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User Manual

version 1.6

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



The software can be used on Windows 7 or higher.

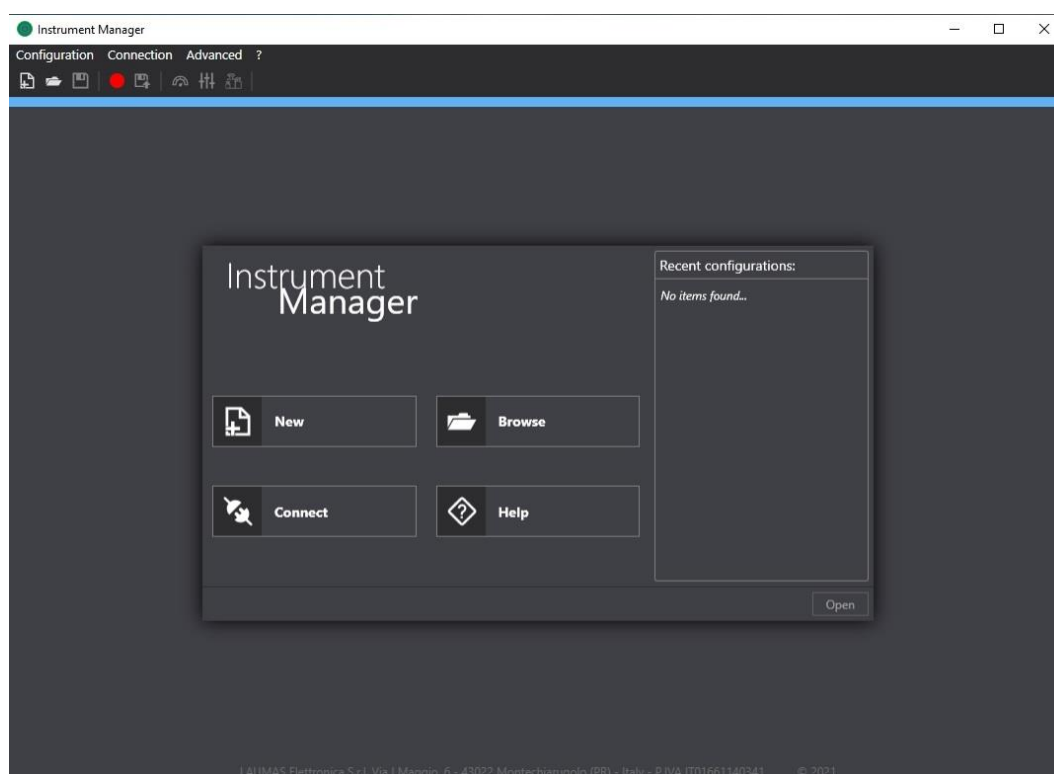
Double-click on the installation file and follow the on-screen instructions.



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.

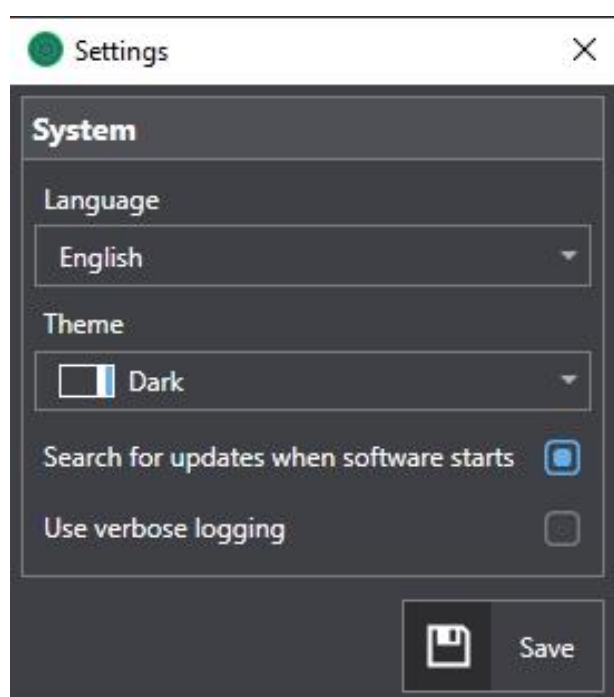


From the welcome window, you may perform various quick operations by clicking on the displayed icons and fields:

- *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**);
- *Help*: click to open this user manual;
- *Recent configurations*: double-click on an item on the list or select and click *Open* to open the configuration.

SOFTWARE CONFIGURATION

Select the menu *Advanced* → *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 verbose logging: activate to get more information on running the application (only if requested by technical assistance; see section **LOG EXPORT**).

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

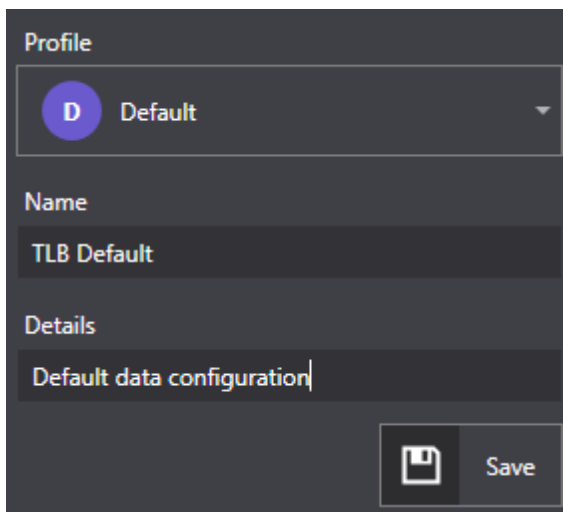
The operating parameters are the set of parameters that the instrument uses while performing its tasks. They can be set directly from the instrument menu.

