout

1	*Menu area*	*2*	*Plug-in selection*
3	*Toolbar*	*4*	*Content area*

(1) Use this button to change between plug-ins.
The active plug-in is shown (name and icon).

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(2) Choose SUPREMA Calibration from the list of plug-ins.
The plug-in version is shown.

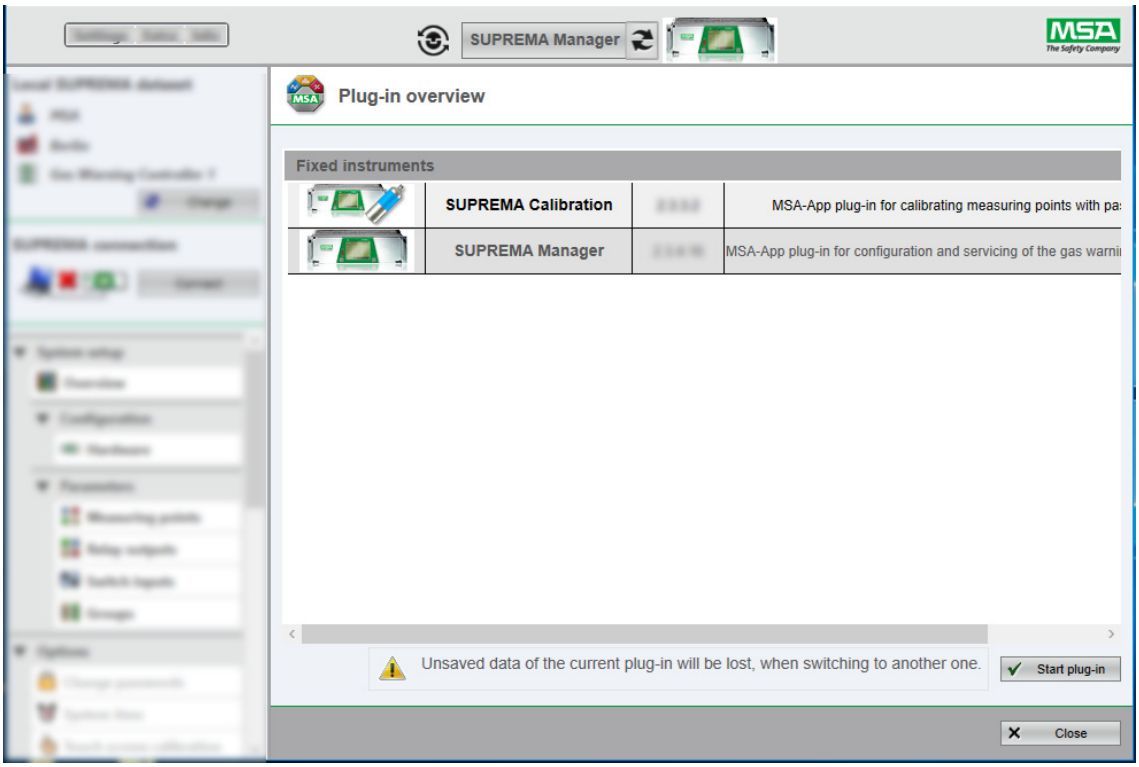

Fig. 2 Choosing a plug-in

(3) Activate the chosen plug-in with the *Start plug-in* button
The chosen plug-in is active.

Every window with a *Close* button has to be closed with this button to continue.

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Menu area

The menu has three entries, the first one is specific to the active plug-in and appears after a plug-in has been chosen, in case of SUPREMA Calibration, it is *Settings* (see chapter 6 "Settings"). The settings and the language for the MSA-App can be changed with *Extra*.
Changing the language will take effect after restarting the application.

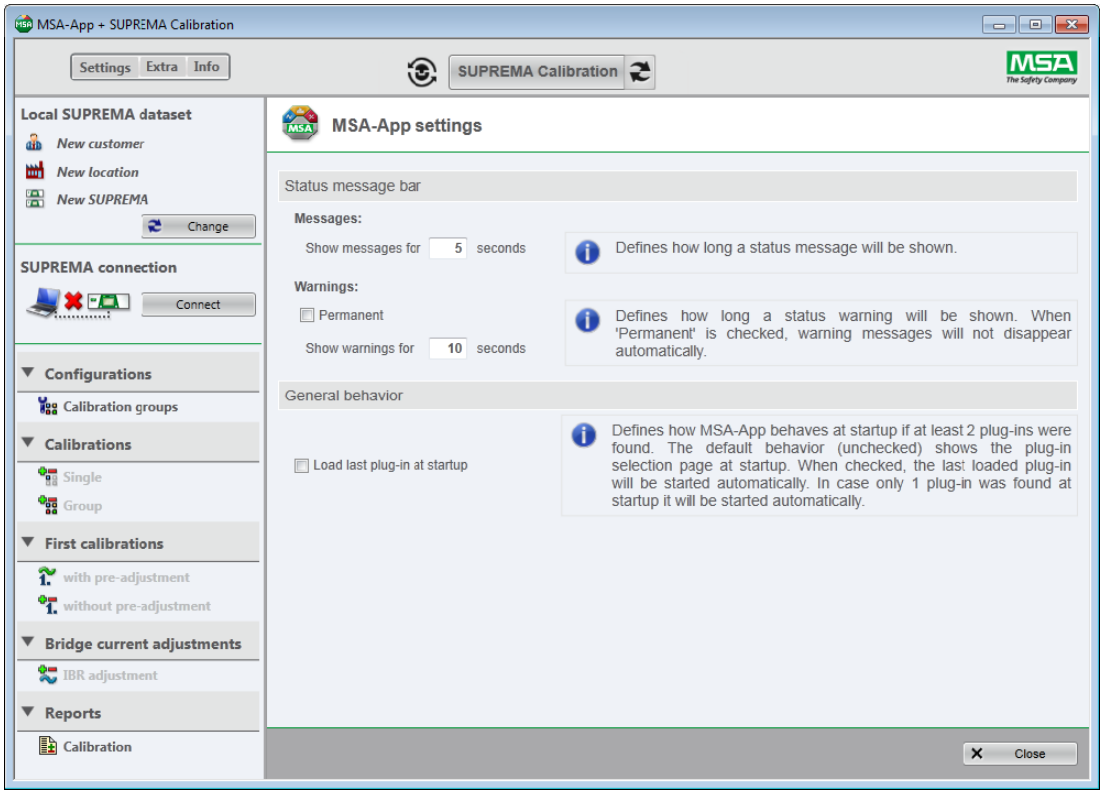

Fig. 3 MSA-App settings

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5 Overview

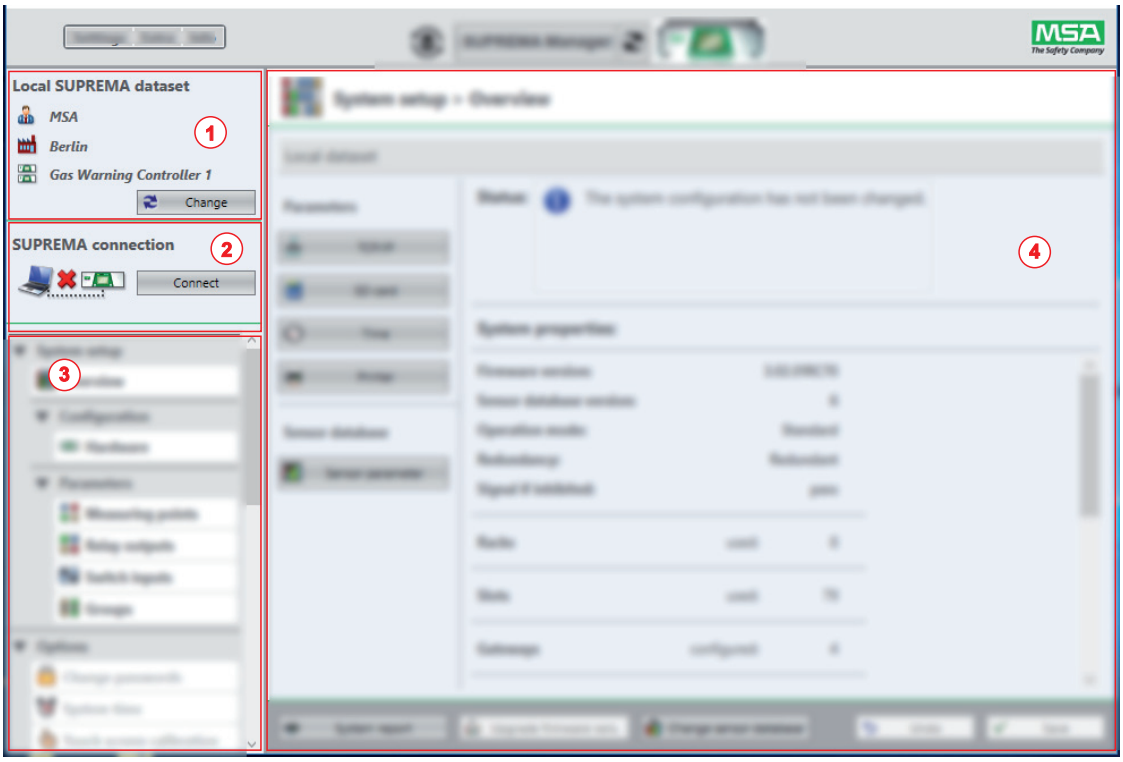

Fig. 4 SUPREMA Calibration

1	*Local SUPREMA dataset*	*3*	*Function nodes*
2	*SUPREMA connection*	*4*	*Content area*

5.1 Markings and Symbols

The status bar colours are shown using SUPREMA Manager screenshots, for SUPREMA Calibration the same colours are used.

Status Bar Colors

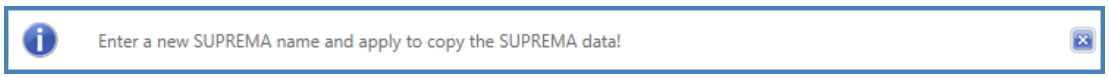

Fig. 5 Information: blue

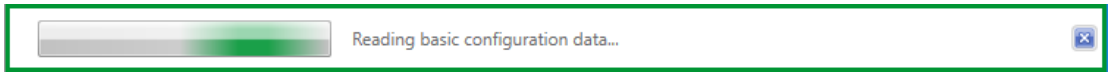

Fig. 6 Status: green

Fig. 7 Warning: orange

Fig. 8 Error: red

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Info and Warning Symbols

	*Info* fields show information about data entries and button functions.
	*Attention* fields advice against possible user errors.

Data Transfer Feedback

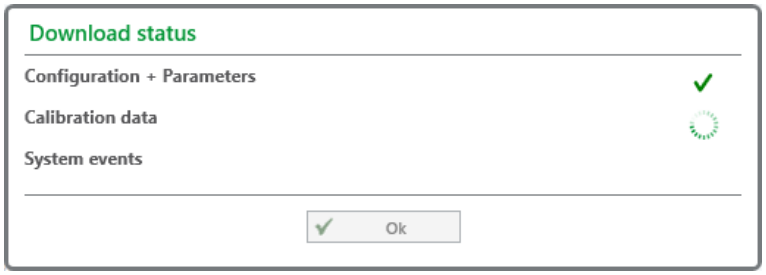

Fig. 9 Green check mark: Transfer successful

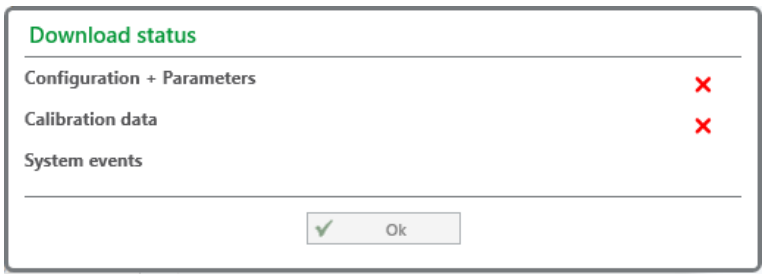

Fig. 10 Red cross: Transfer unsuccessful

Entry Feedback

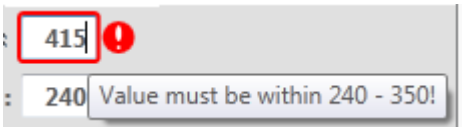

Fig. 11 Wrong entry plus tooltip

5.2 Local SUPREMA Dataset

Here the current local SUPREMA dataset is shown. Pressing *Change* opens the data management screen to select a different local dataset (see section 7 "Data Management").

