

User Manual
version 1.00

**INSTRUMENT
MANAGER**

KEY TO SYMBOLS

Please see below all the symbols that will be used in the manual to draw the reader's attention:



Pay special attention to the following instructions.



Further information.

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INTRODUCTION

The Instrument Manager software allows you to set, update and monitor parameters, to be managed from a PC for an instrument connected via a PC serial port.

Software features:

- Creation of instrument configurations.
- Configuration uploading and downloading to/ from instruments.
- Profiles and personal configuration database.
- Configuration comparison and printout.
- Real-time instrument management via serial port.
- Firmware update.
- Instrument real calibration.
- Equalisation and channel selection (multichannel instruments only).
- Restoring non-operating instruments.
- Qualified access for legally relevant operations.

INSTALLATION AND START-UP

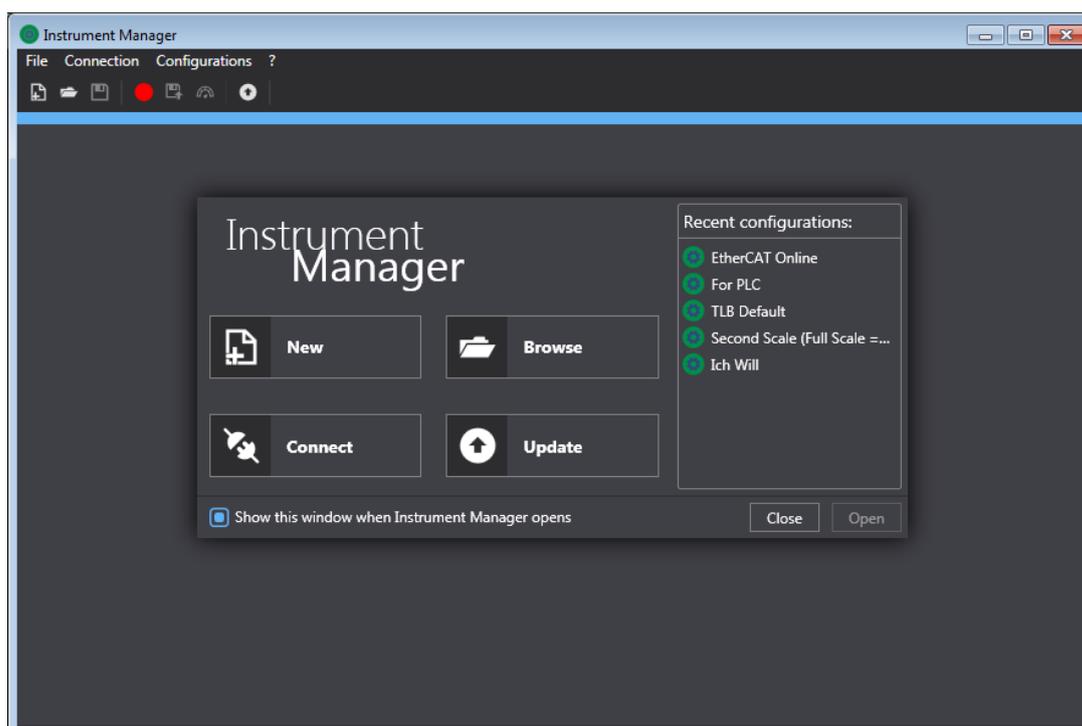
Double-click on the installation file and follow the on-screen instructions.



You may need to perform the operation as an administrator. In this case, right-click on the installation file and select “Run as administrator”.

Once installed, start Instrument Manager from the Windows Start menu or double-click the icon on your desktop.

At startup, the software will show the welcome window.

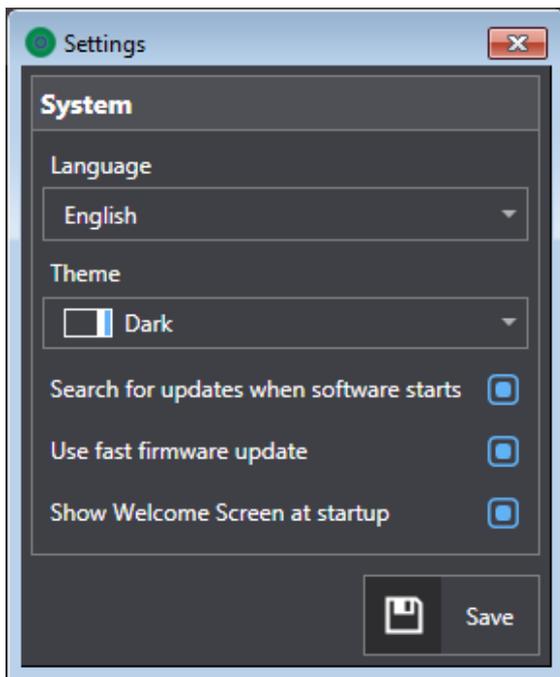


From the welcome window, you may perform various quick operations by clicking on the displayed icons and fields:

- *New*: click to create a new configuration (see section **CREATING A NEW CONFIGURATION**).
- *Browse*: click to open an existing configuration (see section **OPENING AN EXISTING CONFIGURATION**).
- *Connect*: click to open the connection window in real time (see section **CONNECT**).
- *Refresh*: click to refresh the firmware of a connected instrument (see section **UPDATING FIRMWARE**).
- *Recent configurations*: double-click on an item on the list or select and click *Open* to open the configuration.
- *Show this window at startup*: select to display the welcome window at software start-up.

SOFTWARE CONFIGURATION

Select the menu *File* → *Settings* to access the Instrument Manager software settings window.



Language: select the software language (to apply changes, you need to save and restart the software).

Theme: select the software graphic theme (to apply the changes, you need to save and restart the software).

Search for updates when software starts: if activated, software updates and possible new firmware are automatically searched for at start-up.

Use fast firmware update: if enabled, it activates an high-speed firmware update procedure (see section **UPDATING FIRMWARE**).

Show welcome window screen at startup: if enabled, it displays the screen with quick operations at start-up (see section **INSTALLATION AND START-UP**).

Click on *Save* to confirm settings.

CONFIGURATIONS

Configurations are sets of parameters that define the identity and behaviour of an instrument. Configuration data consist of various types of parameters:

- identity parameters;
- operating parameters;
- saving parameters.

You can create new configurations or open previously created and saved configurations.

CONFIGURATION DATA

IDENTITY PARAMETERS

The identity parameters describe the instrument with its software:

- *Instrument*: type of instrument.
- *Firmware*: instrument firmware version.
- *Model*: model specific to the type of instrument.
- *Program*: type of program loaded on the instrument.
- *Legal for Trade*: legal status of the instrument.
- *Options*: any active options on the instrument.

Instrument	Firmware	Model	Program	Legal for Trade	Options
CLM8	1.14.0 ÷ 10.0.0	TLB	Base	Not Legal	No items found...
TLB		TLB485		Legal	
TLB4				Legal Multi Interval	

OPERATING PARAMETERS

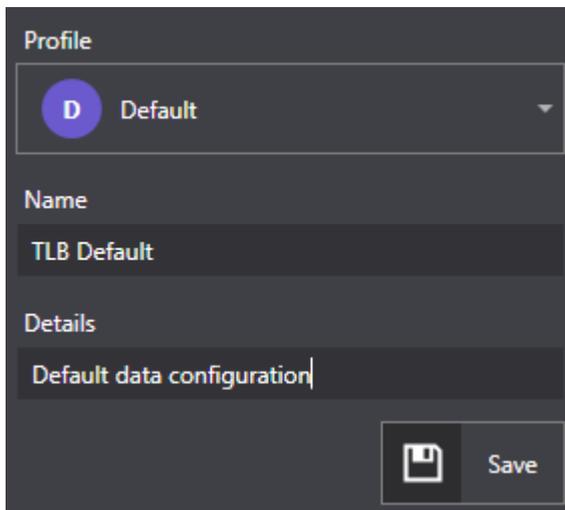
The operating parameters are the set of parameters that the instrument uses while performing its tasks. They can be set directly from the instrument menu.

For example: sensitivity, theoretical full scale, setpoint and weight filter, etc.

Residual Full Scale 10000 kg	Theoretical Full Scale 10000 kg
Sensitivity 2 mV	Divisions 1
Maximum Weight 0 kg	Unit of Measurement Kilograms

SAVING PARAMETERS

The saving parameters are the software data configurations being stored and identified within the software:



The screenshot shows a dark-themed software interface for configuring a profile. At the top, the title 'Profile' is displayed. Below it is a dropdown menu with a blue circle containing the letter 'D' and the text 'Default'. Underneath the dropdown, there are three sections: 'Name' with the text 'TLB Default', 'Details' with the text 'Default data configuration', and a 'Save' button with a floppy disk icon.

Profile: Profiles are those attributes that may be used to distinguish configurations of instruments belonging to different customers or to subdivide configurations as desired (see section **PROFILES**).

Name: name assigned to the configuration.