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 saving parameters. It consists of three main sections: 'Profile', 'Name', and 'Details'. The 'Profile' section has a dropdown menu with a blue circle containing the letter 'D' and the text 'Default'. The 'Name' section has a text field containing 'TLB Default'. The 'Details' section has a text field containing 'Default data configuration'. At the bottom right, there is 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;

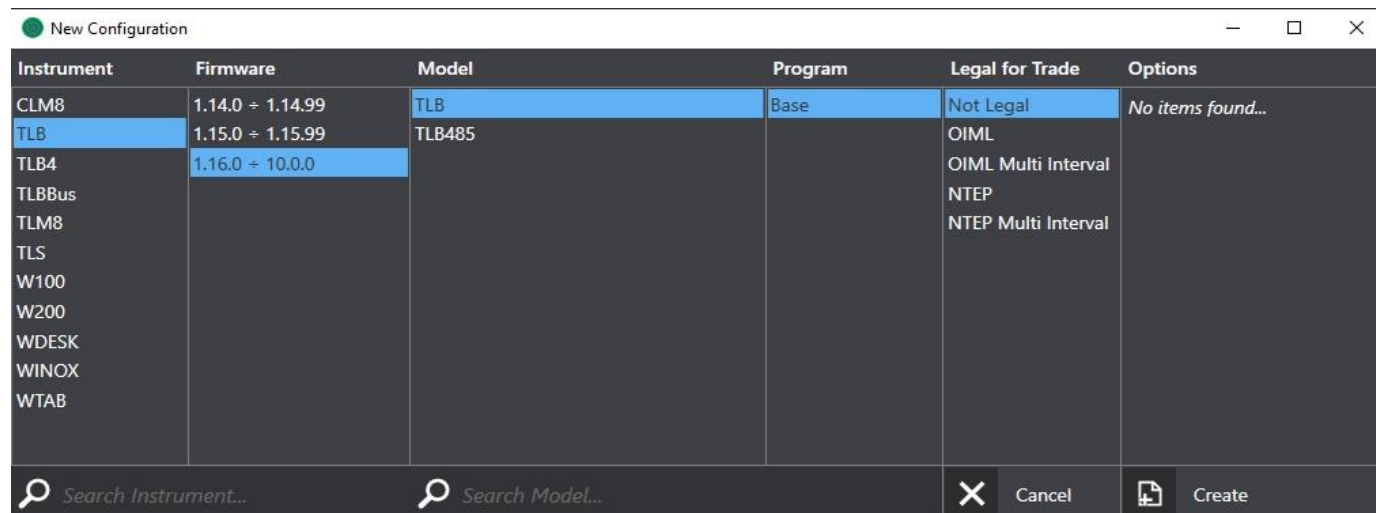
Details: any configuration details (optional).

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;
 - 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 *Configuration* → *Open*;
- 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 delete the configuration.



It is possible to open a configuration by dragging the .lac file into the software window.

Profile		Instrument	Model	Version	Name	Details	Date	Last Edit	
<div>Clear Filters</div>	<div></div>	<div></div>					From <div></div> To <div></div>	From <div></div> To <div></div>	
<div><div><div></div><div></div></div></div>	<div><div>D</div></div>	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
<div><div><div></div><div></div></div></div>	<div><div>D</div></div>	Default	TLB	TLB	1.14.0	TLB Default		6/17/2019 2:22:28 PM	6/17/2019 2:22:28 PM
<div><div><div></div><div></div></div></div>	<div><div>S</div></div>	Second Profile	TLB4	TLB4 Powerlink	1.5.0	For PLC		6/17/2019 2:22:45 PM	6/17/2019 2:22:45 PM
<div><div><div></div><div></div></div></div>	<div><div>S</div></div>	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.

Instrument Manager 1.3.0 - r0

Configuration Connection Advanced ?

TLB (1.16.0÷10.0.0) • Program: Base • Legal for Trade: Not Legal

Calibration

Real Calibration

Analog

Serial

Input / Output

Residual Full Scale
10000 kg

Sensitivity
2 mV/V

Maximum Weight
0 kg

Coefficient
1

Theoretical Full Scale
0 kg

Divisions
1

Unit of Measurement
Kilograms

Manual Zero Value
0 kg

Filter

Filter
4

Anti-Peak
☒

Zero Parameters

Auto Zero
0 kg

Maximum Resettable Weight
300 kg

Zero Tracking
0

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When the open configuration has unsaved changes, the indication “**(edited)**” appears next to the device name in the summary section at the top.

Instrument Manager 1.3.0 - r0

Configuration Connection Advanced ?

(edited) • TLB (1.16.0÷10.0.0) • Program: Base • Legal for Trade: Not Legal

Calibration

Real Calibration

Analog

Serial

Input / Output

Residual Full Scale
10000 kg

Sensitivity
5 mV/V

Maximum Weight
0 kg

Theoretical Full Scale
10000 kg

Divisions
1

Unit of Measurement
Kilograms

Manual Zero Value
0 kg

Filter

Filter
4

Anti-Peak
☒

Zero Parameters

Auto Zero
0 kg

Maximum Resettable Weight
300 kg

Zero Tracking
0

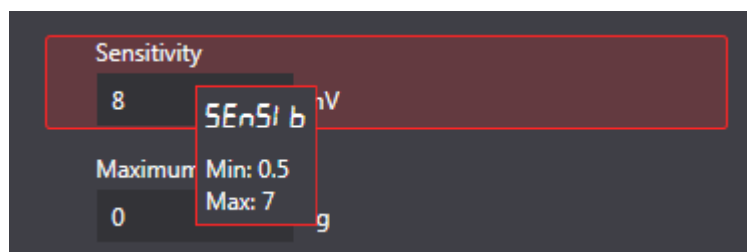
After each edit, the software will check the new value entered. If incorrect, the parameter will be highlighted in red and the name of the tab it belongs to will be marked by a warning icon.