5.3 SUPREMA Connection

To establish a connection between SUPREMA Calibration and SUPREMA, click on *Connect* . The connection settings set according to section 7 "Data Management" or section 6.1 "General Communication Settings" are used. When connected, the access authorisation area and the *Synchronise* button are shown.

Access Authorisation

Functions that are changing settings (e.g. parameters etc.) require access authorization by entering the password required for the level. Functions not available for the user logged in are disabled. Any change on the connected SUPREMA requires the appropriate access level. For the login the access level can be chosen:

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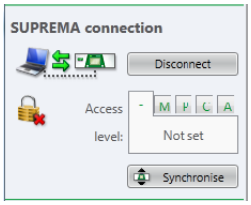

Fig. 12 Access level

The necessary password has then to be entered.

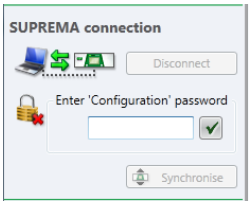

Fig. 13 Enter password

Five user groups with different access levels are defined:

- Read only (no password necessary)
- Maintenance (M)
- Parameterization (P)
- Configuration (C)
- Administration (for MSA use only) (A)

The passwords are saved on the SUPREMA system.

Not applicable for firmware versions lower than 3.02.01: If a user with modification authorization is logged in and there has not been any communication between the SUPREMA and the SUPREMA Calibration system for more than 5 minutes, password authorization will automatically expire.

The SUPREMA system is delivered with the default password “AUER” for all three accessible password levels.

When connecting to a SUPREMA, the default access level is *Read only.* If a key switch is used, the default access level is *Parameterization*.

Synchronise

Use *Synchronise* to synchronise the local dataset with the data of the connected SUPREMA. See chapter 8 "Synchronise Data" for details.

5.4 Function Nodes

Clicking on a node opens a list of all subnodes. Clicking on a subnode opens this subnode in the content area.

SUPREMA Calibration has the following nodes:

- *Calibrations*, to carry out different calibration procedures
- *First calibrations*
- *Bridge current adjustments*
- *Reports*, containing calibration reports and status reports

For firmware versions lower than 3.02.01, SUPREMA Calibration has the following nodes:

- *Configurations*, for grouping measuring points for calibration
- *Calibrations*, to carry out different calibration procedures
- *Reports*, containing calibration reports and status reports
- *First calibrations*
- *Bridge current adjustments*

Subnodes that can only be accessed while a SUPREMA is connected are disabled when no SUPREMA is connected or the required access level is not set.

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6 Settings

When starting SUPREMA Calibration for the first time the following screen is shown:

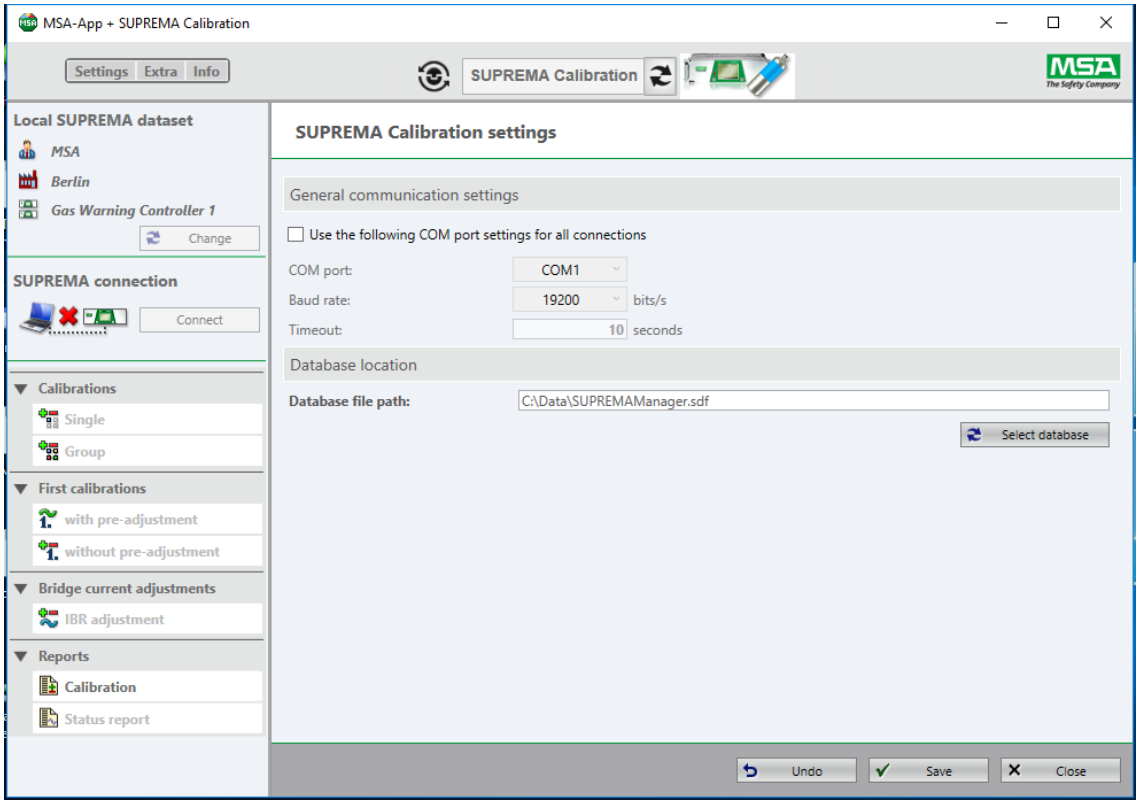

Fig. 14 Settings

To edit these settings later, click on *Settings* in the MSA-App menu area.

6.1 General Communication Settings

Here the connection settings for

- COM port settings
- Baud rate
- Timeout

can be edited. To edit these settings later, click on *Settings* in the MSA-App menu area.

(1) Make all necessary changes and save entries by clicking on *Save*.

If the checkbox is checked the communication settings entered here will overwrite the individual communication settings for each SUPREMA dataset.

6.2 Database Location

SUPREMA Calibration uses the database file (.sdf) created with SUPREMA Manager. When starting SUPREMA Calibration for the first time, it is necessary to select the location of the database used by SUPREMA Manager to read and store data. Before calibrations can be carried out, an existing database file path must be chosen.

(1) Select an existing database on the PC with *Select Database*.

(2) Make all necessary changes and save entries by clicking on *Save*.

Databases opened with newer versions of SUPREMA Calibration are not downward compatible to older versions of SUPREMA Calibration/SUPREMA Manager.

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7 Data Management

At least one dataset is required for SUPREMA Calibration. As long as no *Local SUPREMA dataset* has been entered, the button *Change* is marked red. In this case a new SUPREMA dataset has to be added using SUPREMA Manager.

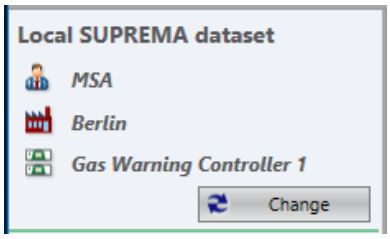

Fig. 15 SUPREMA dataset

(1) Click on *Change* to open *Data Management.*

The following screen is shown:

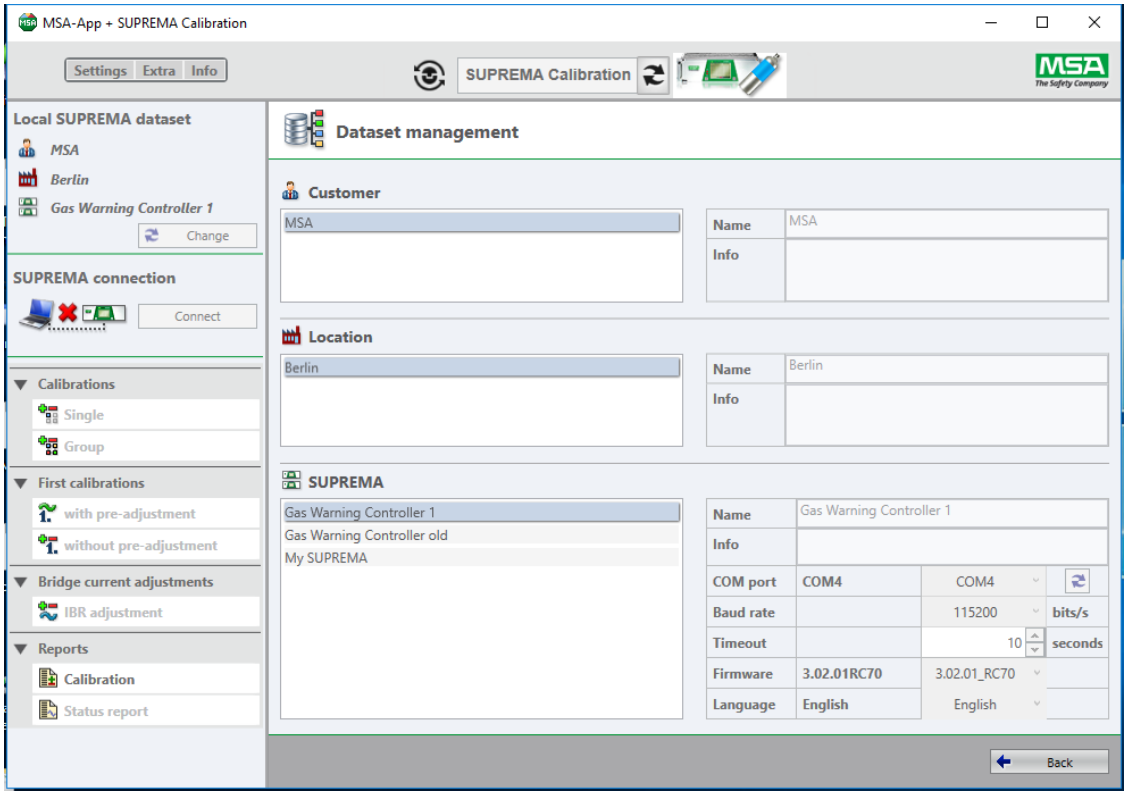

Fig. 16 Data Management

After closing, the SUPREMA dataset selected here will be the *Local SUPREMA dataset* shown at the top of the Toolbar.

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8 Synchronise Data

The local SUPREMA dataset can only be changed by downloading data from a connected SUPREMA or with SUPREMA Manager. Changing the system configuration of a SUPREMA system can only be performed using SUPREMA Manager.
Use SUPREMA Manager to download the complete calibration logbook data. This way, data from calibrations carried out directly on the SUPREMA will be entered into the database used by SUPREMA Calibration.

For firmware versions lower than 3.02.01 no calibration logbook data can be synchronized.

8.1 Download

When downloading an existing configuration, both configuration and parameterisation data are downloaded.

WARNING!

Downloading configuration and parameters will override the current local system configuration!