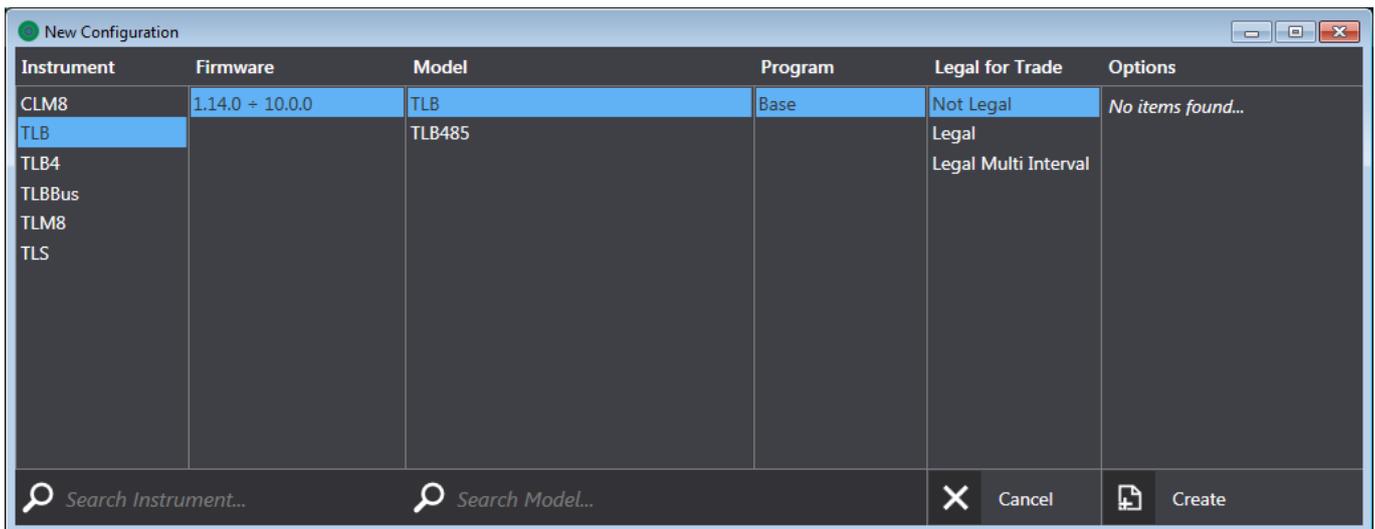
Details: any configuration details (optional).

CREATING A NEW CONFIGURATION

You can create a new configuration by manually defining all the identity parameters or by using the identity parameters of a connected instrument.

To create a new configuration by manually defining all the identity parameters, proceed as follows:

- select the menu File → New
- the software will show the new configuration window;
- select the identity parameters for the configuration you want to create and click on Create to confirm the selection;
- the software will generate a new configuration with the default operating parameters.



The configuration created may only be loaded onto an instrument with the same identity parameters.

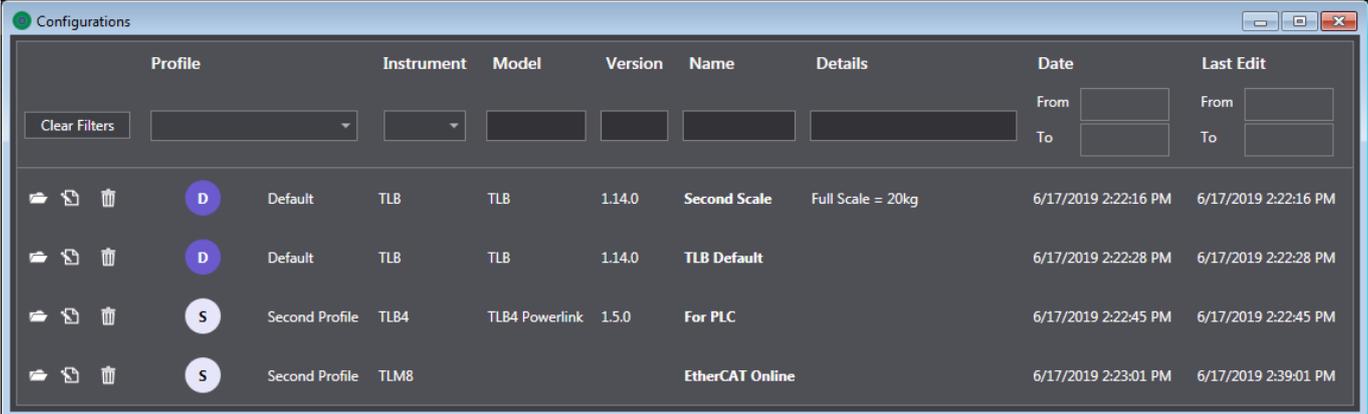
Create a new configuration using the identity parameters of a connected instrument as follows:

- connect the instrument to the PC;
- select the menu *Connection* → *Connect*
- the software will show the connection window with the list of instruments detected;
 - o if the window fails to show the connected instruments, check the serial settings (see section **SERIAL SETTINGS**) and click on *Refresh*;
- select the instrument from which you want to load the identity parameters;
- click on *New* to confirm your selection;
- the software will generate a new configuration with the default operating parameters.

OPENING AN EXISTING CONFIGURATION

To edit or use a previously saved configuration, proceed as follows:

- select the menu *File* → *Open* or, in the menu *Configurations* → *Saved Configurations*;
- the software will show the *Configurations* window containing all saved configurations, indicating the saving and the identity parameters;
- icons    are associated with each configuration in the list;
- click on  to open the configuration;
- click on  to edit the parameters and save the configuration (see section **SAVING PARAMETERS**);
- click on  to delete the configuration.



	Profile	Instrument	Model	Version	Name	Details	Date	Last Edit
Clear Filters							From <input type="text"/> To <input type="text"/>	From <input type="text"/> To <input type="text"/>
  	D	Default	TLB	TLB	1.14.0	Second Scale Full Scale = 20kg	6/17/2019 2:22:16 PM	6/17/2019 2:22:16 PM
  	D	Default	TLB	TLB	1.14.0	TLB Default	6/17/2019 2:22:28 PM	6/17/2019 2:22:28 PM
  	S	Second Profile	TLB4	TLB4 Powerlink	1.5.0	For PLC	6/17/2019 2:22:45 PM	6/17/2019 2:22:45 PM
  	S	Second Profile	TLM8			EtherCAT Online	6/17/2019 2:23:01 PM	6/17/2019 2:39:01 PM

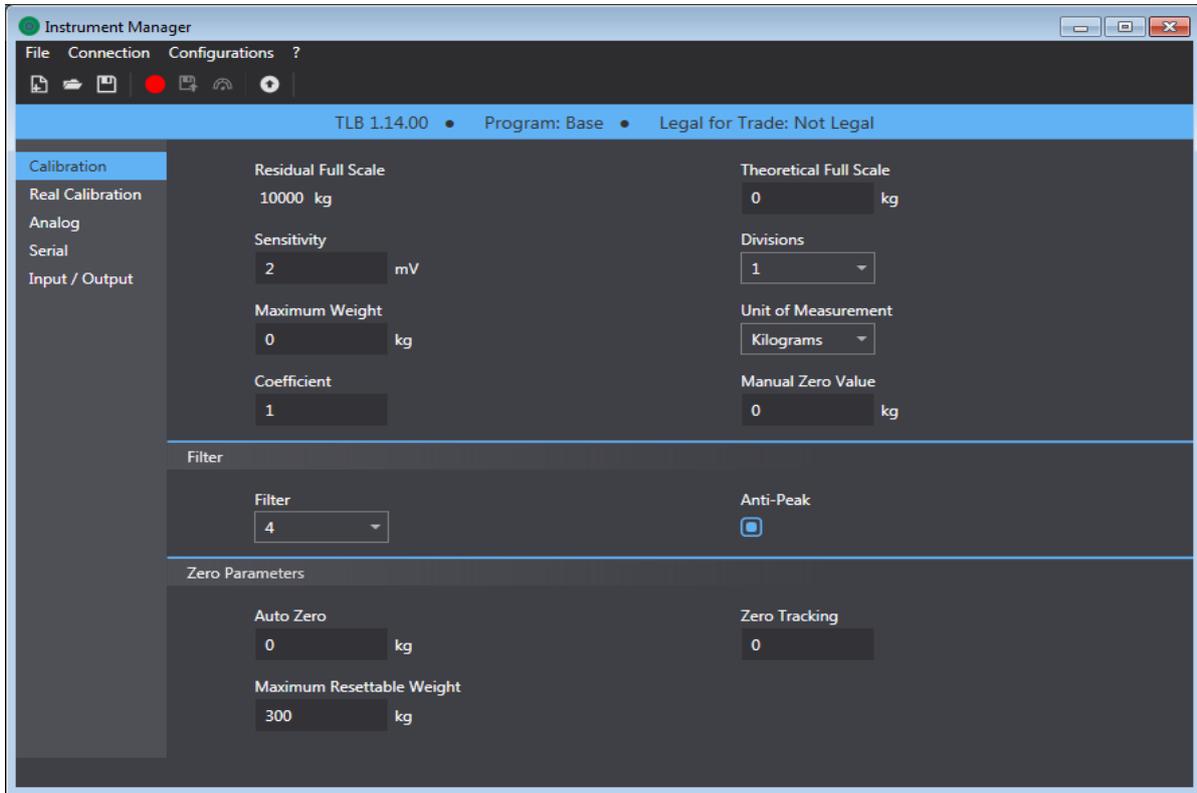
To help the research of configurations, use the fields on top of the window to filter the items listed in the table.

Filters *Date* and *Last Edit* allow you to search for configurations created and/or edited within a given time frame.