The screenshot shows the 'Instrument Manager 1.3.0 - r0' application window. The 'Calibration' tab is active, indicated by a warning icon. The interface is divided into several sections:

- Configuration Bar:** Shows 'TLB (1.16.0÷10.0.0)', 'Program: Base', and 'Legal for Trade: Not Legal'.
- Left Sidebar:** Contains 'Calibration' (with a warning icon), 'Real Calibration', 'Analog', 'Serial', and 'Input / Output'.
- Main Area:**
 - Residual Full Scale:** 10000 kg
 - Theoretical Full Scale:** 0 kg
 - Sensitivity:** 8 mV/V (highlighted in red)
 - Divisions:** 1
 - Maximum Weight:** 0 kg
 - Unit of Measurement:** Kilograms
 - Coefficient:** 1
 - Manual Zero Value:** 0 kg
- Filter Section:**
 - Filter:** 4
 - Anti-Peak:** ☒
- Zero Parameters Section:**
 - Auto Zero:** 0 kg
 - Zero Tracking:** 0
 - Maximum Resettable Weight:** 300 kg

The footer contains the text: 'LAUMAS Elettronica S.r.l. Via I Maggio, 6 - 43022 Montechiarugolo (PR) - Italy - P.IVA IT01661140341 © 2021'.

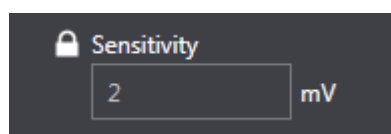
To display the type of error, place the mouse pointer onto the name of the parameter concerned.





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 instrument is approved, changing some parameters require qualified access (see section **QUALIFIED ACCESS**). These parameters are identified by the icon  next to the name.

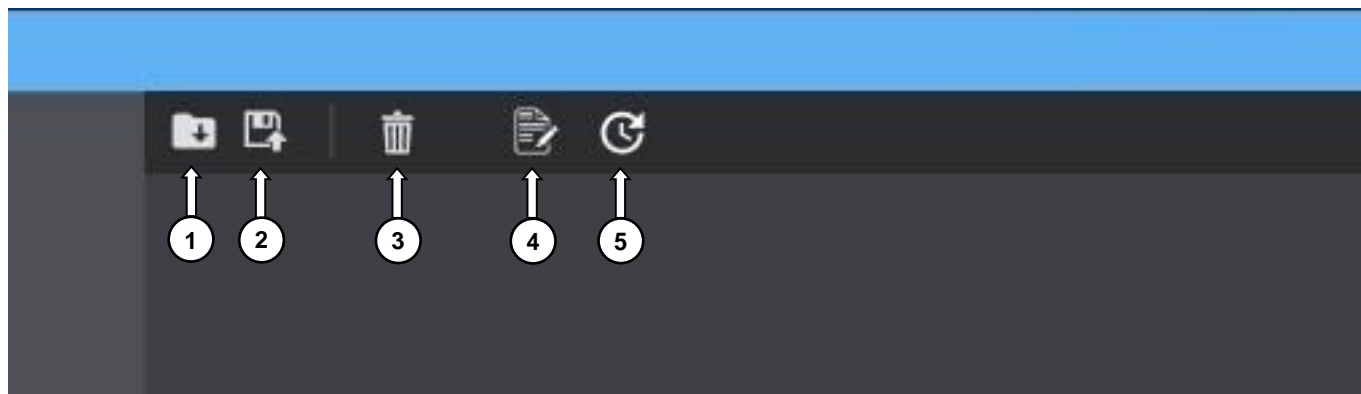
To close an open configuration and return to the main screen, press  on the top right or select the menu: *Configuration* → *Close*.

DATA SYNCHRONIZATION

The tabs displayed by the software can be of two types:

- synchronized tabs: the data displayed in the tab and those contained in the connected instrument are automatically synchronized during the data upload/download operations;
- unsynchronized tabs: the data displayed in the tab and those contained in the connected instrument are manually synchronized by the user.

Unsynchronized tabs are recognized by the synchronization controls at the top.



1. download data from the instrument: the tab is updated by downloading the data from the instrument;
2. upload data to the instrument: the data in the tab are uploaded to the instrument;
3. reset: the data in the tab are reset to the default values; this operation does not change the data on the instrument;
4. the data in the tab have changed since the last data save or upload/download;
5. the data in the tab and on the instrument have been synchronized; keeping the mouse pointer on the button, the date and time of the last data upload/download operation are displayed.

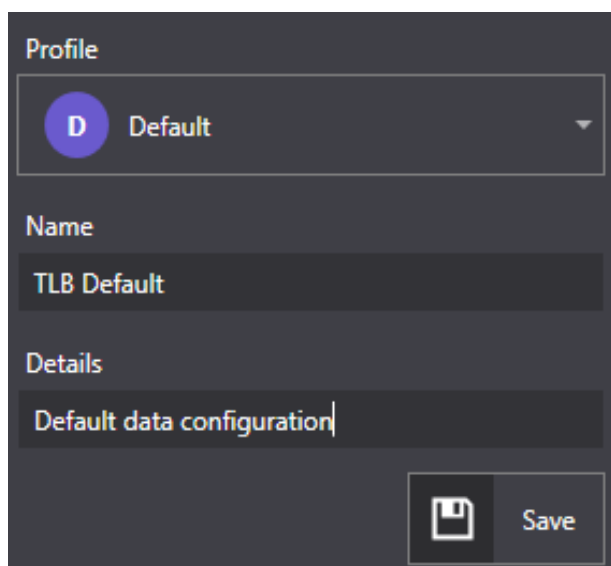


If you do not know the initial configuration of the instrument, it is advisable to perform a data download in order to operate on synchronized data.

If the initial configuration of the instrument is not relevant, you can complete the configuration opened in the software and perform a data upload at the end.