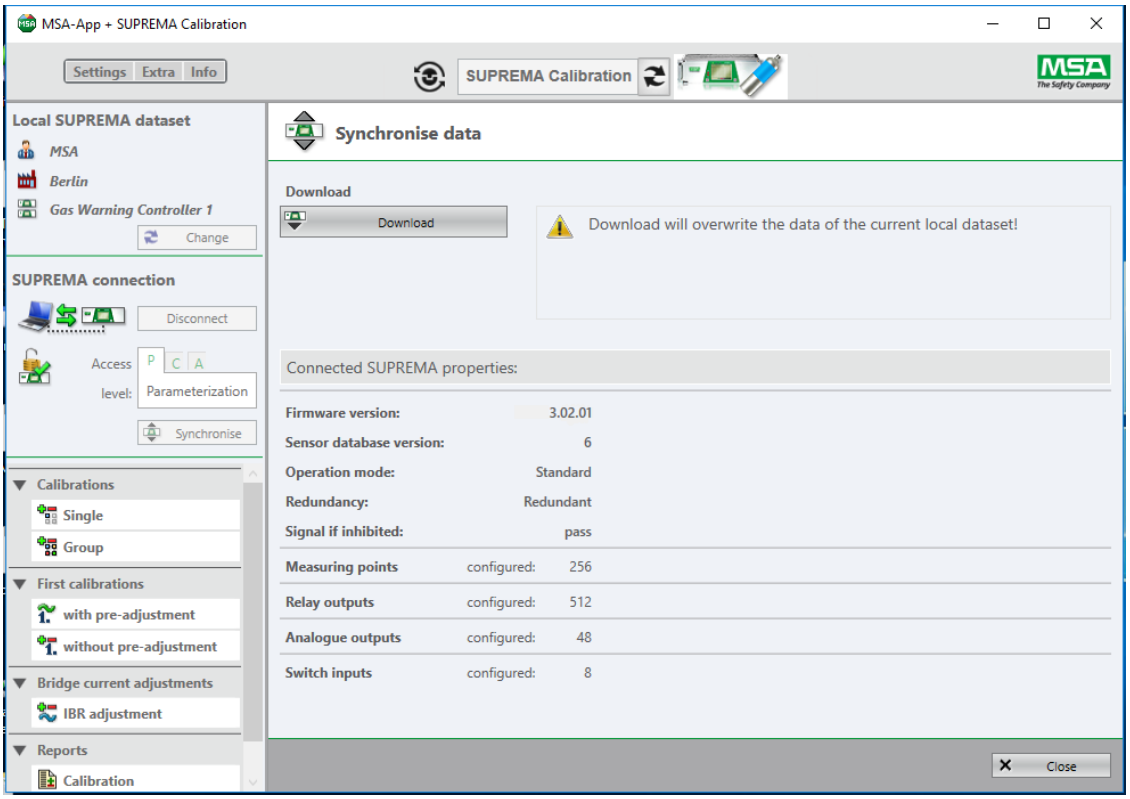

Fig. 17 Synchronise data dialog

During the download a status dialog is shown.

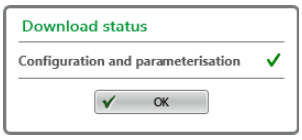

Fig. 18 Download status

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9 Only for firmware versions lower than 3.02.01: Configurations

For current firmware versions, measuring point groups are created and edited via SUPREMA Manager or directly with SUPREMATouch.

Measuring points can be grouped here to be calibrated in one session. To calibrate preconfigured groups of measuring points, use the *Group* subnode in *Calibrations*.

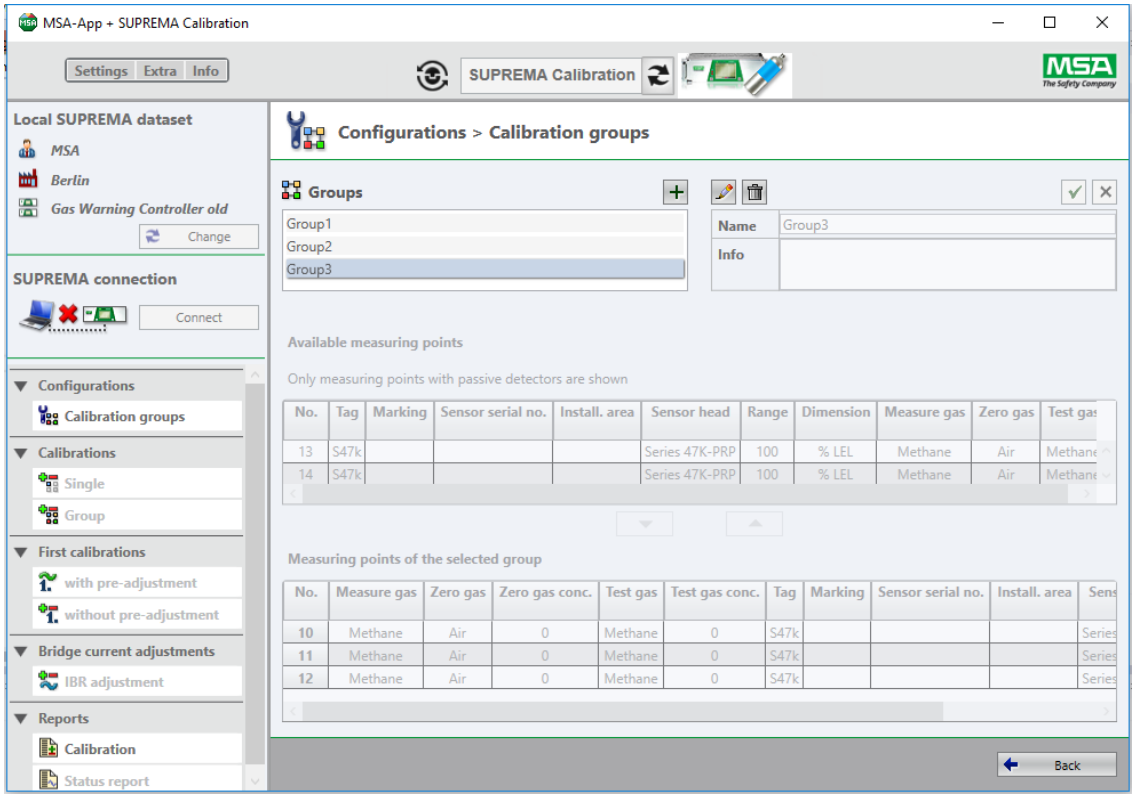

Fig. 19 Configuration

(1) Create new groups or edit/delete existing ones.

Symbol	Action
	Add new...
	Edit
	Delete
	Apply the changes
	Cancel editing

(2) Move measuring points to or from a group by double-clicking on the respective line or move measuring points using the arrow buttons.

Changes to the measuring points of a group are saved with Apply the changes or ignored with Cancel editing.

A measuring point can belong to several groups.

(3) Finish with *Close*.

10 Calibration

The following calibrations are possible:

- Single
- Group
- First calibration with pre-adjustment
- First calibration without pre-adjustment
- Bridge current adjustment (IBR)

WARNING!

No calibration data from calibrations carried out directly on the SUPREMA are stored in the database used by SUPREMA Calibration.
Because the calculation of the relative sensitivity is based on the most recent *First calibration* before the calibration is carried out, incorrect values could result from a *First calibration* carried out directly on the SUPREMA.
To prevent this, synchronize the calibration logbook before calibrating. Refer to chapter 8 "Synchronise Data"

For firmware versions lower than 3.02.01, calibration data cannot be synchronized.

10.1 General Calibration Description

Only measuring points with passive detectors can be calibrated with the software.

To calibrate measuring points, the SUPREMA has to be connected and the minimum access level has to be *Maintenance*. With connecting to the SUPREMA the relevant measuring point parameters are downloaded from the SUPREMA.

Selecting Measuring Points For Calibration

The selection of a measuring point for calibration as described in this chapter can be applied for standard calibration as well as for First calibration with or without pre-adjustment and for Bridge current adjustment.
A selection of several measuring points in this node is not saved as a group for later uses.
For newer firmware versions, groups can be created with SUPREMA Manager or directly on the SUPREMATouch. For firmware versions lower than 3.02.01, save measuring points in groups using *Calibration groups*.

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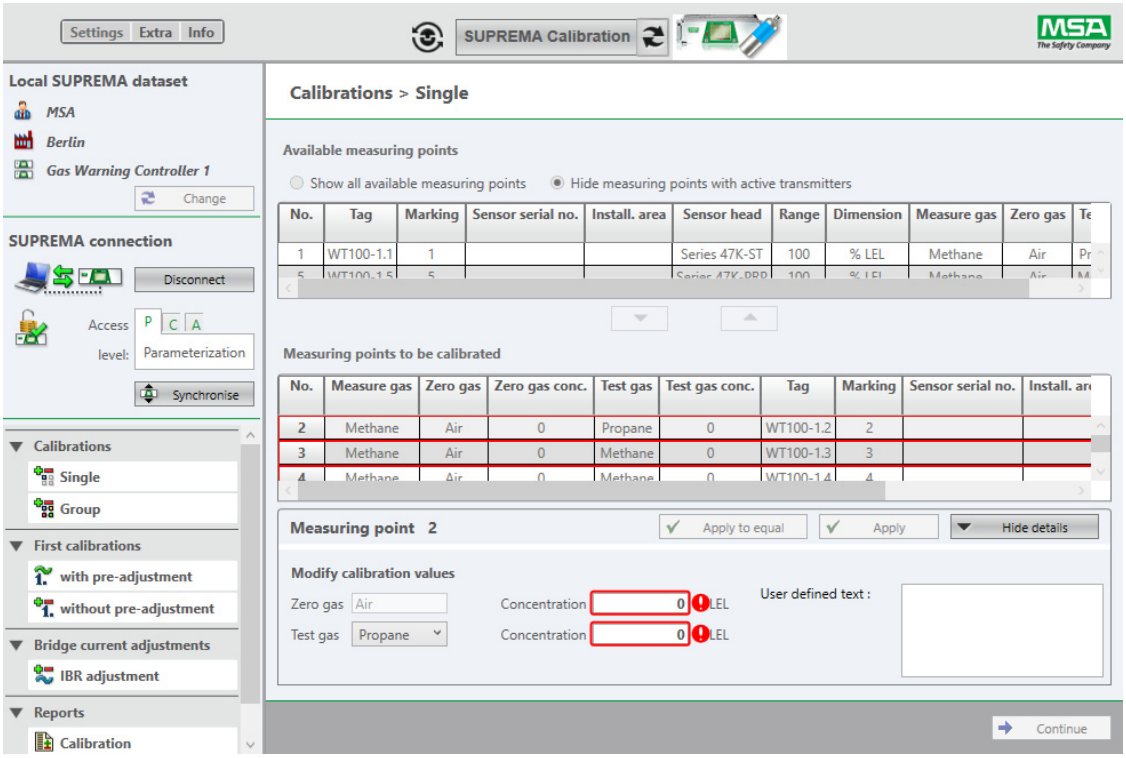

Fig. 20 Measuring points

The upper list contains all measuring points available for calibration.

(1) Select one or more measuring points and move them to the list *Measuring points to be calibrated* by double-clicking or with the cursor button.

If values for a chosen measuring point need to be adjusted, the line is outlined red. Double-clicking on the line opens the details, there the values can be adjusted.

(2) Adjust values if necessary, confirm with *Apply*.

If no first calibration data is stored for a selected measuring point, a dialogue pops up.

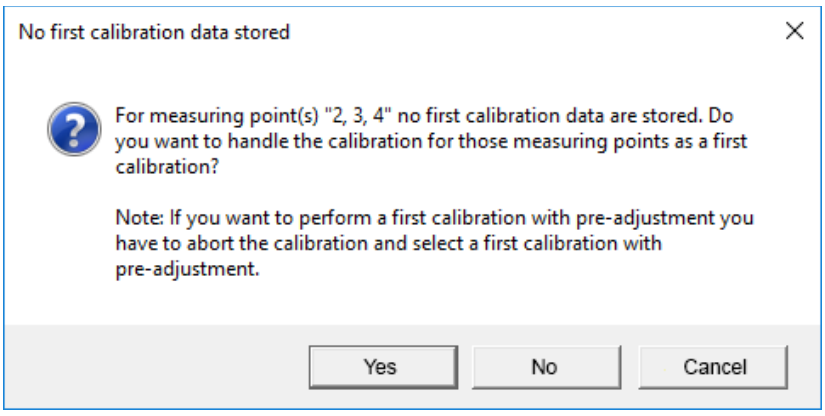

Fig. 21 No first calibration data available

(3) If applicable, choose an option to continue.

(4) Start calibration with the *Start* button.

If for the selected measuring point no first calibration is available, *Zero point adjustment* is not available and a warning is shown.

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Next, the calibration procedure is selected and calibration durations can be entered.
The following screen shows a Single calibration, the screens differ slightly for the different calibrations.