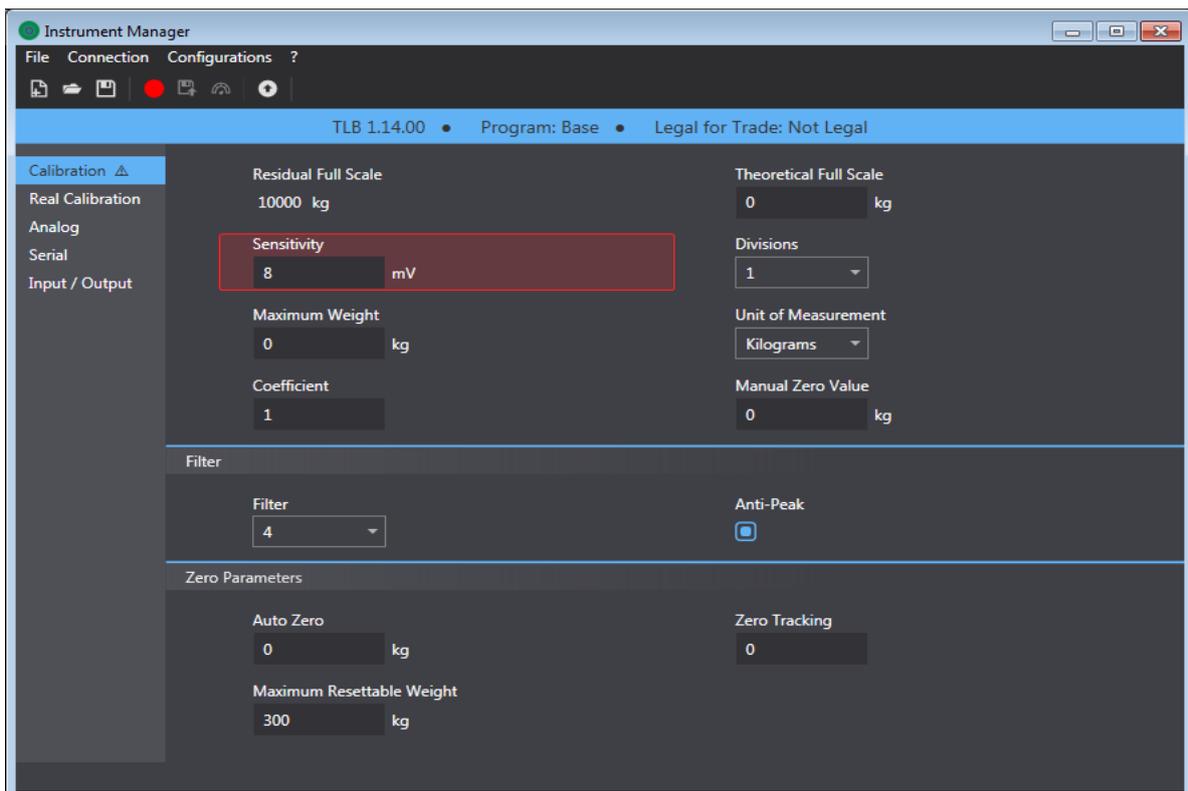
Click on *Clear Filters* to reset the active filters and come back to display the active configurations.

EDITING A CONFIGURATION

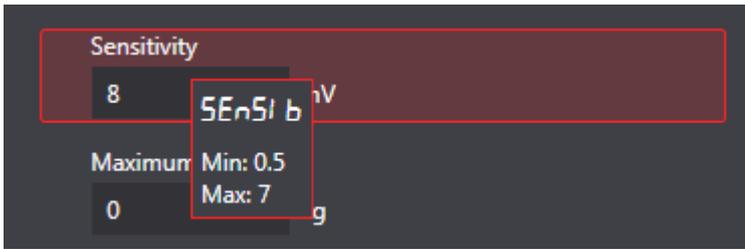
After creating a new configuration or loading an existing configuration, the software will show a series of sheets with a breakdown of the operating parameters. You may change the operating parameters via the related fields.



After each edit, the software will check the new value entered. If incorrect, the parameter will be highlighted in red and the name of the tab it belongs to will be marked by a warning icon.



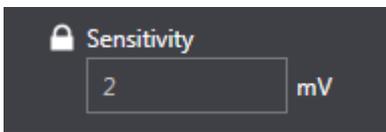
To display the type of error, place the mouse pointer onto the name of the parameter concerned.



Example: The maximum permitted value for sensitivity is 7. If set to 8 - a higher value - the parameter will be highlighted in red. If the mouse pointer is positioned over the message *Sensitivity*, the display will show the range of permitted values for this parameter.



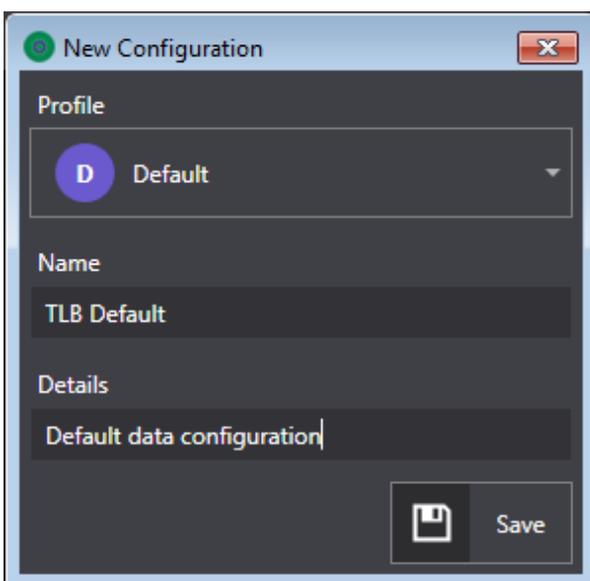
If one or more operating parameters are in error, you cannot save the configuration nor load it onto the instrument.



If the configuration has been set in a Legal for Trade state - e.g. Legal, Legal Multi Range, or Legal Multi Interval type - you can only edit certain parameters via a qualified access (see section **QUALIFIED ACCESS**). These parameters are identified by the icon  next to the name.

SAVING A NEW CONFIGURATION

After creating and editing a new configuration, you can save it by defining its backup parameters. To save a new configuration, proceed as follows:



- select the menu *File* → *Save*
- the software will show the save window;
- define the saving parameters (see section **SAVING PARAMETERS**);
- click on *Save* to save the configuration.

SAVING AN EXISTING CONFIGURATION

After editing an existing configuration, you may:

- overwrite the original configuration and save it;
- save it with a different name;

To save an existing configuration by overwriting the original one, proceed as follows:

- select the menu *File* → *Save*

To save an existing configuration with a new name, proceed as follows:

- select the menu *File* → *Save new*
- the software will show the save window;
- define the saving parameters (see section **SAVING PARAMETERS**);
- click on *Save* to save the configuration.

EXPORTING A CONFIGURATION

You may export a configuration for sending it or using it on another PC.

To export a configuration, proceed as follows:

- select menu *File* → *Export*
- select the saving path;
- save the .lac file containing the configuration.

IMPORTING A CONFIGURATION

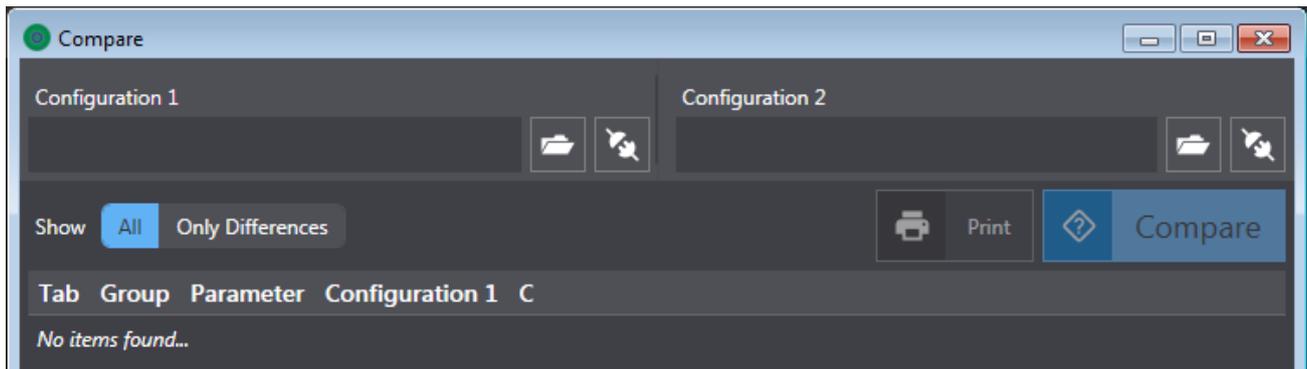
You may import a previously exported configuration. Imported configurations may be used and edited even if they are not in the database.

To import a configuration, proceed as follows:

- select the menu *File* → *Import*
- select the path of the file you want to import
- upload the .lac file containing the configuration.

COMPARING CONFIGURATIONS

You may compare two configurations to highlight any differences between parameters.



To compare two configurations, proceed as follows:

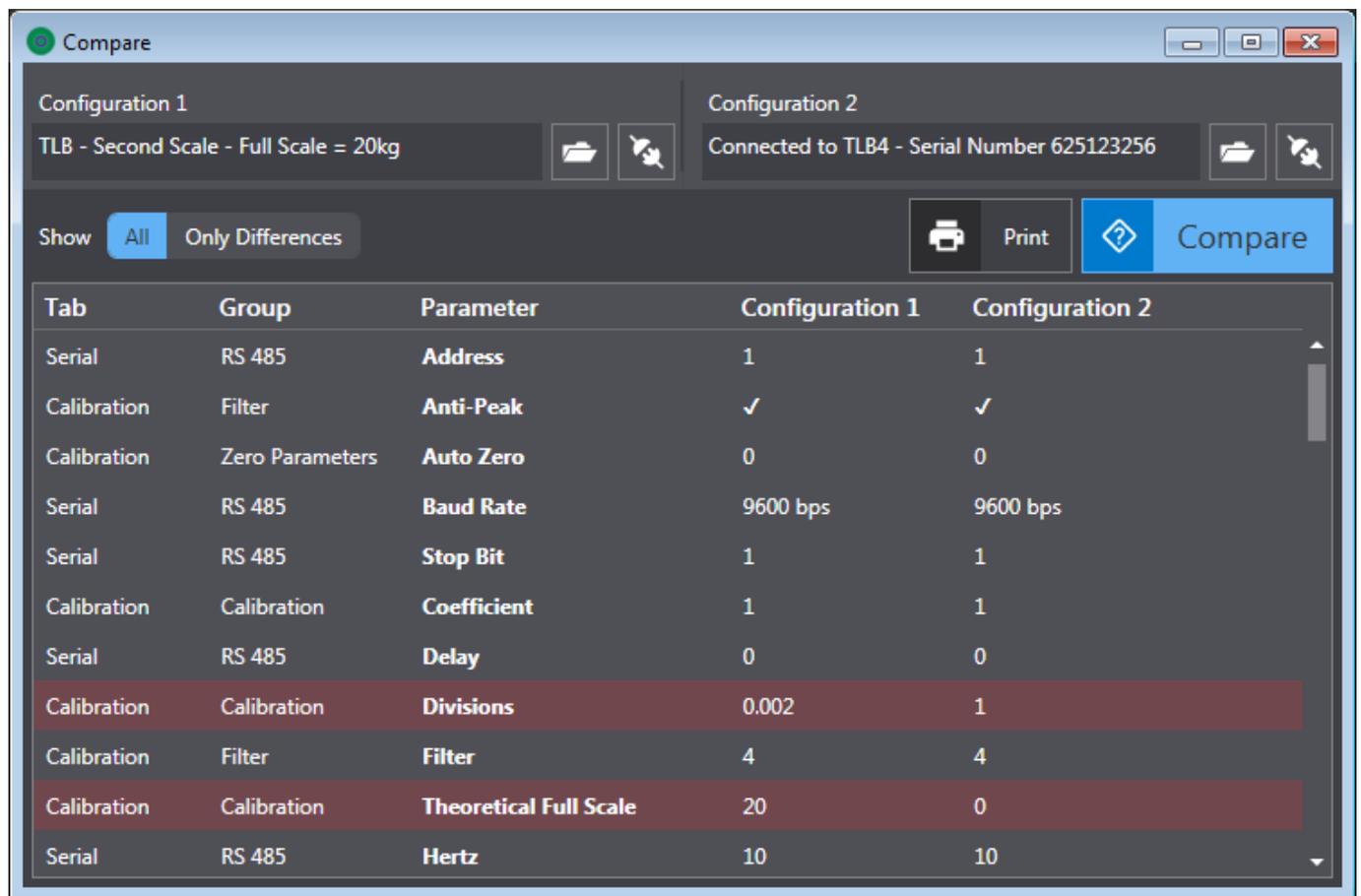
- select the menu *Configurations* → *Compare*
- the software will show the comparison window where the configurations to be compared may be selected. You may select a configuration from the previously saved ones or read the configuration from a connected instrument.
 - To select a previously saved configuration, click on the icon :
 - the software will show the *Configurations* window containing all saved configurations;
 - select the desired configuration and click on *Select* to confirm.
 - to read a configuration from a connected instrument, click on the icon :
 - select the desired instrument from the list and click on *Select*;
 - if the list fails to show the instrument, check the serial settings (see section **SERIAL SETTINGS**) and click on *Refresh*;
- after selecting the configurations to be compared, click on *Compare*.

The parameters and their values are shown in the table below.

Parameters with different values are highlighted in red.

To show only parameters with different values, select *Only Differences* in the *Show* drop-down menu.

To print out the comparison, click on *Print*.



Tab	Group	Parameter	Configuration 1	Configuration 2
Serial	RS 485	Address	1	1
Calibration	Filter	Anti-Peak	✓	✓
Calibration	Zero Parameters	Auto Zero	0	0
Serial	RS 485	Baud Rate	9600 bps	9600 bps
Serial	RS 485	Stop Bit	1	1
Calibration	Calibration	Coefficient	1	1
Serial	RS 485	Delay	0	0
Calibration	Calibration	Divisions	0.002	1
Calibration	Filter	Filter	4	4
Calibration	Calibration	Theoretical Full Scale	20	0
Serial	RS 485	Hertz	10	10

You may compare instrument configurations with different identity parameters. In this case, the table will only show the operating parameters of both configurations.

PRINTOUTS

After creating or editing a configuration, you may print out all its parameters.

Proceed as follows to print out a configuration:

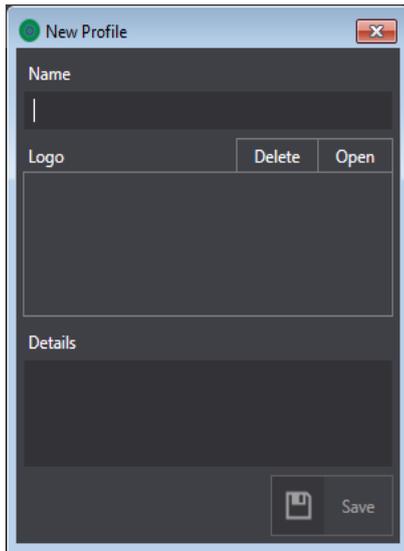
- select the menu *File* → *Print*
- select the printer or PDF printing mode;
- click on *Print*.

PROFILES

Profiles are attributes that may be used to distinguish configurations of instruments belonging to different customers or to subdivide configurations as desired. You may create and edit profiles to which configurations may be assigned.

PROFILE DATA

The profile data are:



Name: name of the profile identifier.

Logo: image associated with the profile (optional). You may upload an image by clicking *Open* or delete it by clicking *Delete*.

Details: any profile details (optional).

CREATING A NEW PROFILE

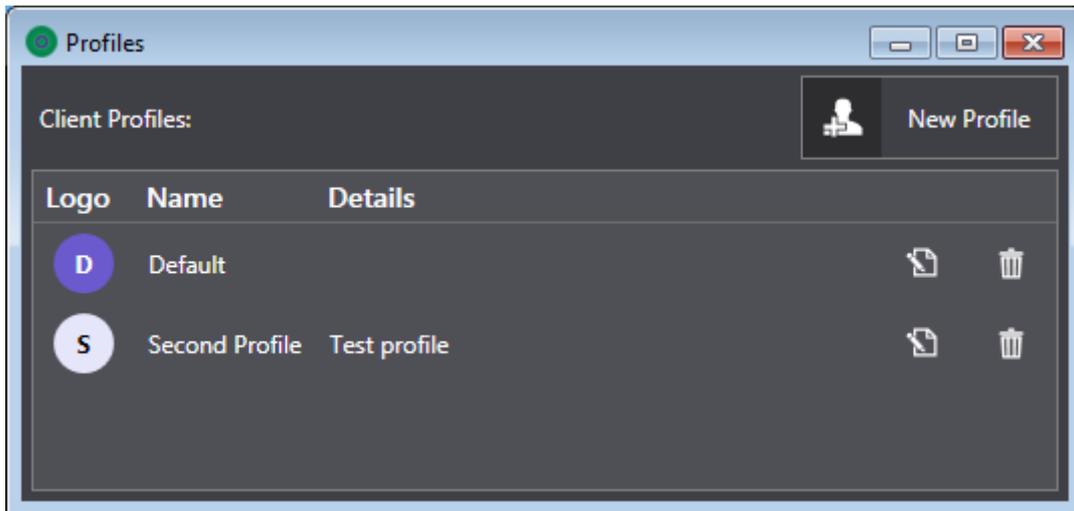
To create a new profile, proceed as follows:

- select the menu *Configurations* → *Profiles*
- the software will show the *Profiles* window containing all the previously created profiles (only one default profile available at the beginning);
- click on *New Profile*;
- the software will show the *New Profile* window containing profile data (see section **PROFILE DATA**);
- define the parameters and click on *Save* to generate a new profile.

EDITING AN EXISTING PROFILE

To edit an existing profile, proceed as follows:

- select the menu *Configurations* → *Profiles*
- the software will show the *Profiles* window containing all the previously created profiles (only one default profile available at the beginning);
- icons   are associated with each profile in the list;
- click on  to edit the profile data (see section **PROFILE DATA**);
- click on  to delete the profile.



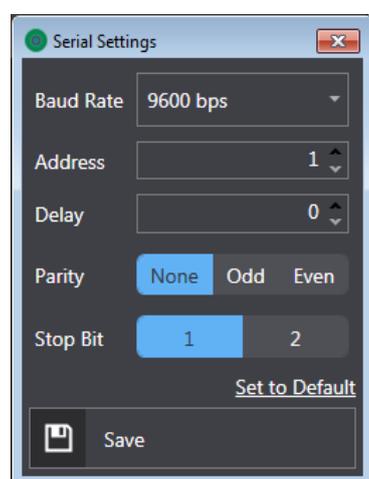
CONNECTION

It is possible to connect to an instrument via serial port and MODBUS protocol.

SERIAL SETTINGS

Set the serial communication parameters as follows:

- select the menu *Connection* → *Serial Settings*
- the software will show the window *Serial Settings* containing all the communication parameters;
- set the communication parameters;
- click on *Save* to save the settings.