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:

The image shows a software window for saving a configuration. It has a dark theme. At the top, there's a 'Profile' section with a dropdown menu showing 'D Default'. Below that is a 'Name' section with a text field containing 'TLB Default'. Underneath is a 'Details' section with a text field containing 'Default data configuration'. At the bottom right, there is a 'Save' button with a floppy disk icon.

- select the menu *Configuration* → *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 *Configuration* → *Save*

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

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

IMPORTING A CONFIGURATION

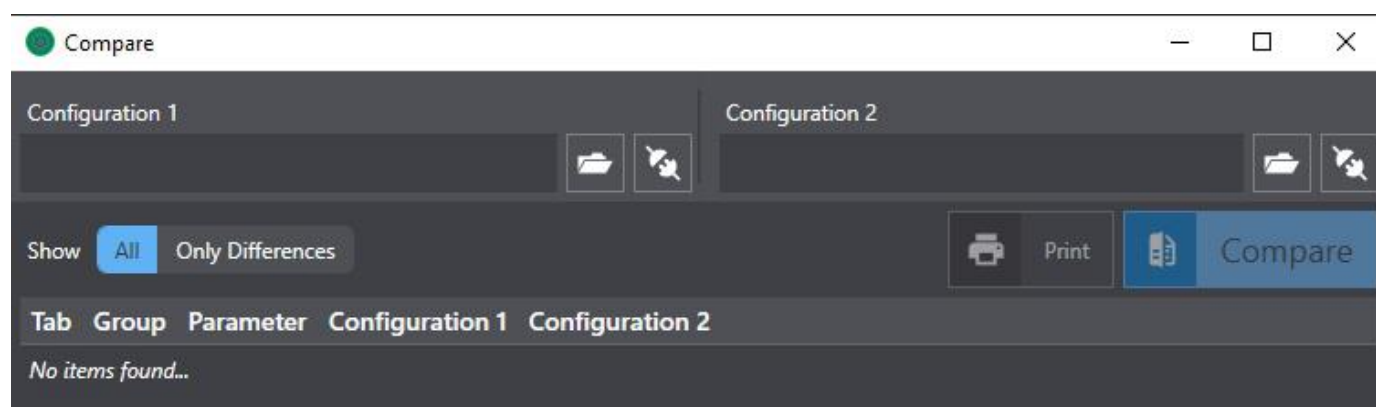
You may import a previously exported configuration. Imported configurations may be used and edited even if they are not in the database.

To import a configuration, proceed as follows:



- select the menu *Configuration* → *Import configuration*;
- select the path of the file you want to import;
- upload the .lac file containing the configuration;
- the software shows the save dialog box: define the saving parameters (see section **SAVING PARAMETERS**) and click on *Save* or ignore the saving by closing the dialog box.

COMPARING CONFIGURATIONS

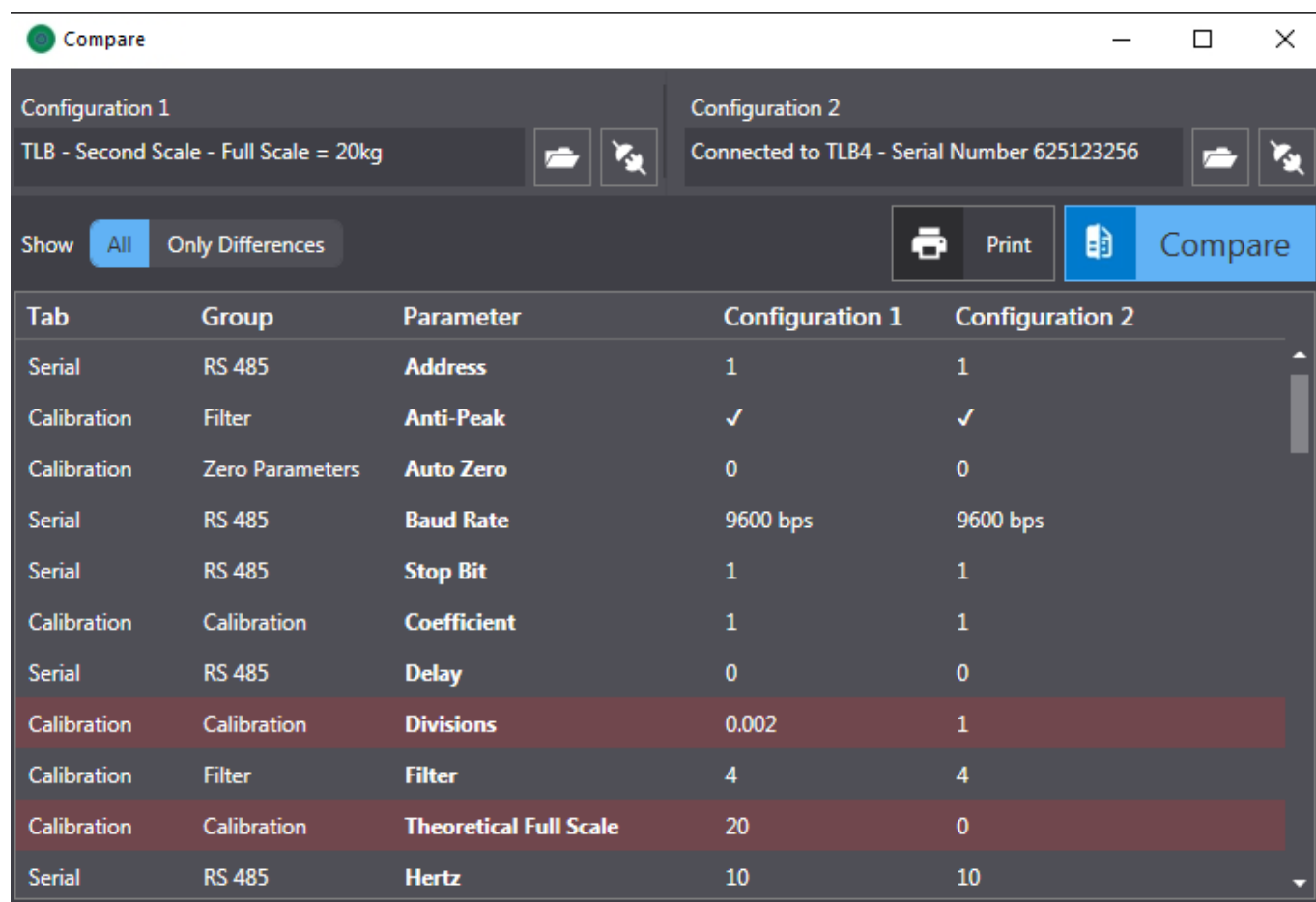
You may compare two configurations to highlight any differences between parameters.