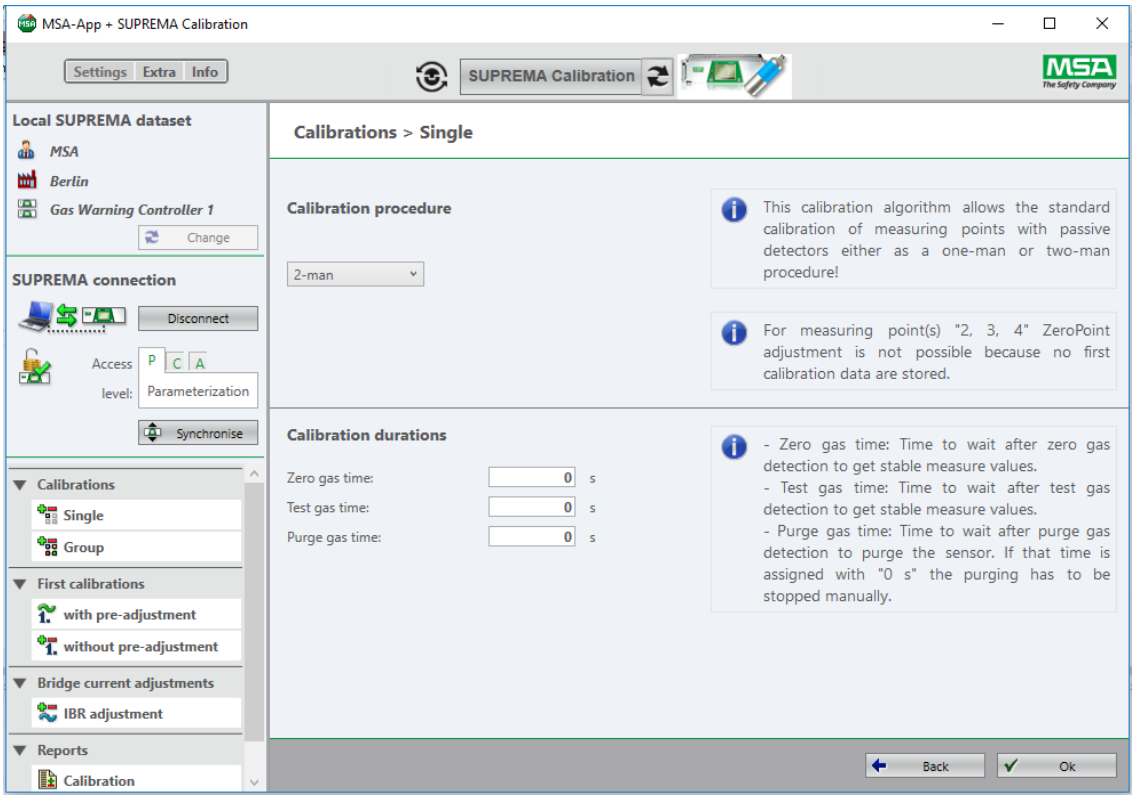

Fig. 22 Calibration procedure

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Calibration Procedures

Which one-man calibration procedure is used depends on the firmware version, SUPREMA Calibration automatically chooses the appropriate version.

One-Man Calibration (SUPREMA)

PC	At the sensor
(1) Start the calibration with *Start calibration*. The *Progress* field shows: • Starting…	
	(2) Apply Zero Gas.
The *Progress* field shows: • Zero gas time	(3) Wait before applying test gas.
	(4) Apply test gas.
The *Progress* field shows: • Test gas time • Confirm	
(5) Click on *Confirm*. (6) Confirm the calibration values with *Accept* or dismiss the calibration with *Reject*.	(7) Apply zero gas again.

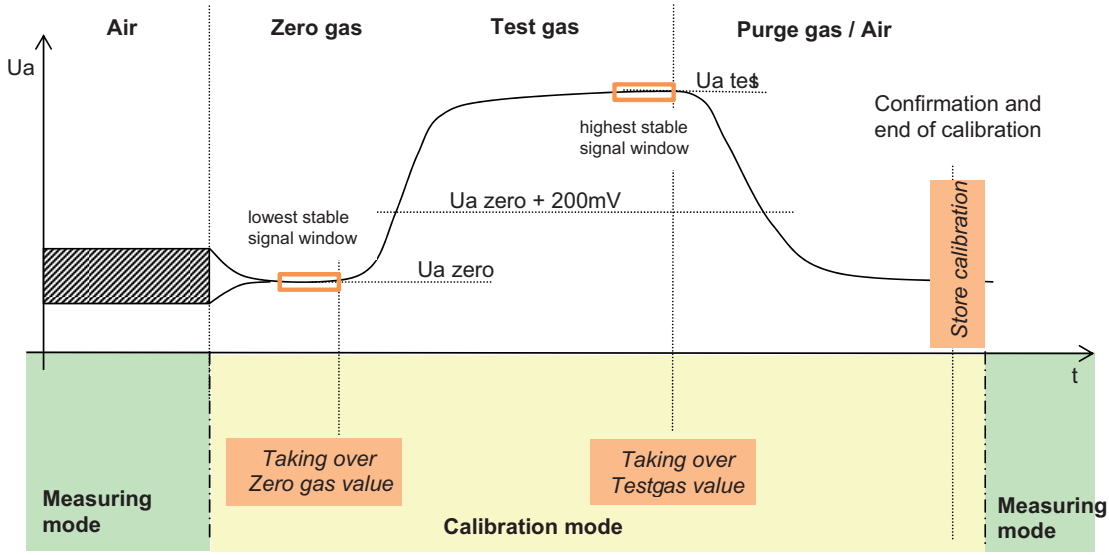

Fig. 23 One-man calibration (SUPREMA)

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One-Man Calibration (SUPREMA Calibration, for firmware versions below 3.02.01)

PC	At the sensor
(1) Start the calibration with *Start calibration.* The *Progress* field shows: • Starting…	
	(2) Apply Zero Gas.
The *Progress* field shows: • Zero gas time	(3) Wait at least as long as configured under *Zero gas time* before applying test gas.
	(4) Apply test gas.
The *Progress* field shows: • Test gas time x s (counts the configured time down to 0) • Test gas confirmed • Apply purge gas	(5) Wait at least as long as configured under *Test gas time* before applying purge gas.
	(6) Start purging.
The *Progress* field shows if purge gas time is configured = 0: • Purge gas applied • Stop purge gas (7) Click on *Stop*. *The Progress field shows Confirm.* The *Progress* field shows if purge gas time is configured > 0: • Purge gas time x s (counts the configured time down to 0) • Purge gas stopped • Confirm	(8) Wait at least as long as configured under *Purge gas time* before stopping purge gas application.
	(9) Stop purging.
(10) Click on *Confirm*. (11) Confirm the calibration values with *Accept* or dismiss the calibration with *Reject*.	

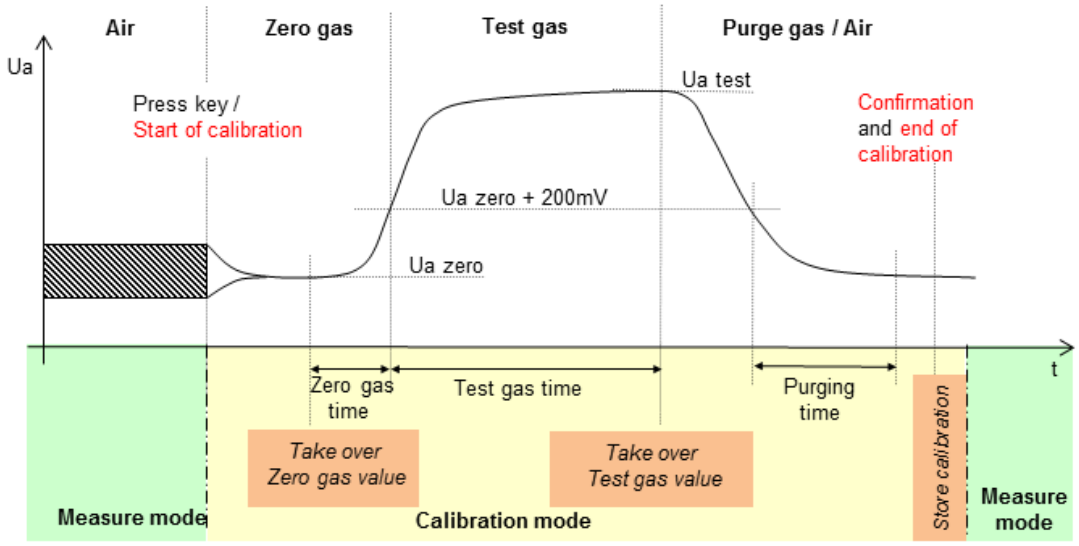

Fig. 24 One-man calibration

Two-Man Calibration

(1) Start the calibration with *Start Calibration*. The *Progress* field shows: • Starting… • Apply zero gas	
	(2) Apply Zero Gas.
• Zero gas applied	
(3) Confirm zero gas	
• Zero Gas confirmed • Apply test gas	
	(4) Apply test gas.
• Test gas applied	
(5) Confirm test gas.	
• Test Gas confirmed • Apply Purge Gas	
	(6) Apply purge gas.
• Purge Gas applied • Stop purge gas	
	(7) Stop purge gas.
• Purge gas stopped • Confirm	
(8) Click on *Confirm*. (9) Confirm the calibration values with *Accept* or dismiss the calibration with *Reject*.	

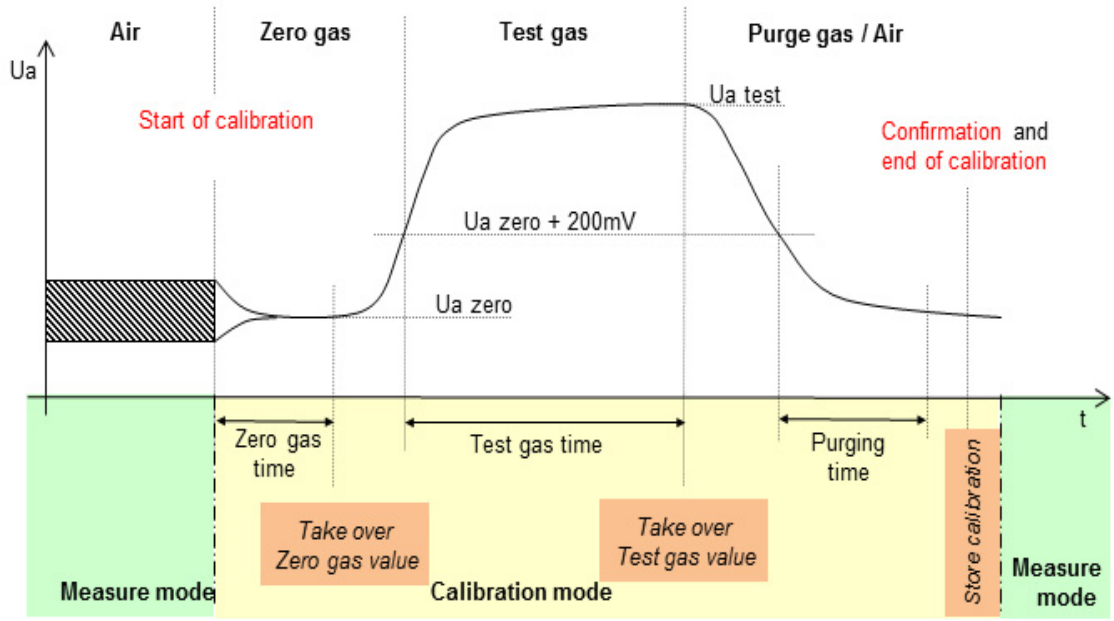

Fig. 25 Two-man calibration

The times necessary for *Calibration Durations* are different for one-man or two-man calibration.

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One-Man Calibration

After the start of the calibration, the system is waiting for a stabilization of the signal. If the signal is stable, this value is taken over as zero gas value. If the signal decreases, each lower stable value is taken over as zero gas value and replaces the zero gas value stored before in this calibration cycle.

If a zero value is stored, and the signal stabilized at more than 200 mV above the stored zero value, this value is stored as test gas value. If the signal increases, each higher stable value is taken over as test gas value and replaces the test gas value stored before in this calibration cycle.

The calibration cycle has to be finished manually after an educated check of the stored values.

In contrast to the two-man calibration several sensors are set inhibited with starting the session. The calibration is finished for all selected sensors when the user returns to the PC. The calibration for all selected sensors can be individually set valid or be dismissed.

WARNING!

During a calibration, the sensors that are being calibrated are set to inhibit. During calibration the sensors cannot send any signals, therefore a safe operation of the area usually monitored by the now inhibited sensors must be ensured by other means.

WARNING!

For one-man calibration the user interface is disabled 3 minutes after starting the calibration. The user interface can be reenabled by selecting a sufficient access level and entering the correct password. If the calibration is not finished within 4 hours it is canceled (for all selected sensors). If more than 8 senors are selected for calibration, a message box warns about the risk of inhibiting sensors for a longer period of time.