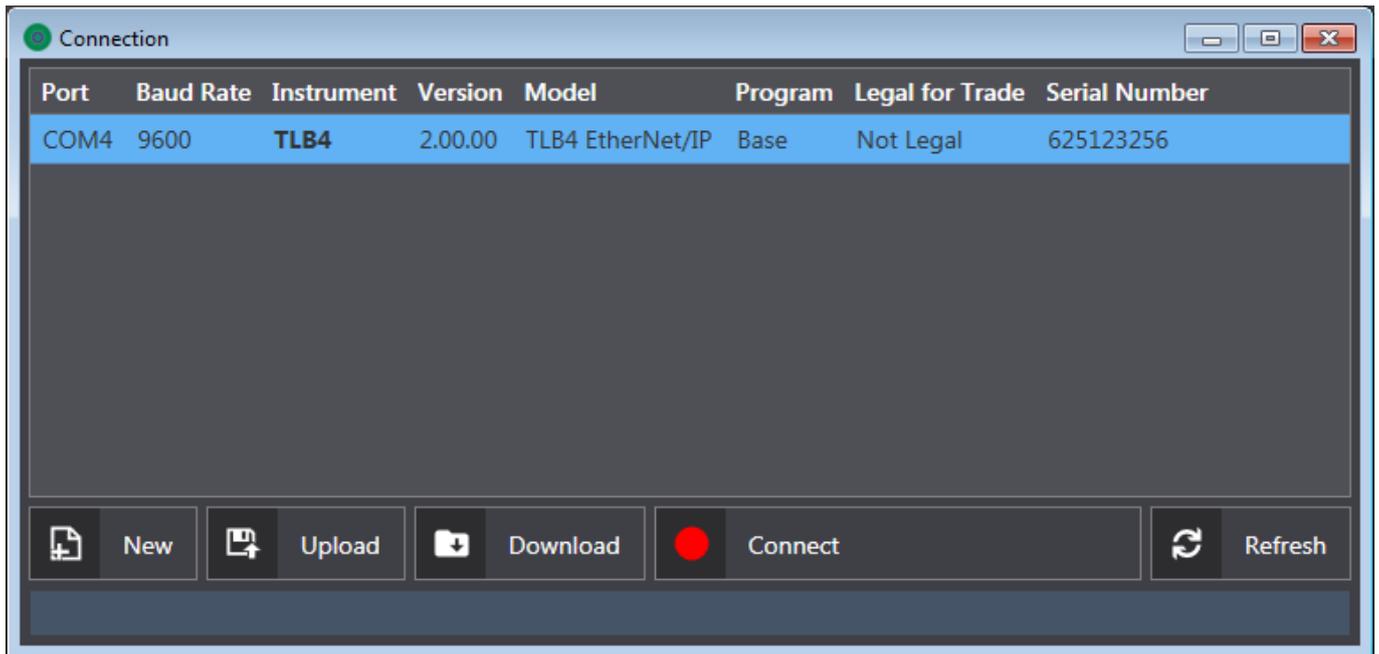
Click on *Set to Default* to automatically set the default communication parameters (Baud Rate = 9600, Address = 1, Delay = 0, Parity = None, Stop Bit = 1).

To establish communication with the software, the instrument needs to be connected via a serial port set with the Modbus protocol and with the same communication parameters (see section **SERIAL COMMUNICATION SETTING** in the instrument manual).

CONNECT

To connect with an instrument, proceed as follows:

- connect the instrument to the PC;
- select the menu *Connection* → *Connect*
- the software will show the *Connection* window with the list of detected instruments:
 - if the window fails to show the connected instruments, check the serial settings (see section **SERIAL SETTINGS**) and click on *Refresh*;
- select the desired instrument;
- click on one of the icons in the window to execute one of the possible operations:



- *New*: will generate a new configuration where identity parameters will be identical to those of the connected instrument, and operating parameters will be set by default (see section **CREATING A NEW CONFIGURATION**)
- *Upload Configuration*: will upload the currently open configuration to the software on the connected instrument. Each operating parameter on the instrument will be overwritten. The configuration upload procedure ends with the restart of the instrument.
- *Download Configuration*: will generate and open a new configuration with all parameters identical to those of the connected instrument. The parameters on the instrument are not synchronised with those of the open configuration. To update them you need to upload the configuration again.
- *Connect*: will activate a real time connection with the instrument (see section **OPERATIONS IN REAL TIME**).
- *Refresh*: will search again for connected instruments.
- *Refresh firmware*: When the icon  appears on the line of the connected instrument, a new firmware version is available. Click on the icon to update the firmware (see section **UPDATING FIRMWARE**).

REAL-TIME OPERATIONS

All the operations described in this section are possible only if a real time connection with the instrument is in progress (see the section **CONNECT**).

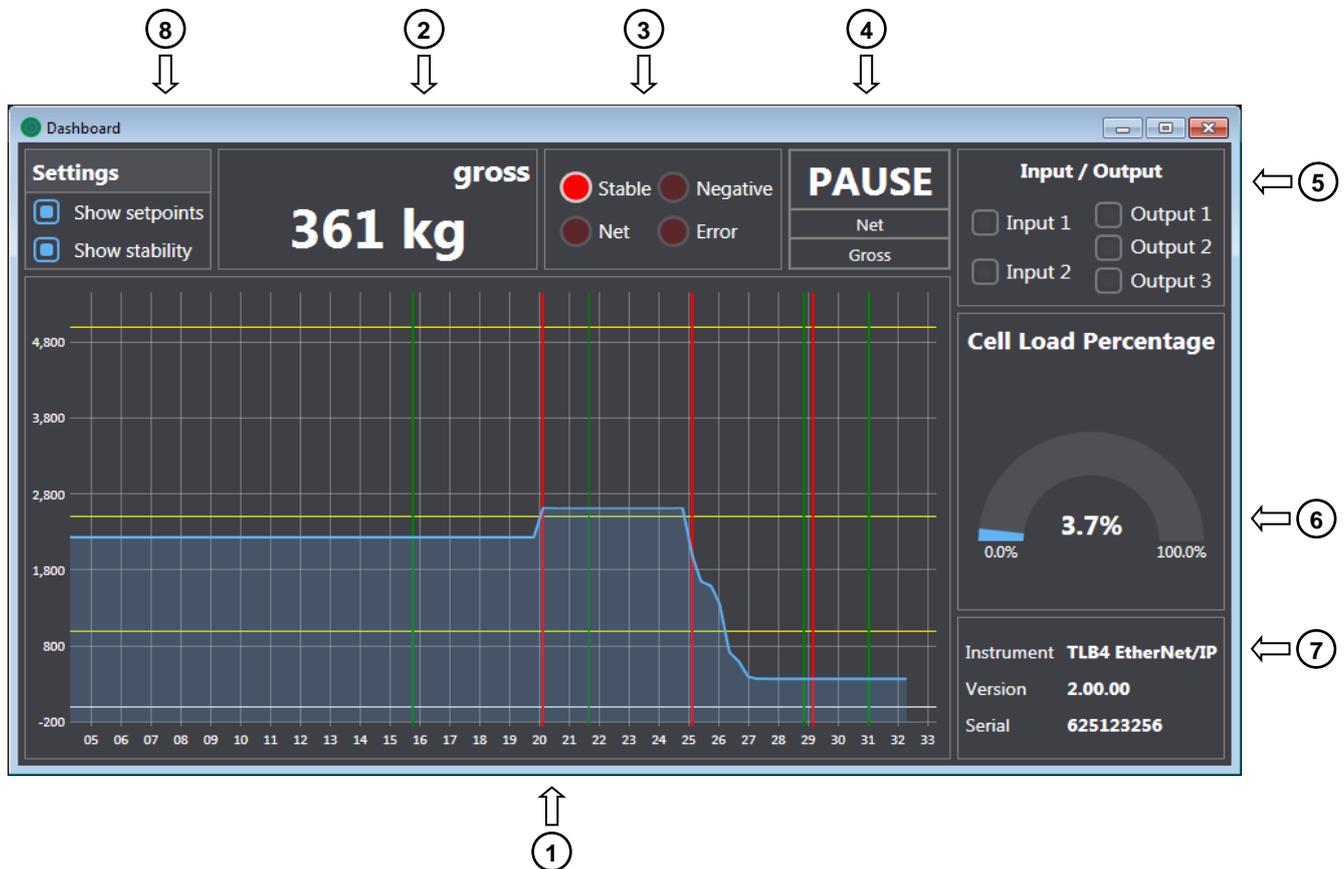
The instrument keypad will be locked during real-time connection. If the real-time connection is unexpectedly interrupted, the instrument will need to be restarted to resume use.

DASHBOARD

The *Dashboard* is a window that shows the real-time trend of the data read by the connected instrument.

To access the *Dashboard* window, proceed as follows:

- establish a real time connection with the instrument (see section **CONNECT**)
- select the menu *Operations* → *Dashboard*



1. Weight graph: shows the weight trend displayed on the connected instrument display
2. Weight value read by the connected instrument.
3. Information on the status of the read weight: *Stable*, *Net/Gross*, *Negative*, *Error*.
4. Buttons for interacting with the connected instrument:
 - *PAUSE/RESUME*: will stop the weight reading by the instrument. The graph and all read values will remain unchanged at the last value read.
 - *Net*: will perform a net operation. This operation may be repeated several times.
 - *Gross*: will cancel all net operations performed.

5. Information on the status of the connected instrument inputs and outputs:
 - Indicator off: Input or Output open
 - Indicator on: Input or Output closed
6. Load graph: shows the percentage of current load, expressed in relation to the capacity of the load cells connected to the instrument
7. Information on the connected instrument.
8. Display settings:
 - *Show setpoints*: adds horizontal highlighted lines to the graph, corresponding to the setpoint values set on the connected instrument;
 - *Show stability*: adds weight stability information to the graph;
 - the red lines correspond to the points when the weight lost stability;
 - the green lines correspond to the points when weight gained stability.

CHANNELS

Only available for multichannel instruments.

To access the *Channels* window, proceed as follows:

- establish a real time connection with the instrument (see section **CONNECT**);
- select the menu *Operations* → *Channels*.

Via the *Channels* window you may:

- display the weight distribution;
- select active channels;
- equalise the weighing system.



1. Commands for equalisation (see section **EQUALISATION**).
2. Commands for selecting the active channels (see section **CHANNEL SELECTION**).
3. Weight value read by the connected instrument and weight information: *Stability*, *Error*.
4. Weight distribution as a percentage on the active channels.
5. Cell signals in mV detected by the active channels.