To compare two configurations, proceed as follows:

- select the menu *Configuration* → *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:

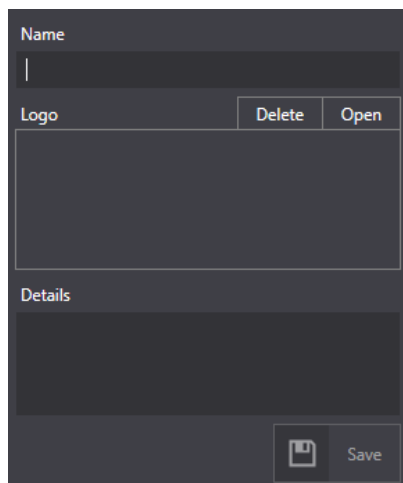
- select the menu *Configuration* → *Print*
- select the printer or PDF printing mode;
- click on *Print*.

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:

A screenshot of a software interface for creating or editing a profile. It features a dark-themed form with the following elements: a 'Name' label above a text input field; a 'Logo' label above a large image upload area, with 'Delete' and 'Open' buttons to its right; a 'Details' label above a text area; and a 'Save' button with a floppy disk icon at the bottom right.

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

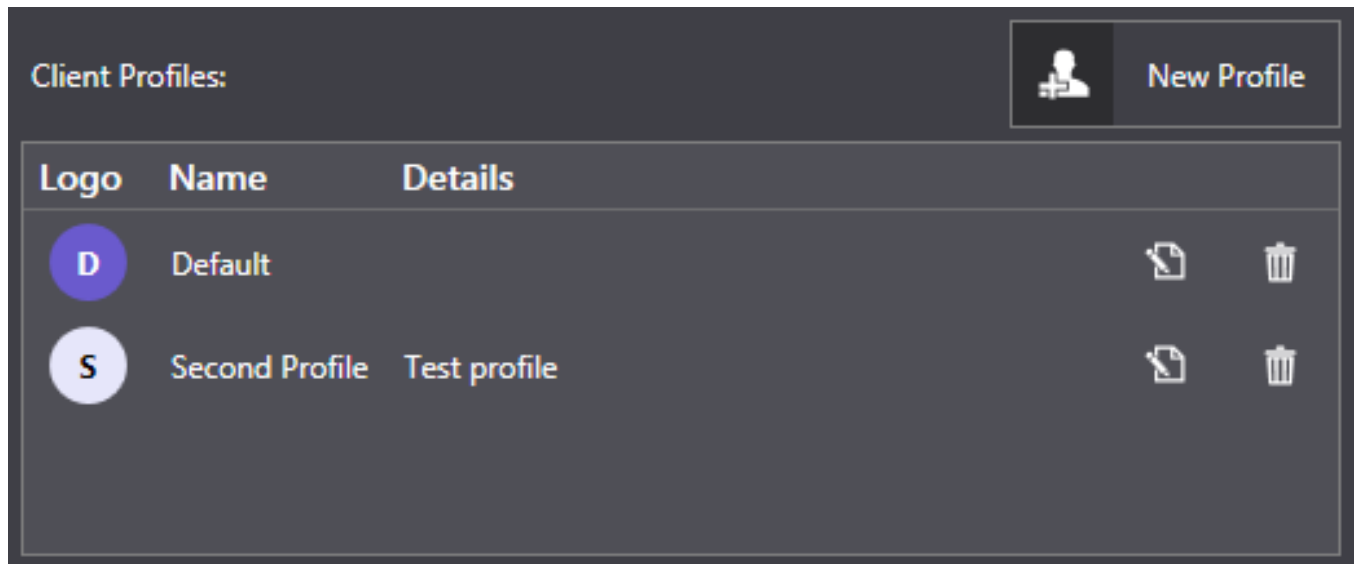
To create a new profile, proceed as follows:

- select the menu *Advanced* → *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 *Advanced* → *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.



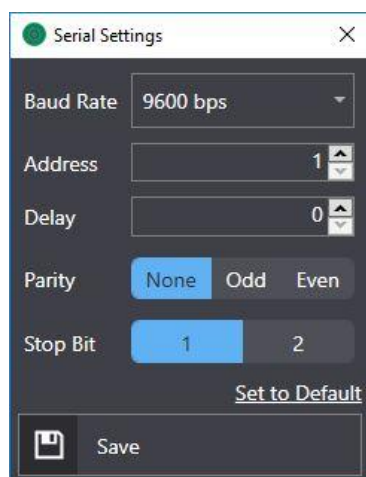
CONNECTION

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).