MSA recommends to avoid using sleep mode or screen savers and to avoid running any other programs and applications while running SUPREMA Calibration.

In Addition for Firmware version lower than 3.02.10

During a one-man calibration, the switch between zero gas calibration and test gas calibration is carried out automatically, controlled by the *Calibration Durations* specified by the user.

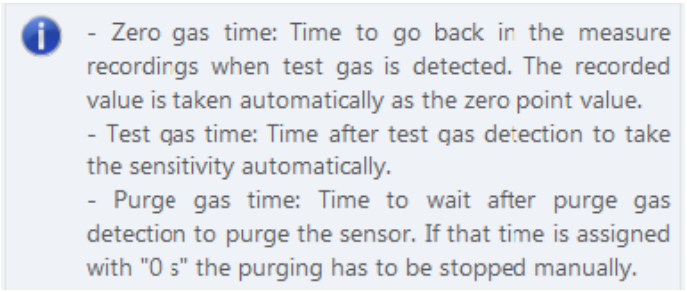

Fig. 26 Gas times

GB

Two-Man Calibration

For a two-man calibration, this switch has to be carried out manually. Therefore it is necessary to have one person operating the PC and one person handling the sensors.

- Zero gas time: Time to wait after zero gas detection to get stable measure values.
- Test gas time: Time to wait after test gas detection to get stable measure values.
- Purge gas time: Time to wait after purge gas detection to purge the sensor. If that time is assigned with "0 s" the purging has to be stopped manually.

Fig. 27 Gas times

Calibration Process

The following example shows the screenshots for a two-man calibration. Only the software interactions are shown, see the tables in the previous section for the required actions at the sensor.
If user interaction is required, the field *User Action* shows the required action.
All values shown during calibration are the current values from the SUPREMA.
The following screen shows a Single calibrations, the screens differ slightly for the different calibrations.

For each sensor a *Start calibration* button is displayed to start the calibration for that sensor (except for *Bridge current adjustment* or when calibrating only one measuring point). If the *Cancel* button is pressed, already finished calibrations are not affected.

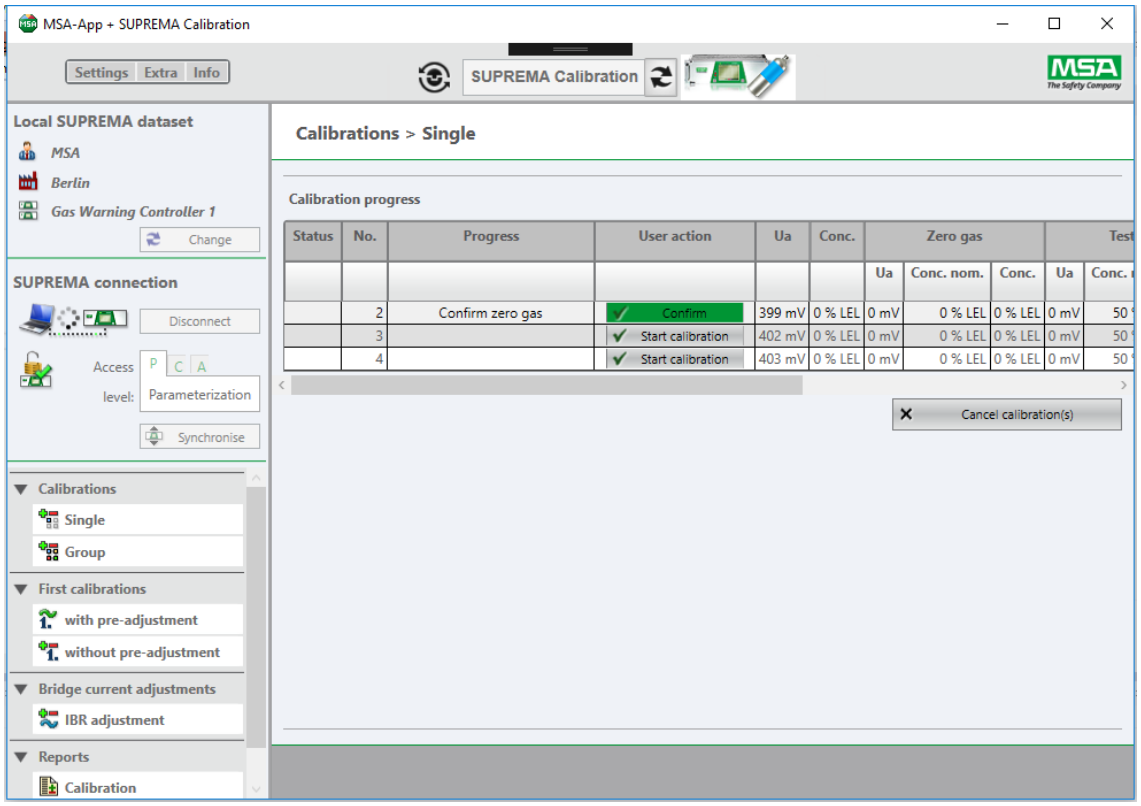

Fig. 28 Calibration progress

GB

(1) Start the calibration with *Start calibration*.

The *Progress* field shows the progress of the calibration:

- Starting…
- Apply Zero Gas
- Zero Gas applied
- Confirm zero gas
- If *Zero gas time* configured >0: Zero gas time x s (counts the configured time down to 0)

To take over the signals for zero point and sensitivity for each measuring point, press *Confirm* in the *User action column*. As long as the signal is rated as unstable, an hourglass is shown on the button. The user can still confirm the signal, since there may be conditions under which the signal will not be rated stable even after a longer time period. The values have to be verifyed when accepting the calibration.

When the signal is rated stable, a check mark is shown on the button.

If insufficiently stable signals for zero point and sensitivity are taken over, incoherent calibrations can occur.

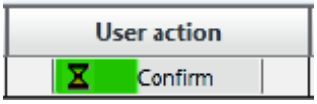

Fig. 29 Waiting for stable signal

Fig. 30 Stable signal

Additionally a green rating bar is shown on the button.

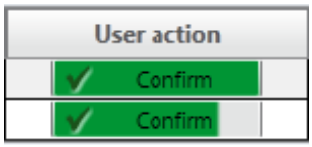

Fig. 31 Bar showing signal stability

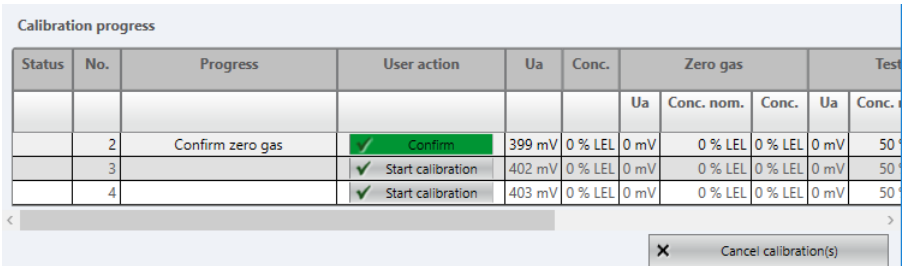

Fig. 32 Confirm zero gas

(2) Click on *Confirm*.

The *Progress* field shows:

- Zero Gas confirmed
- Apply test gas
- Test Gas applied
- Confirm test gas
- If *Test gas time* configured >0: Test gas time x s (counts the configured time down to 0)

GB

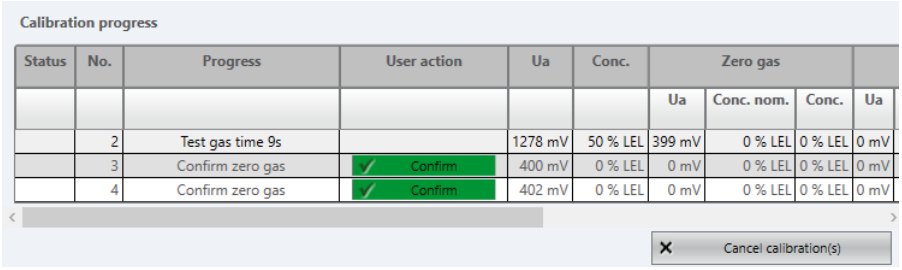

Fig. 33 Test gas time countdown

(3) Click on *Confirm*.

The *Progress* field shows:

- Test Gas confirmed
- Apply Purge Gas
- Purge Gas applied
- If *Purge gas time* configured >0: Purge gas time x s (counts the configured time down to 0)
- If *Purge gas time* configured = 0:Stop purge gas

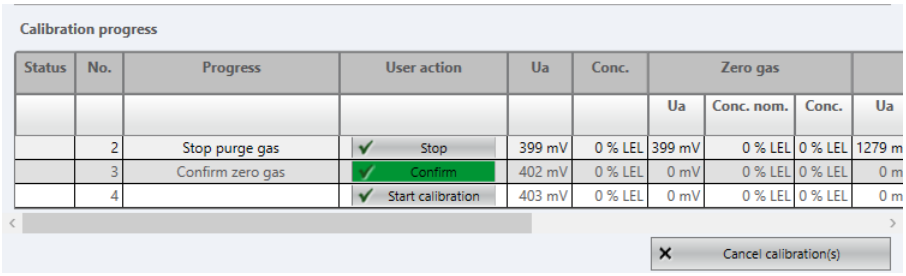

Fig. 34 Stop purge gas

(4) Click on *Stop* if applicable.

The *Progress* field shows:

- Purge gas stopped
- Confirm

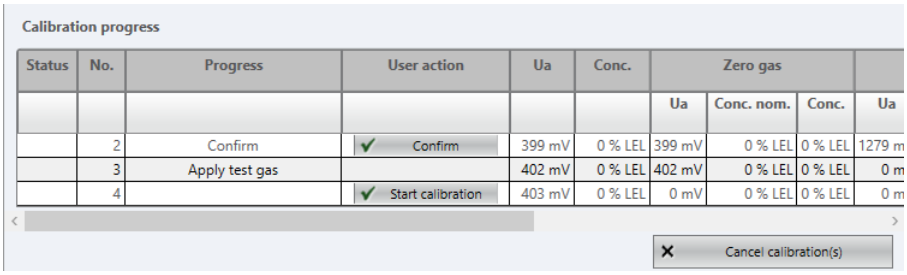

Fig. 35 Confirm

GB

(5) Click on *Confirm*.

The calibration values that will be sent to the SUPREMA are displayed in a pop-up window.

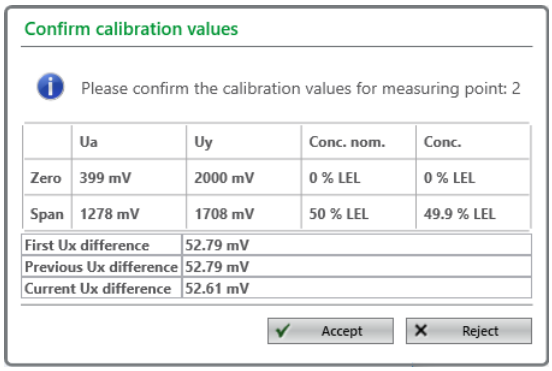

Fig. 36 Confirm calibration values

(6) Check the values, click on *Accept* to save as a valid calibration.

With Reject, the values are rejected, the previous calibration values stay valid.

With Accept, the calibration values will be send to the SUPREMA as valid calibration data.

(7) After all selected sensors have been calibrated the calibration session ends automatically.

The calibration values are read back from the SUPREMA.

If at least one of the calibration has ended with warning or error the calibration session has to be ended manually with Continue.

The calibration status is shown in the Status column.

(8) Ensure that the data matches.

After the calibration values are read back from the SUPREMA, they have to be checked by the user to ensure the sent and the readback data are the same.

If the data matches, the calibration has been successful.

WARNING!

If the data does not match, the calibration has to be repeated.

Status	
✔	*OK* (green checkmark) confirms a valid calibration..
⚠	*Warning* shows that the calibration is valid, but with a warning.
⊘	*Error* signals an invalid calibration.
–	Calibration is not started yet, is canceled or the values are rejected.