CHANNEL SELECTION

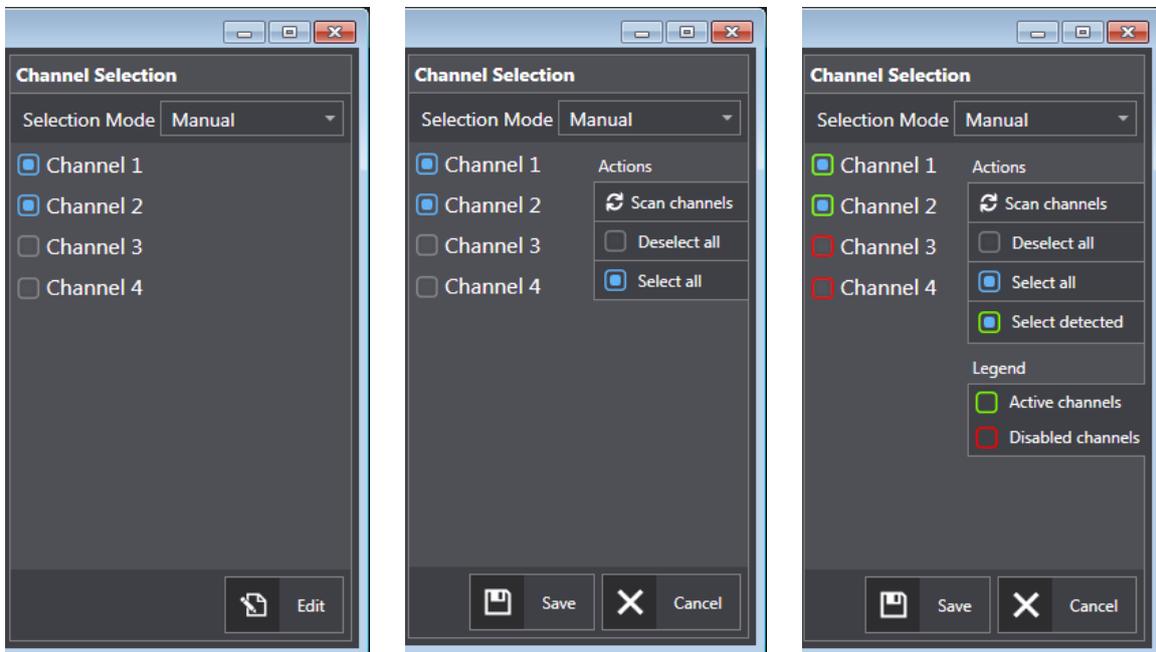
The channel selection commands may be used to display and confirm the channels automatically detected by the instrument. It is possible to establish active channels automatically or manually. For further information on how to select channels, please refer to the instrument manual.

To set the automatic selection of active channels, proceed as follows:

- from the drop-down menu *Selection mode*, select *Automatic*.
- the active channels are automatically detected by the instrument when the *Automatic* mode is selected.
- in this mode, each time the instrument is switched on, it scans to automatically activate the connected channels.

To manually set the active channels, proceed as follows:

- from the drop-down menu *Selection mode*, select *Manual*;
- the channels active at the time of selecting *Manual* mode will be saved in the instrument's memory;
- to manually select which channels to be activated, click on *Edit*;
- the *Actions* pane will appear, allowing you to perform the following operations:
 - o *Scan channels*: will scan the channels detected by the instrument and highlight them in green;
 - o *Deselect all*: deactivates all channels;
 - o *Select All*: activates all channels;
- select the channels to be activated and click on *Save*.



EQUALISATION

To access this feature, qualified access is required (see section **QUALIFIED ACCESS**).

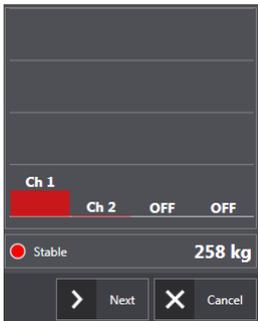
The equalisation procedure allows the weight differences detected on a platform to be corrected, weighed by more than one load cell.

For more information on how equalising works, please refer to the instrument manual.

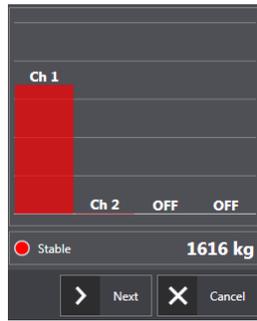
To perform the equalisation procedure, proceed as follows:

- click on *Equalise*;
- the software will show the wizard window with preliminary instructions;
- click on *Start*;
- download the scales, wait for stability and confirm by pressing *Next*;
- position the sample weight at a load cell:
 - if the tallest column of the graph is red, wait for stability and confirm by clicking on *Next*;
 - if the tallest column is green, this means that the sample weight corresponds to a cell that has already been equalised. Move the sample weight before continuing;
- repeat the positioning of the sample weight for each active channel;
- click on *Finish* to save the equalisation.

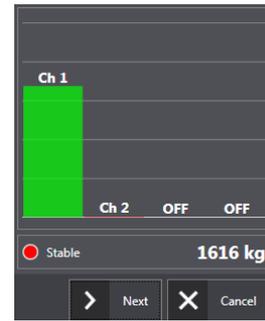
E.g.:



OK
Click on *Next* to confirm the weight with the scales unloaded.



OK
Click *Next* to equalise channel 3.



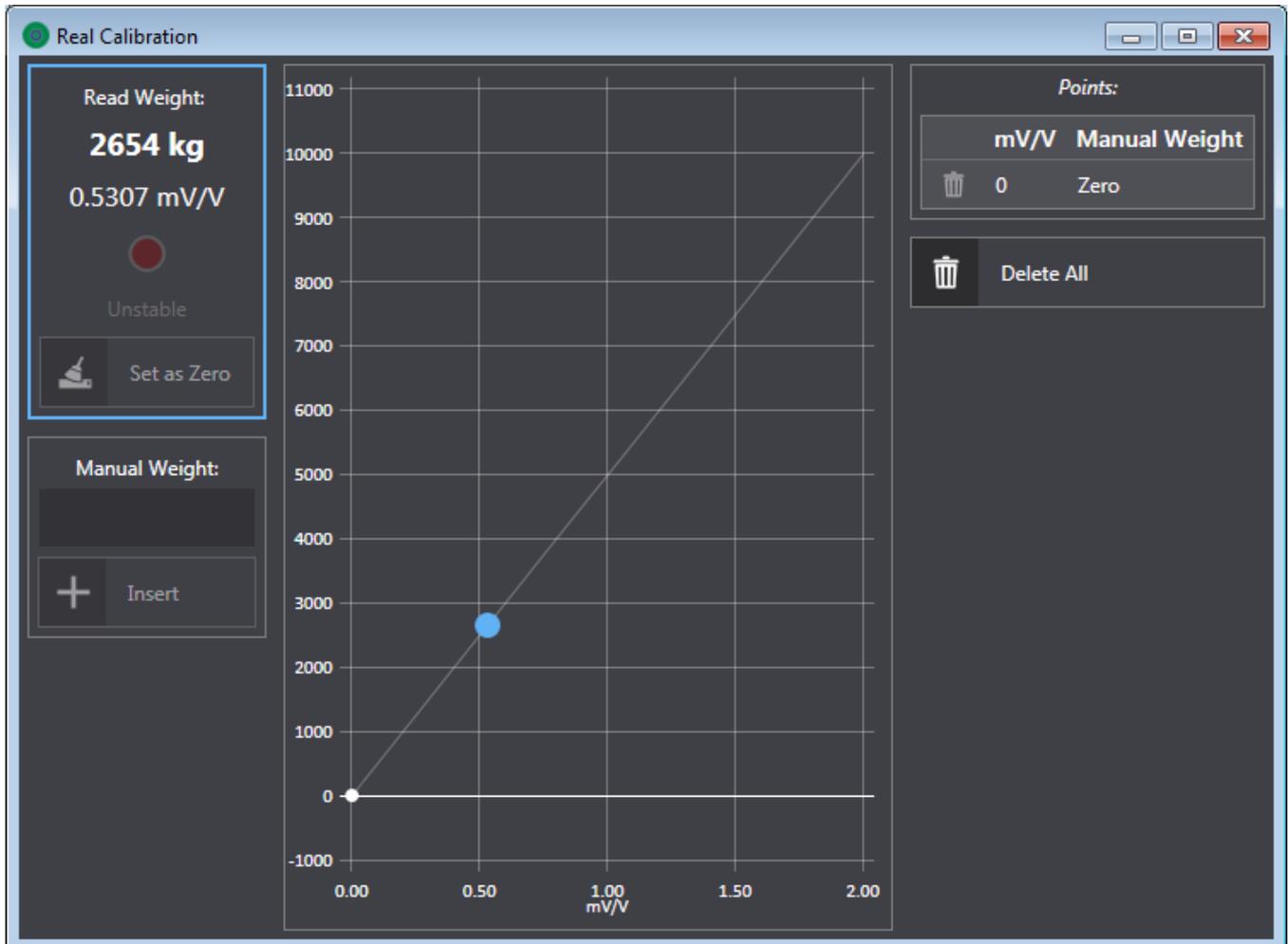
NO
Channel 1 has already been equalised and by proceeding, you would get an error. Move the sample weight to channel 2 or 3 before continuing.

To delete the equalisation and return to a non-equalised system, click on *Delete active equalization*.

REAL CALIBRATION

To access this feature, qualified access is required (see section **QUALIFIED ACCESS**).

It is possible to perform instrument real calibration using sample weights of a known value and, if necessary, to correct indicated value deviations from the correct value.