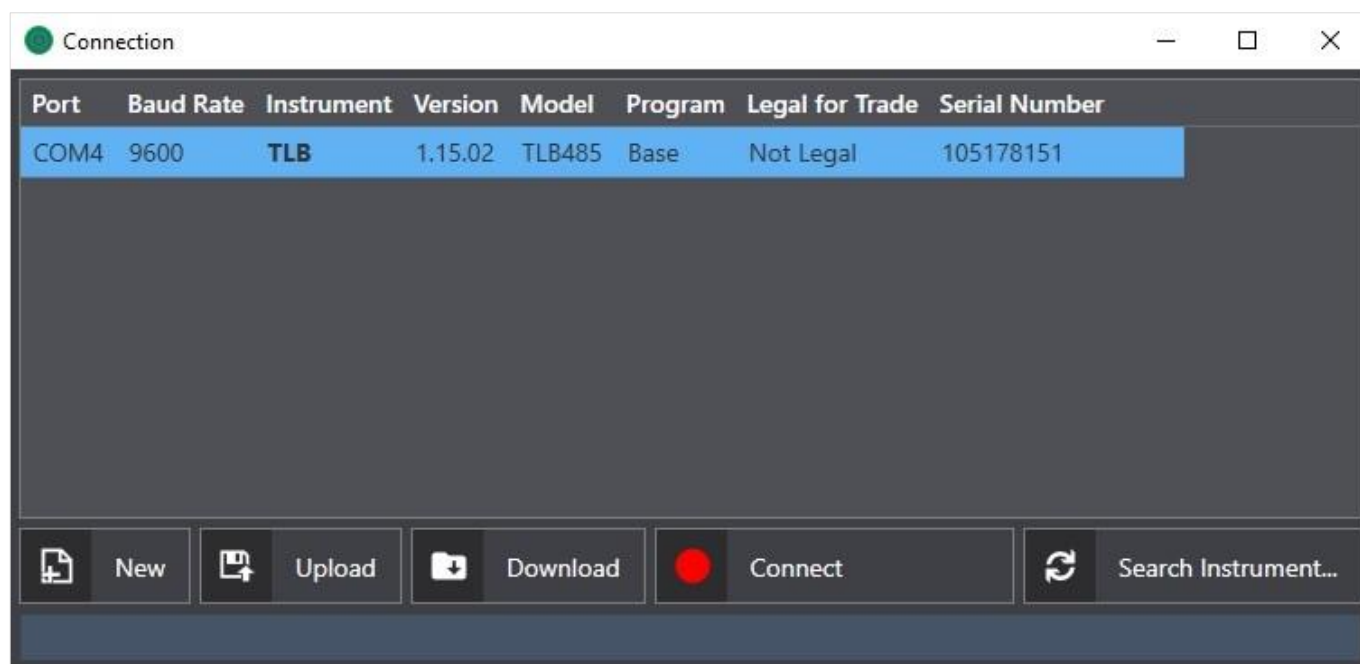
To establish communication with the software, the instrument needs to be connected via a serial port set with the Modbus protocol and with the same communication parameters (see section **SERIAL COMMUNICATION SETTING** in the instrument manual).

If the Baud Rate parameter is set to *Auto*, the software automatically searches for the value that allows establishing a connection and uses it for subsequent operations on the instrument.

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*: activates a real time connection with the instrument, generates and opens a new configuration with all parameters identical to those of the connected instrument; the parameters of the open configuration are synchronized with those on the instrument and if they are modified the software displays a notification. If a compatible configuration is open in the software, before activating the real-time connection you are asked whether to load it on the instrument (see section **REAL-TIME OPERATIONS**);
- *Search Instrument*: will search again for connected instruments.

CONNECTION PROBLEMS

External Bluetooth modules and adapters that work in COM serial port emulation mode can slow down the software and prevent the recognition of correctly connected devices.

To solve the problem, remove the modules for the time of use of the software or temporarily disable the virtual COM port from the device management panel of the operating system in use.

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*
- or

click on the toolbar icon .



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;
 - **Zero:** will send the semi-automatic zero command to the instrument.

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.

If the connected instrument is of the multichannel type, the section shows the status of each channel (active, inactive or in error) and the percentage distribution of the load.



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;
 - *e/10*: the weight value is indicated in tenths of the current division.

CHANNELS



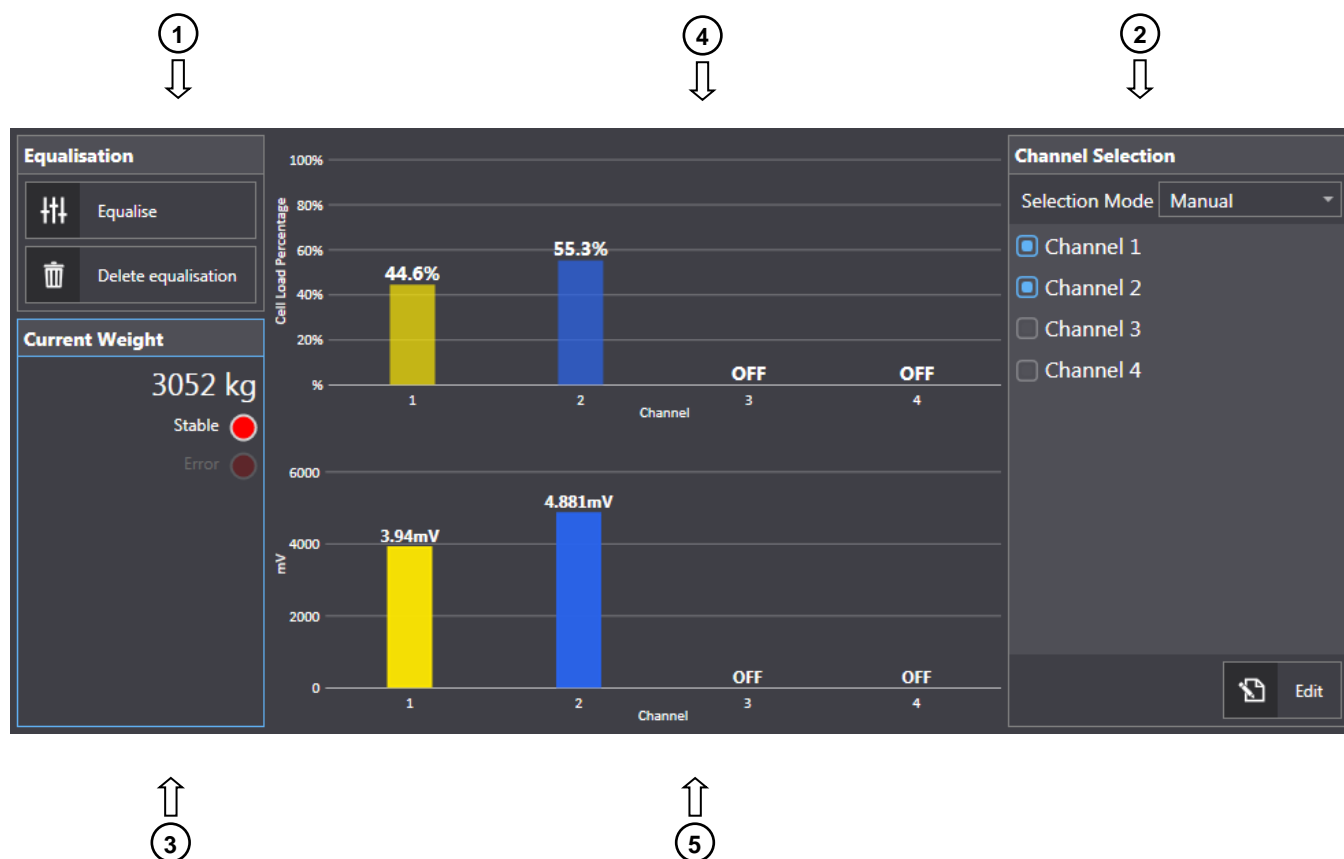
Only available for multichannel instruments.