GB

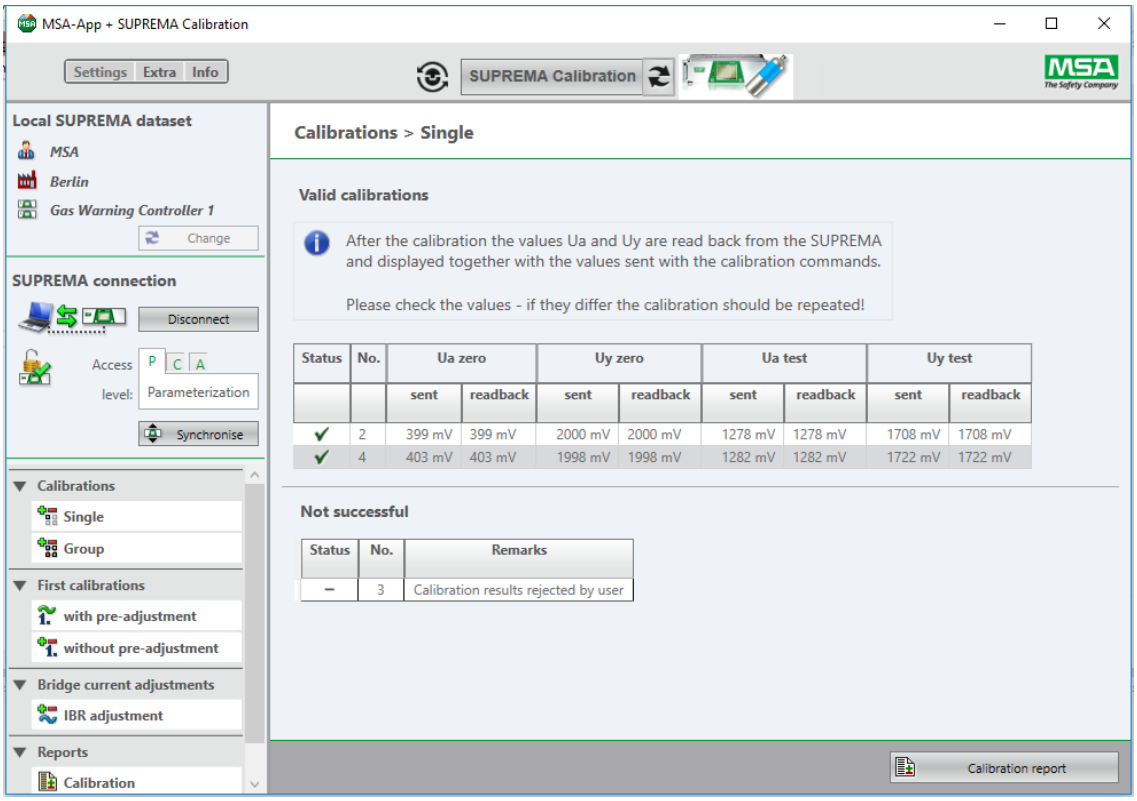

Fig. 37 Calibration results

The calibration report for the calibration just finished can now be shown by clicking on *Calibration Report*.

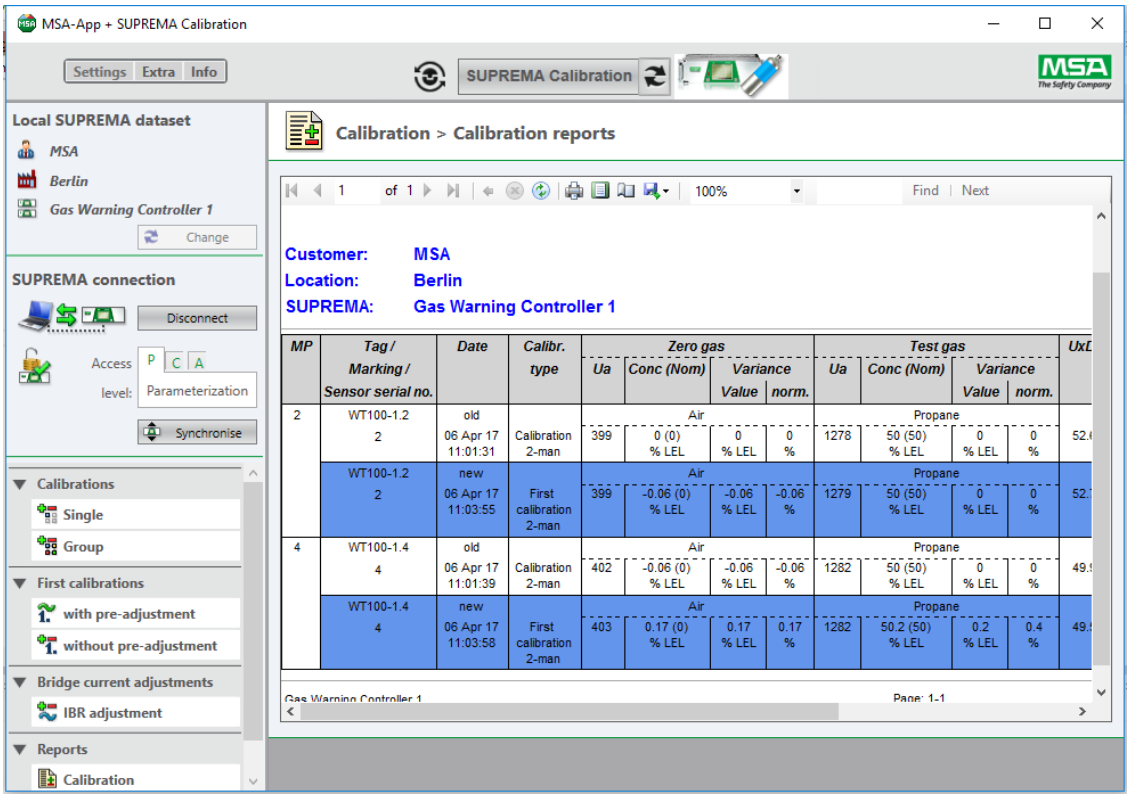

Fig. 38 Calibration report

GB

10.2 Troubleshooting

A new calibration can not be started if the measuring point is still in calibration mode. This can be the case if a measuring point is still in calibration state because of still pending alarming conditions due to a continued test gas application.

10.3 Single

Here it is possible to calibrate a single measuring point or to select several measuring points to be calibrated at once.

(1) Select measuring point for calibration (see chapter 10.1 "General Calibration Description").

If no first calibration data is stored for measuring points to be calibrated, the following message box appears:

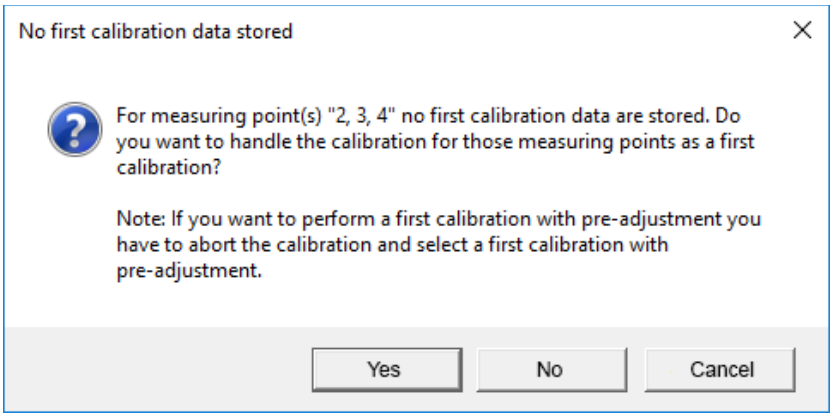

Fig. 39 No first calibration data

(2) If applicable, choose an option to continue.

Select Calibration Procedure

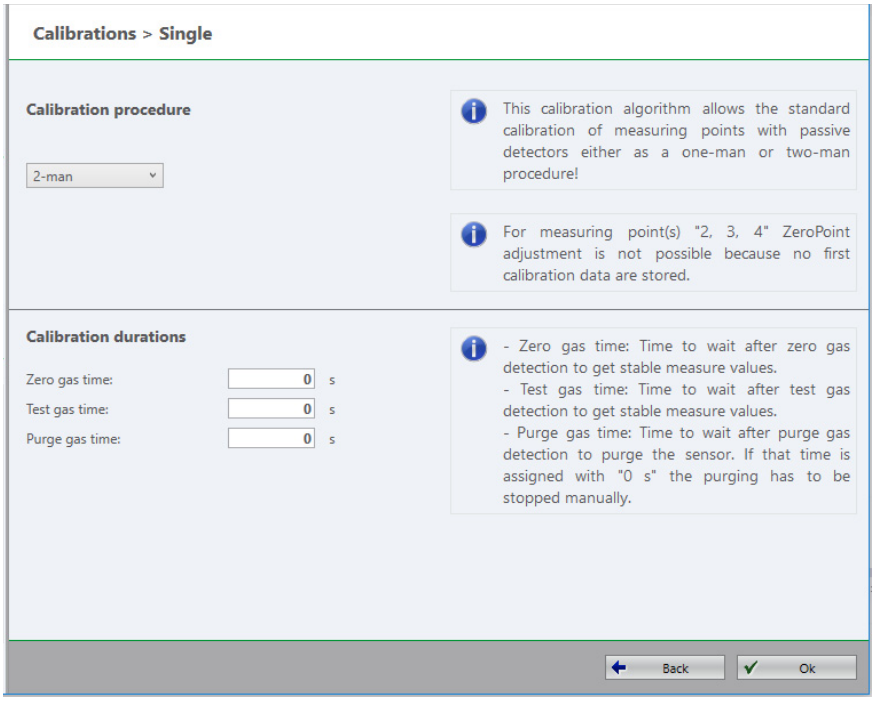

Fig. 40 Select calibration procedure

GB

(1) Choose *Calibration Procedure* and adjust *Calibration Durations* if necessary.

The times necessary for Calibration Durations are different for one-man or two-man calibration, the default times and the information text on the screen are therefore also different.

For two-man calibration it is possible to check *Zero point adjustment only*. In this case the calibration is finished after the zero gas adjustment.

If for one of the selected measuring points no first calibration has been carried out, *Zero point adjustment only* is not available and a warning will pop up.

(2) Run the calibration (see chapter "Calibration Procedures").

10.4 Group

A group of measuring points can be selected for calibration at the same time.

The only difference of calibrating measuring points in *Group* compared to *Single* is the selection of measuring points to be calibrated:

(1) Choose the group of measuring points to be calibrated from the drop-down list.

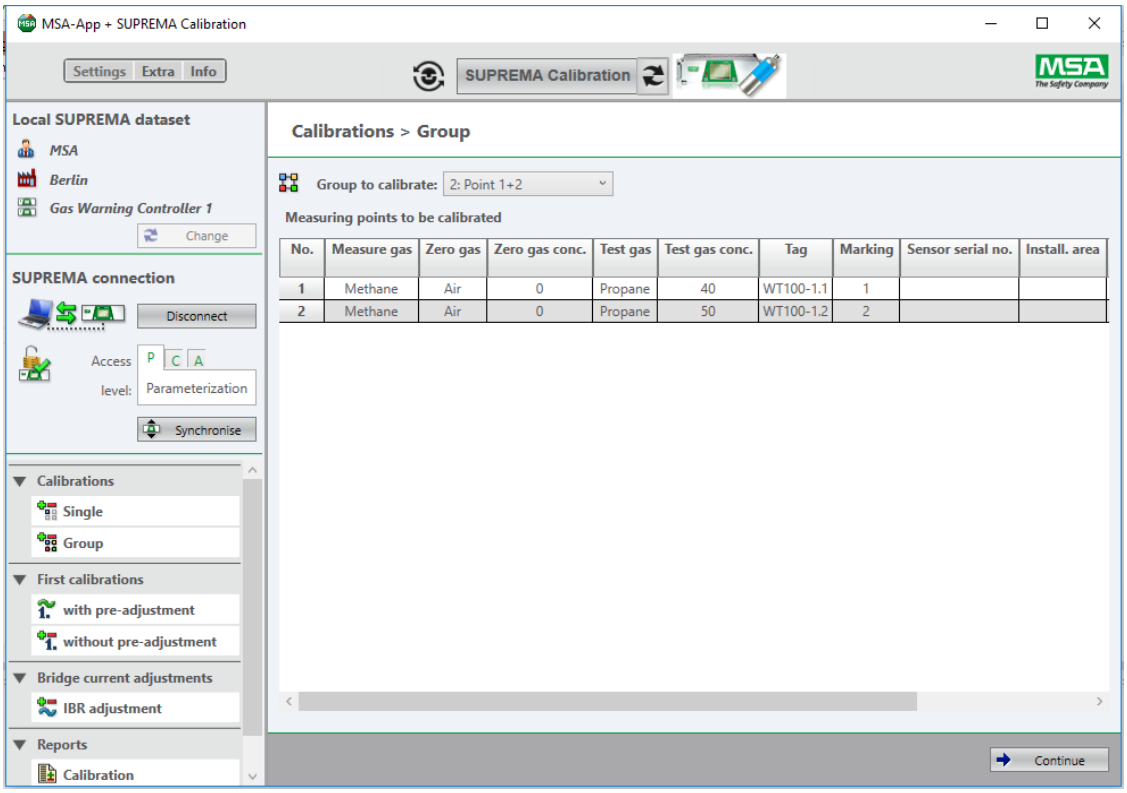

Fig. 41 Group calibration

10.5 First Calibration with Pre-Adjustment

WARNING!