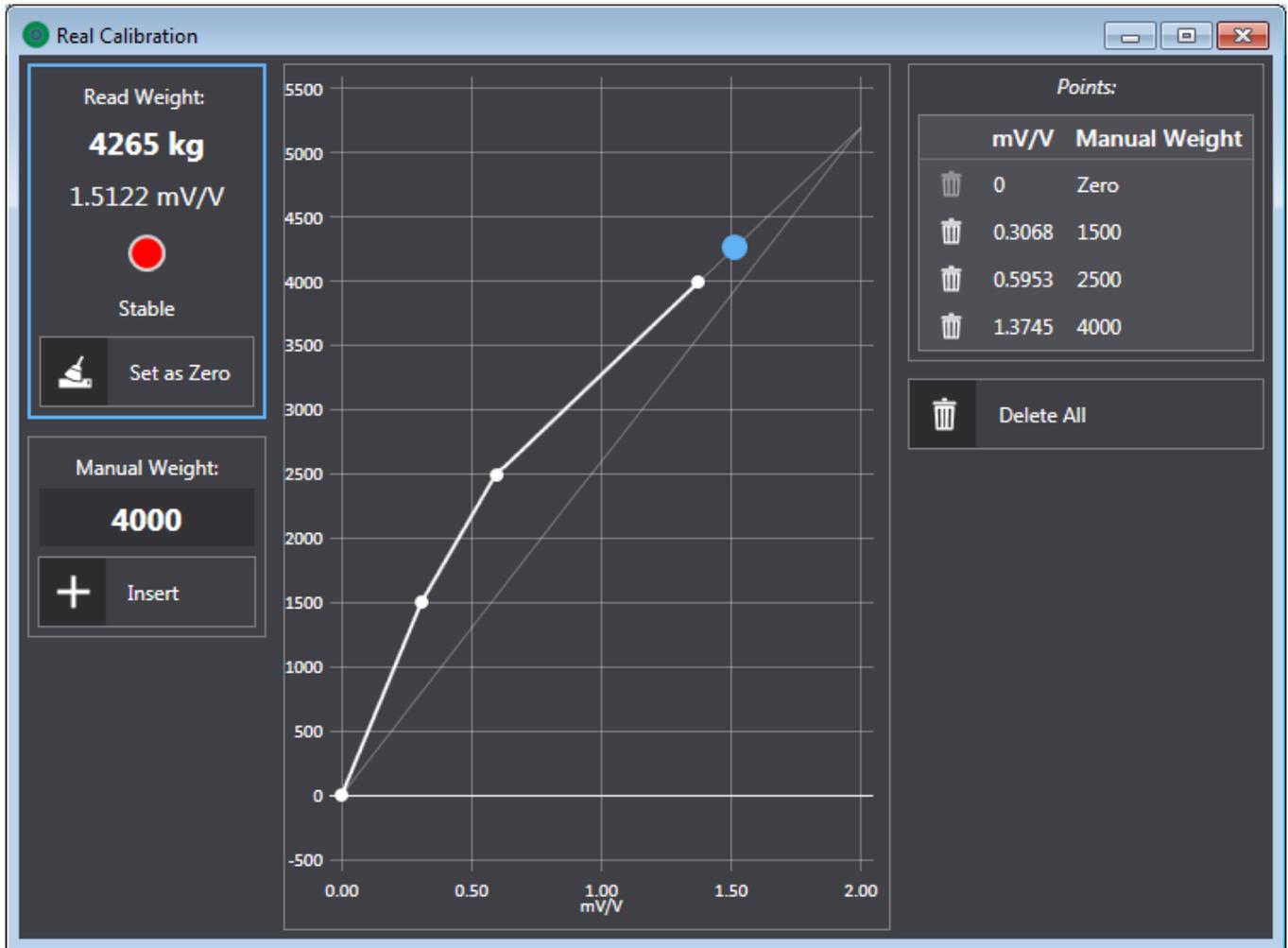


The graph in the *Real Calibration* window shows the calibration curve currently active on the instrument. The blue dot on the graph indicates the weight currently being read by the instrument.

To perform the real calibration procedure, proceed as follows:

- establish a real time connection with the instrument (see section **CONNECT**)
- select the menu *Connect* → *Operations* → *Real Calibration*;
- the software will show the real calibration window;
- download the weighing system and wait for stability;
- clear the weight value by clicking on *Set as Zero* (the weight detected by the instrument will be reset);
- load a sample weight to the weighing system and wait for stability;
- if need be, adjust the weight displayed by writing the correct value in the *Manual Weight* field;
- click on *Insert* to confirm the calibration point;
- you may repeat this operation for inserting up to 8 calibration points.

To delete a calibration point, click on the corresponding icon  in the *Points* pane.
 To delete all calibration points, click *Delete All* in the *Points* pane.



Performing a reset will cancel all calibration points: so, this is the first operation you need to perform in the real calibration procedure.



If you intend to calibrate a multichannel instrument, it is recommended you first equalise the system (see section **EQUALISATION**).

COMMANDS

You can send commands to the connected instrument: to access the command list, proceed as follows:

- establish a real time connection with the instrument (see section **CONNECT**);
- select the menu *Operations* → *Commands*.

Command options:

- *Restart instrument*: the instrument is restarted;
- *Factory Reset*: all instrument's operating parameters will be set to the instrument's default values (see instrument manual to acquaint the default values).

FIRMWARE UPDATE

You may update the firmware of the connected instruments, which may be in different operating states:

- to update the firmware of a working instrument, see section **OPERATING INSTRUMENT**;
- to update the firmware of a non-operating instrument or one locked in Boot mode (display locked on the display “b” or “b. ”) see section **NON-OPERATING INSTRUMENT**.

OPERATING INSTRUMENT

You may start an update of the connected instrument in the following ways:

- by searching for the latest firmware version in the Instrument Manager software;
- by manually selecting the desired firmware version.

To start an update by searching for the latest firmware version in the Instrument Manager software, proceed as follows:

- connect the instrument to the PC;
- select the menu *Connection* → *Connect*
- the software will show the connection window with the list of detected instruments (see section **CONNECT**);
 - if the list fails to show the instrument, check the serial settings (see section **SERIAL SETTINGS**) and click on *Refresh*;
- when the icon  appears on the line of the connected instrument, a new firmware version is available;
- click on  to start the update procedure (see section **UPDATE PROCEDURE**).

To start an update by manually selecting the desired firmware version, proceed as follows:

- connect the instrument to the PC;
- select the menu *Connection* → *Firmware Update*;
- select the desired instrument on the list and click *Start*:
 - if the instrument is already connected in real time, the update procedure will start automatically (see section **UPDATE PROCEDURE**);
 - if the list fails to show the instrument, check the serial settings (see section **SERIAL SETTINGS**) and click on *Refresh*;
- select the file containing the desired firmware version to continue the update procedure (see section **UPDATE PROCEDURE**).



The Instrument Manager software will not check that the selected firmware is correct for the currently connected instrument. Pay special attention when selecting the file.

NON-OPERATING INSTRUMENT

You may recover an instrument that is not working by using the forced firmware update procedure.



The forced firmware update will not ensure that the instrument's identification data are maintained. Use this procedure only if the instrument is not working or if it is locked in Boot mode (display locked on display “b” or “b.”).

To prepare the instrument for the firmware update:

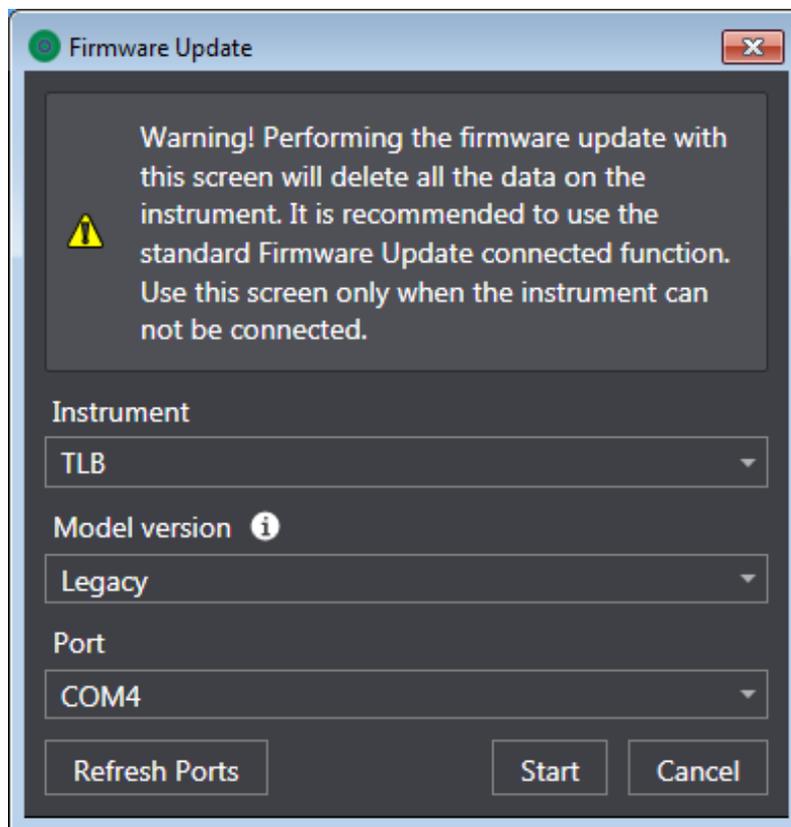
- connect the instrument that is not working to the PC;
- start the instrument in Boot mode:
 - o restart the instrument by holding down the ENTER key on the instrument keyboard until “b” or “b.” appears on the display;
- if the non-operating instrument fails to start in Boot mode, it will not be possible to update it.

To start the forced firmware update procedure, proceed as follows:

- select the menu *Connection* → *Firmware Update*;
- the software will show the list of connected instruments. Do not select any instrument and click on *Force Update*;
- the software will show the window containing the following parameters to be filled in:
 - *Instrument*: type of instrument to be updated.
 - *Model version*:
 - *Current Version*: select this item if the display shows “b.” (letter b followed by a dot).
 - *Legacy*: select this item if the display shows “b” (only letter b).
 - *Port*: select the COM port on which the instrument serial port is connected. If the correct port is not available, click on *Refresh ports* to update the list.
- click on *Start* to start the update procedure (see section **UPDATE PROCEDURE**).



The Instrument Manager software will not check that the selected firmware is correct for the currently connected instrument. Pay special attention when selecting the file.