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

- establish a real time connection with the instrument (see section **CONNECT**);
- select the menu *Operations* → *Channels*
or
click on the toolbar icon

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

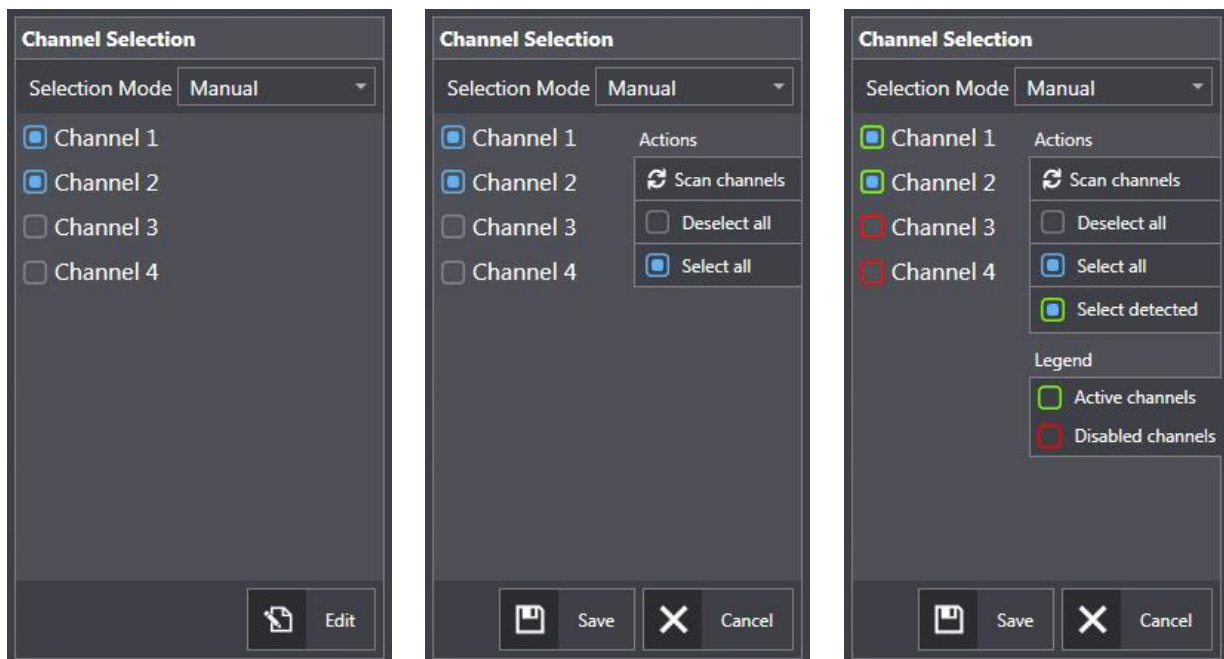
The channel selection commands may be used to display and confirm the channels automatically detected by the instrument. It is possible to establish active channels automatically or manually. For further information on how to select channels, please refer to the instrument manual.

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:
 - *Scan channels*: will scan the channels detected by the instrument and highlight them in green;
 - *Deselect all*: deactivates all channels;
 - *Select All*: activates all channels;
- select the channels to be activated and click on *Save*.



EQUALISATION

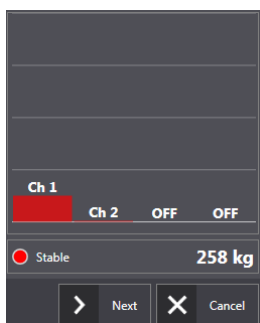
If the instrument is approved, qualified access is required to access this function (see section **QUALIFIED ACCESS**).

The equalization procedure allows you to correct the differences in the weight detected on a platform weighed by multiple load cells and can be done in CORNER or AXIS mode (for more information refer to the instrument manual).

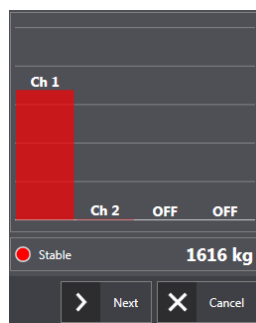
CORNER mode:

- click on *Equalise*;
- the software will show the wizard window with preliminary instructions;
- select CORNER mode or click directly on *Start* if the instrument does not support AXIS mode;
- position the sample weight at a load cell:
 - if the highest column of the graph is red, wait for stability and confirm by clicking on *Next*;
 - if the highest column is green, this means that the sample weight corresponds to a cell that has already equalized. Move the sample weight before continuing;
- repeat the positioning of the sample weight for each active channel;
- click on *Finish* to save the equalisation.