Only carry out this calibration for new sensors. Using *First Calibration* for sensors already in use makes it impossible to track the sensitivity changes over the lifetime of the sensor.

The calibration for the next sensor cannot be started before the running calibration is finished.

This node is used for a first calibration with preadjustment. A first calibration can be carried out as a two man or one man calibration (for firmware versions lower than 3.02.01 only two man calibration is possible).
The selected measuring points are calibrated one by one. The process is similar to the standard calibration process, described in detail in the previous section. There is one difference: The preadjusting phases for zero and test gas cannot be canceled immediately. The current preadjusting process controlled by the SUPREMA must be finished first.
Afterwards the calibration will be canceled normally.

WARNING!

If the calibration has been canceled for one measuring point, the calibration was not completed, although pre-adjustment was performed at least partially. The calibration for the affected measuring point(s) must be restarted to have valid calibrations stored in the SUPREMA!

WARNING!

As soon as a first calibration is started, all existing calibration data for a measuring point is deleted. It is not possible to save the data by interrupting or canceling a first calibration.

GB

(1) Select measuring point for calibration (see chapter 10.1 "General Calibration Description").

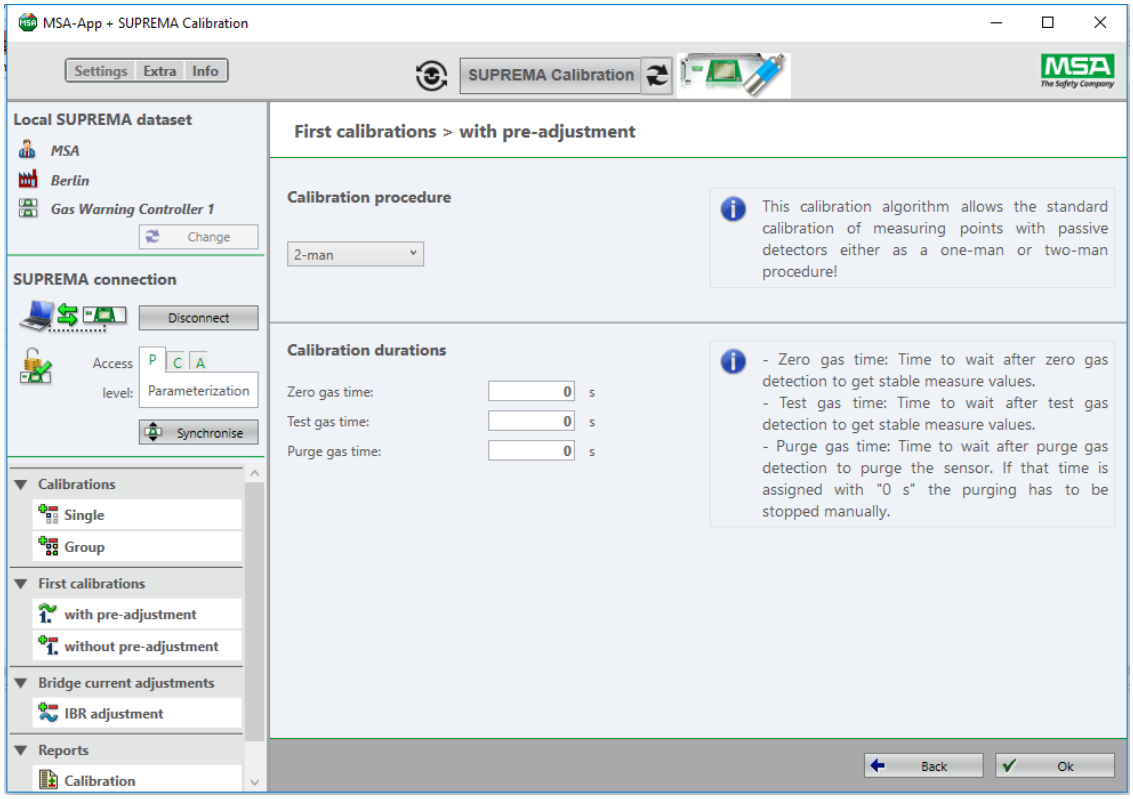

Fig. 42 First calibration with pre-adjustment

(2) Adjust *Calibration Durations* if necessary.

(3) Run the calibration (see chapter "Calibration Procedures").

10.6 First Calibration without Pre-Adjustment

WARNING!

Only carry out this calibration for new sensors. Using *First Calibration* for sensors already in use makes it impossible to track the sensitivity changes over the lifetime of the sensor.

This node is used for a first calibration if the hardware does not support pre-adjustment. A first calibration can be carried out as a two man or one man calibration (for firmware versions lower than 3.02.01 only two man calibration is possible).
The process is the same as for the standard calibration process (see chapter "Calibration Procedures"). The calibration is stored as a first calibration and therefore all existing calibration data of the appropriate measuring point are deleted in the SUPREMA.

WARNING!

If the cancel button is pressed, only the measuring points where the calibration is not finished yet will be affected. For them the calibration data in the SUPREMA remain unchanged.

GB

10.7 Bridge Current Adjustment

This node is used for adjusting the bridge current (IBR).

WARNING!

When a bridge current adjustment is carried out, all existing calibration data for the selected measuring points is deleted.

WARNING!

It is not possible to cancel a running bridge current adjustment.

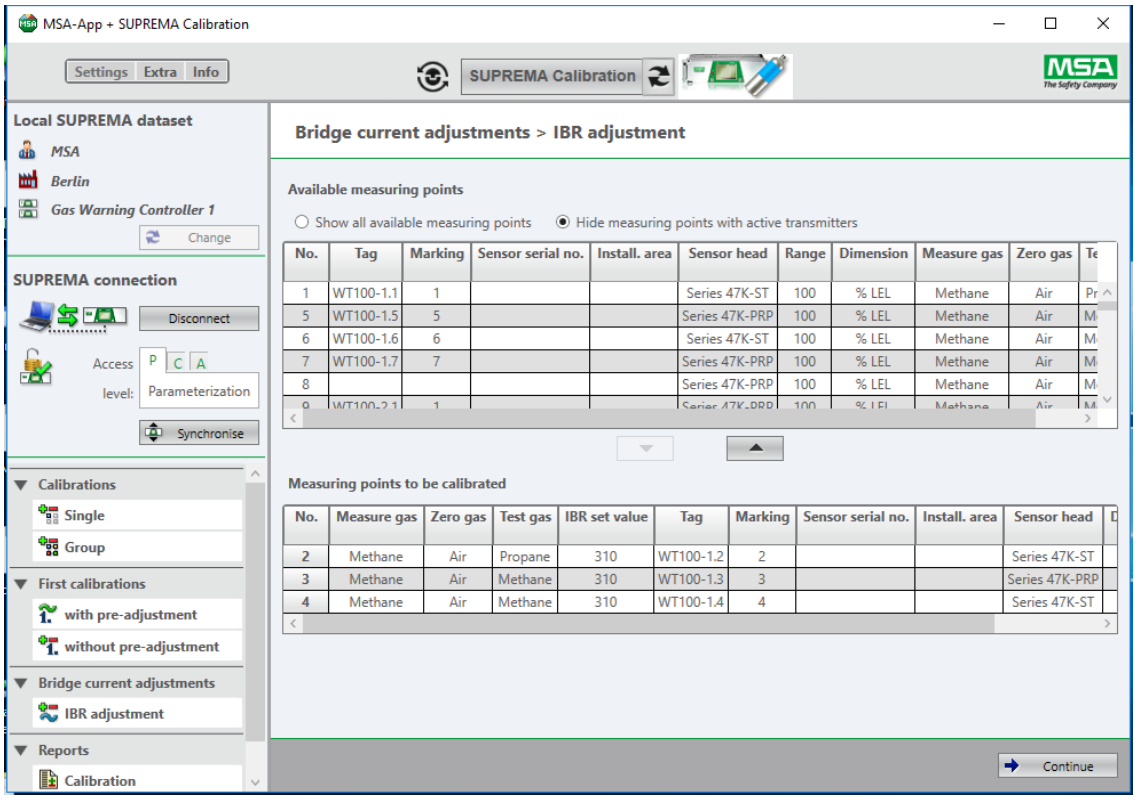

Fig. 43 IBR adjustment

(1) Select measuring points for adjustment (see chapter 10.1 "General Calibration Description").

(2) Adjust bridge current if necessary, confirm with *Apply*.

(3) Continue with *Continue*.

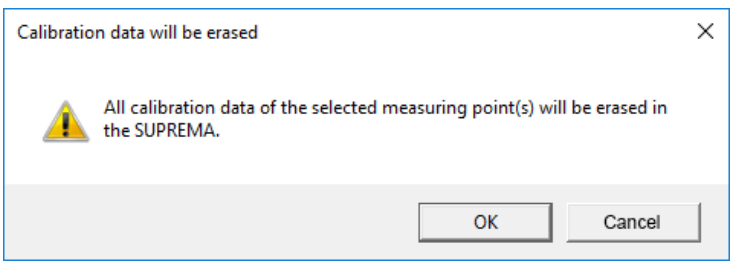

Fig. 44 Calibration data will be erased

GB

(4) Start the adjustment with *OK*.

The *Progress* field shows the progress of the adjustment:

- Starting...
- Preparing bridge current adjustment
- Bridge current adjustment running
- Accepted
- Finished

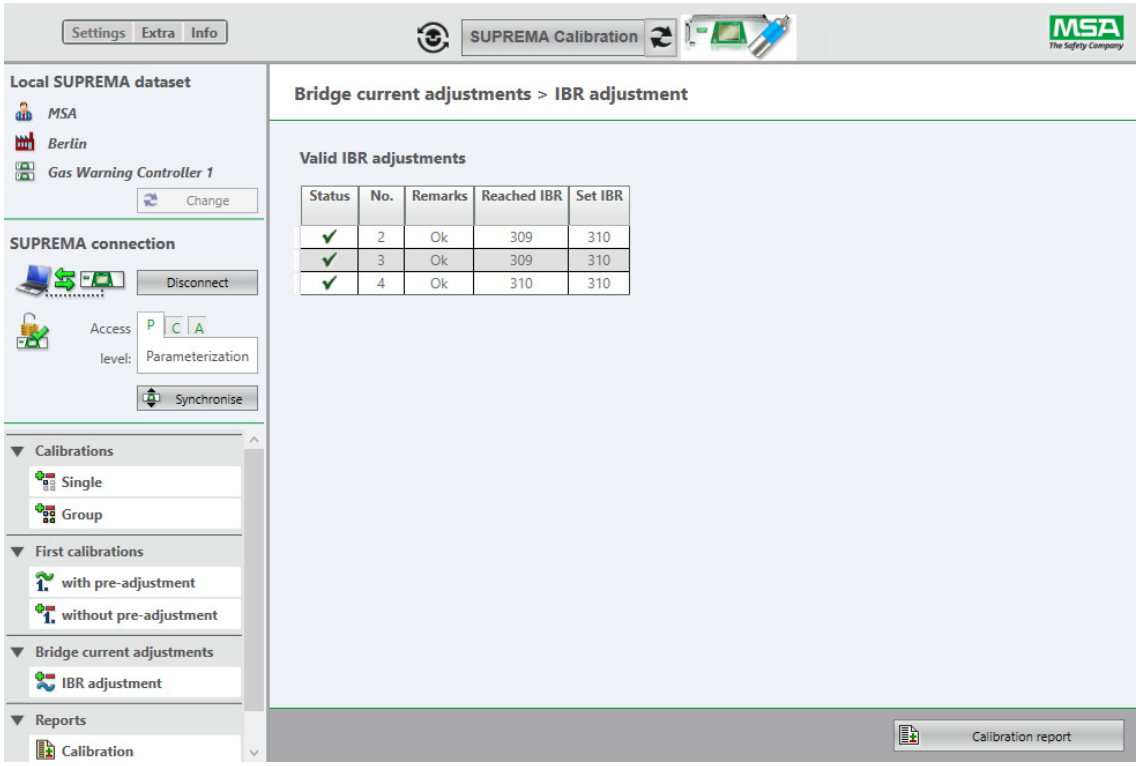

Fig. 45 IBR adjustment

The calibration report for the IBR adjustment just finished can now be received by clicking on *Calibration Report*.