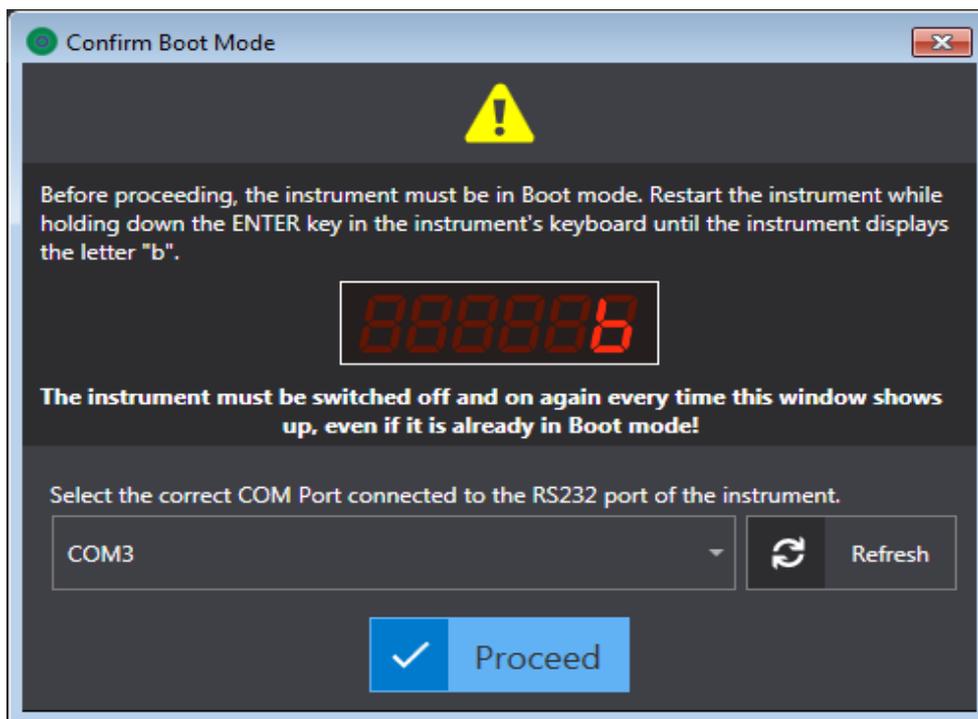


To know the correct COM port to be selected, use the Windows *Device Manager* program and check which port is connected to the instrument under *Ports (COM and LPT)*.

UPDATE PROCEDURE

After launching the update, follow the instructions on the monitor and proceed as follows:

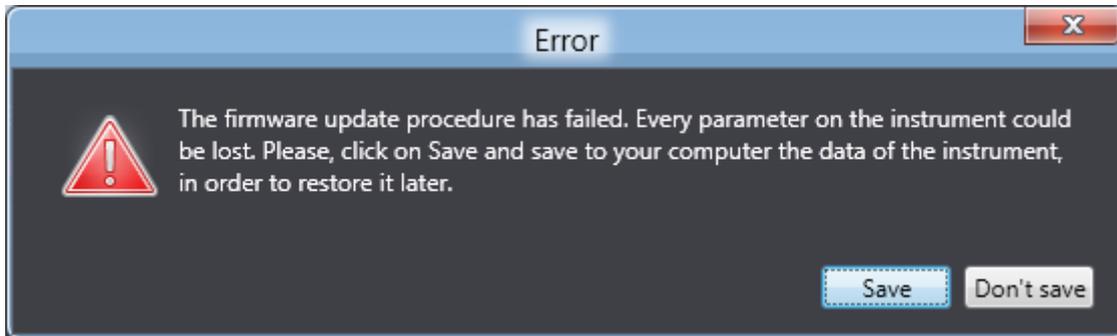
1. The software will show the *Confirm Boot Mode* window.



- If the window requires the RS232 port to be specified, connect the instrument RS232 serial port to the PC and select the corresponding COM port from the drop-down menu (for further information on connecting the serial port, consult the instrument manual).
 - If the window does not require you to specify the RS232 port, the COM port will be selected automatically.
2. Activate the Boot mode on the instrument:
 - Restart the instrument by holding down the ENTER key on the instrument keyboard until “b” or “b.” appears.
 3. Click on *Proceed* to confirm the update.
 4. During the update, if the window *Confirm Boot Mode* reappears, repeat step 2 (even if the instrument display already shows “b” or “b.”).
 5. Upon completion, the software will display a message showing the outcome of the update procedure. In case of failure, see section **ERRORS DURING UPDATE**.

ERRORS DURING UPDATE

If the firmware update is unsuccessful and the data on the instrument have already been deleted, the software will give you the option of saving the instrument's identification data. Click Save in the error window to save the file containing the recovery data to your computer.

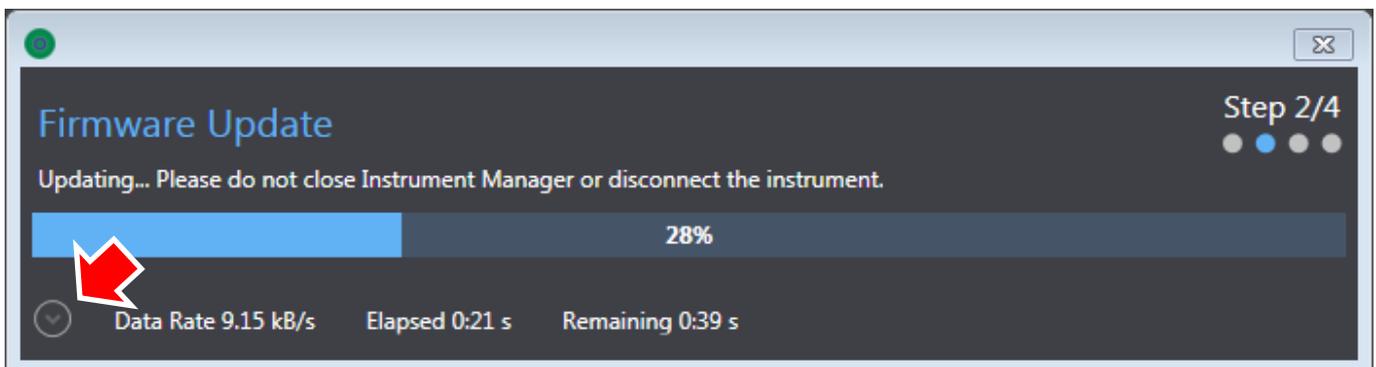


If the error screen allows saving and the user does not execute it, it will no longer be possible to retrieve the instrument's identification data.

To restore the instrument using the saved data, see section **RESTORE INSTRUMENT**.

To troubleshoot errors during the firmware update, follow these tips:

1. Always try the update procedure at least twice.
2. Check the connection with the instrument and check that the earth of the serial cable is connected to the earth of the instrument (for further information on the connection, consult the instrument manual).
3. If the instrument is connected to the serial port of the PC, replace the cable with a Serial - USB converter and connect the instrument to the USB port of the PC.
4. It is possible that the update rate may be too high for your serial line. Perform a low speed update by deactivating the *Use fast firmware update* option (see section **SOFTWARE CONFIGURATION**). If the low speed update fails, reactivate the *Use fast firmware update* option (recommended).
5. If the firmware update procedure continues to fail, contact technical support and provide the diagnostic messages. To access the diagnostic messages, click on the arrow in the firmware update window.



RESTORE INSTRUMENT

An instrument may lose its identification data if the firmware update is interrupted unexpectedly.

If you have the reset data of an instrument (see section **ERRORS DURING UPDATE**), proceed as follows:

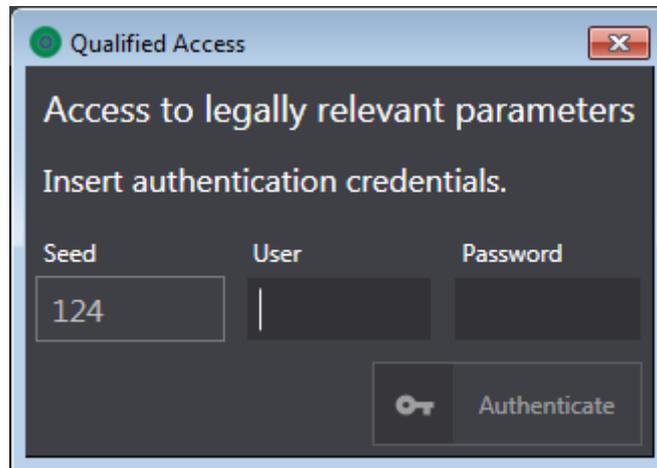
- connect the instrument to the PC;
- select the menu *Connection* → *Restore Instrument*;
- the software will show a window with the list of detected instruments;
 - if the window fails to show the connected instruments, check the serial settings (see section **SERIAL SETTINGS**) and click on *Refresh*;
- select the desired instrument;
- click on *Restore*;
- select the .xml file containing the restore data and confirm.



The software will not check that the selected restore data file is correct for the connected instrument. Pay special attention when selecting the file.

QUALIFIED ACCESS

If an instrument has been set in a Legal for Trade state - e.g. Legal, Legal Multi Range, or Legal Multi Interval type - you can edit certain parameters and perform certain features only via a qualified access.



A customer password table is required to execute a Qualified Access Procedure, which is supplied by the manufacturer to authorised service centres only. If you have the password table, proceed as follows:

- select the menu *File* → *Qualified Access*;
- the software will show the *Qualified Access* window;
- enter your identification code (user password) in the *User* field, shown in the table;
- refer to the table and record the password (4-digit number) corresponding to the value shown in the *Seed* field;
- type the password in the *Password* field and click on *Authenticate*.

Qualified access mode will be quitted when the software is closed.

To cancel qualified access, proceed as follows:

- select the menu *File* → *Qualified Access*;
- click on *Cancel Authentication*.

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