GB

11 Reports

11.1 Calibration Reports

WARNING!

For firmware versions lower than 3.02.01:
No calibration data from calibrations carried out directly on the SUPREMA are stored in the database used by SUPREMA Calibration. This is why no reports are available for calibrations and *First calibrations* carried out directly on the SUPREMA.

Reports for all calibrations performed by the software can be shown.
In the *Report Selection* dialog it is possible to filter the stored calibrations by date, measuring point and calibration method.

WARNING!

Each *First calibration* and subsequent calibrations done via the SUPREMA Calibration software are saved in the currently used data set of the database so that they can be referenced by reports drawn afterwards.
To keep the calibration reports consistently complete MSA recommends that all calibrations are performed via the SUPREMA Calibration software.
No calibration data from calibrations carried out directly on the SUPREMA are stored in the database used by SUPREMA Calibration.
To store the reports for calibrations carried out directly on the SUPREMA, synchronize the calibration logbook before first usage (see chapter 5.3 "SUPREMA Connection", *Synchronize*.)

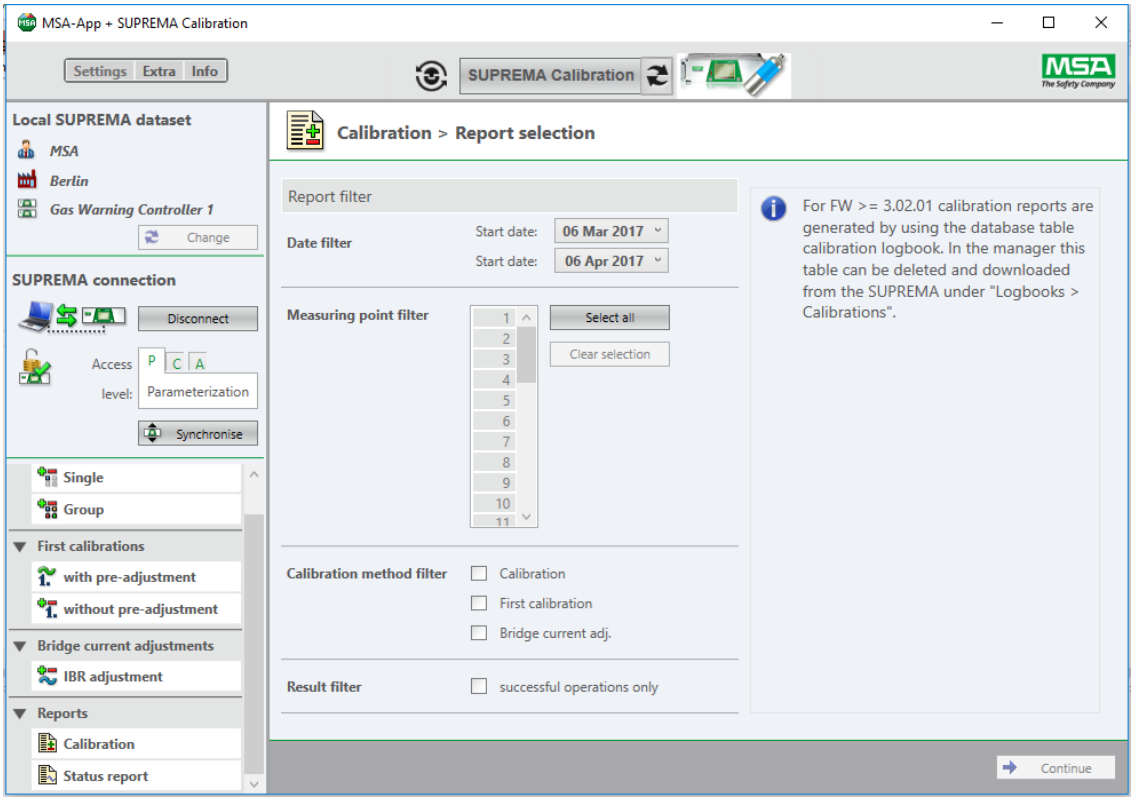

Fig. 46 Report selection

With *Continue* the report will be shown.

GB

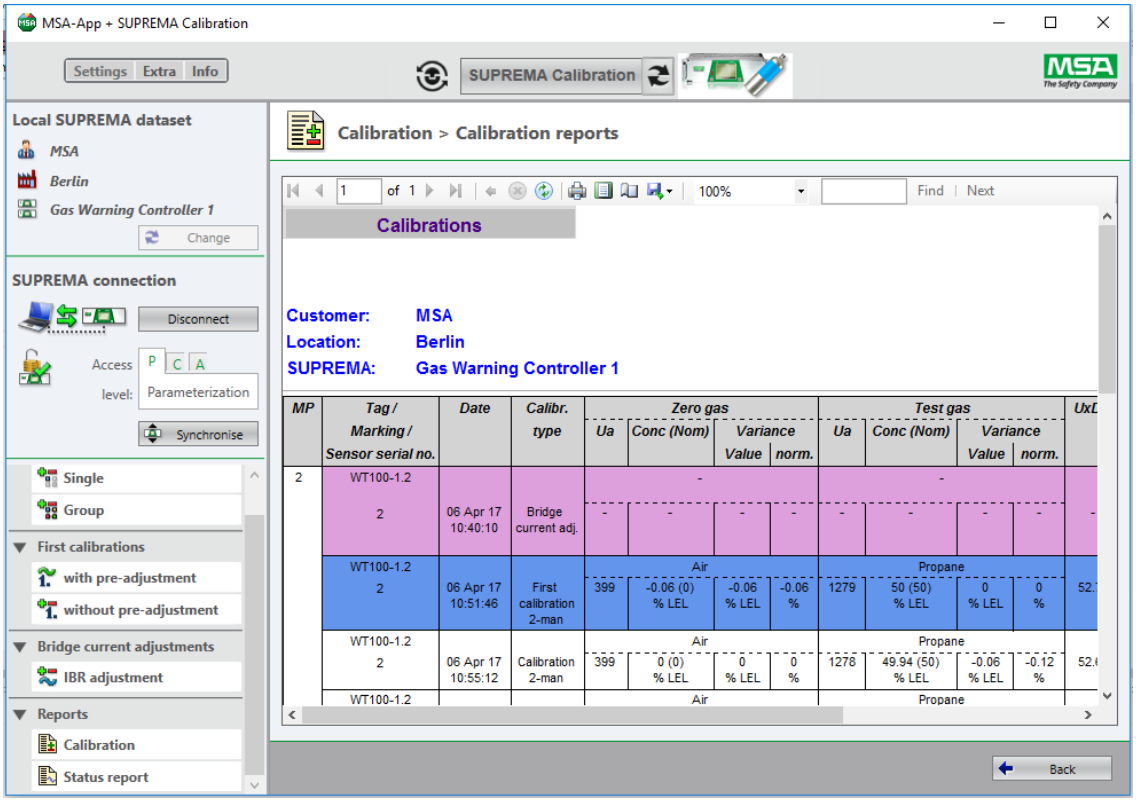

Fig. 47 Report

Legend

Color	Calibration result
	Ok (Calibration)
	Ok (IBR Adjustment)
	Ok (First Calibration)
	Errors
	Warning
	Rejected by user
	Cancelled

Ua	Measurement value, values displayed is edited for a measurement range of 400 mV to 2000 mV
Ux	Difference signal of the Wheatstone bridge for combustible sensors
Ux difference	Signal deviation for Ux between zero gas and test gas
Ux difference norm.	Signal deviation for Ux extrapolated over the complete measuring range.
Relative sensitivity	Sensitivity relative to sensitivity measured in first calibration. Can be used as an indication for the sensor lifetime.

The report can be printed and exported when clicking on the following buttons:

GB

Button	Action
	Refresh
	Print
	Print Layout (to choose page size for the print)
	Page Setup (to preview print), click again on icon to leave preview
	Export, as Excel, PDF or WORD file

11.2 Status Report

For this report the current SUPREMA measuring point status is received from the SUPREMA and shown in table form. This report can be used to document the state of the SUPREMA measuring points.

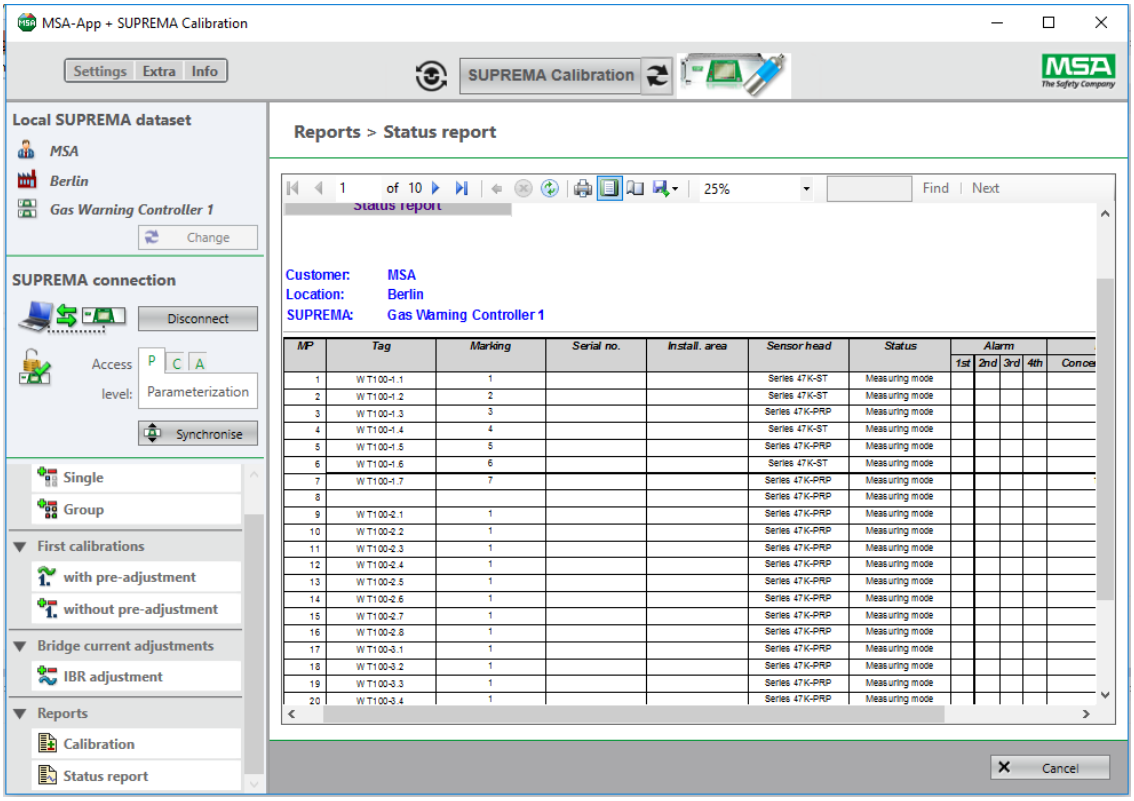

Fig. 48 Status report

GB

12 Ordering Information

Description	Part No.
SUPREMA Calibration Instr. Manual, English	10154656
SUPREMA Touch CD ROM - SUPREMA Calibration	10159747
SUPREMA Manager Instr. Manual, English	10154655
SUPREMA Touch CD ROM - SUPREMA Manager	10121868
SUPREMA Touch CD-ROM - Manuals	10121867
SUPREMA Touch Instr. Manual, English	10121863

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