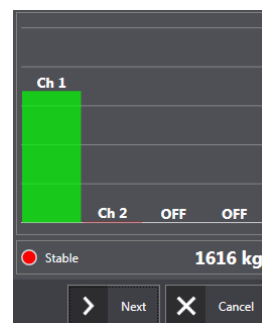
Example:



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



OK
Click *Next* to equalise channel 3.

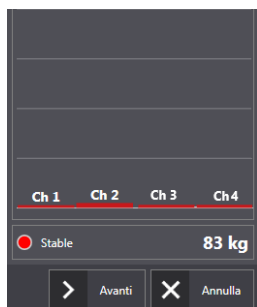


NO
Channel 1 has already been equalised and continuing would result in an error. Move the sample weight to channel 2 or 3 before continuing.

AXIS mode:

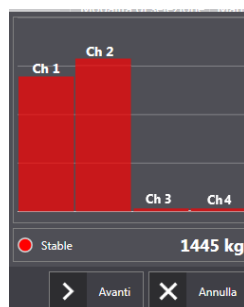
- click on *Equalise*;
- the software will show the wizard window with preliminary instructions;
- select AXIS mode and click on *Start*;
- position the sample weight in correspondence with an axis formed by a pair of load cells:
 - if the highest columns of the graph are red, wait for stability and confirm by clicking on *Next*;
 - if the highest columns are green, it means that the sample weight is in correspondence with an axis already equalized. Move the sample weight before continuing;
- repeat the positioning of the sample weight for each active axis;
- click on *Finish* to save the equalisation.

Example:



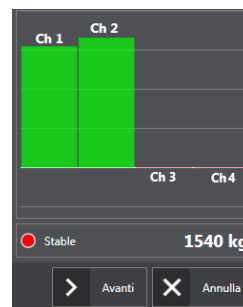
OK

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



OK

Click *Next* to equalize the axis.



NO

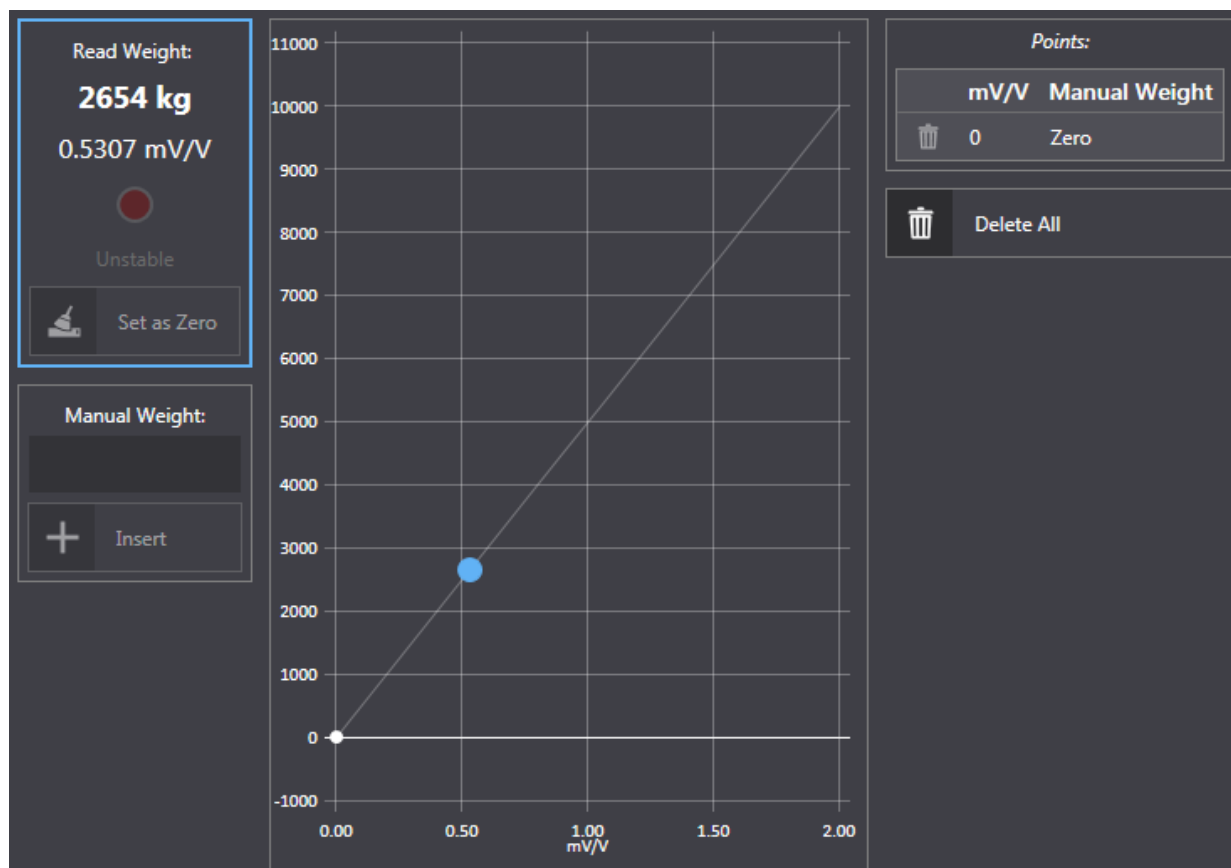
The axis has already been equalised and continuing would result in an error. Move the sample weight to the next axis before continuing.

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

REAL CALIBRATION

If the instrument is approved, qualified access is required to access this function (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 *Calibration Chart* 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:

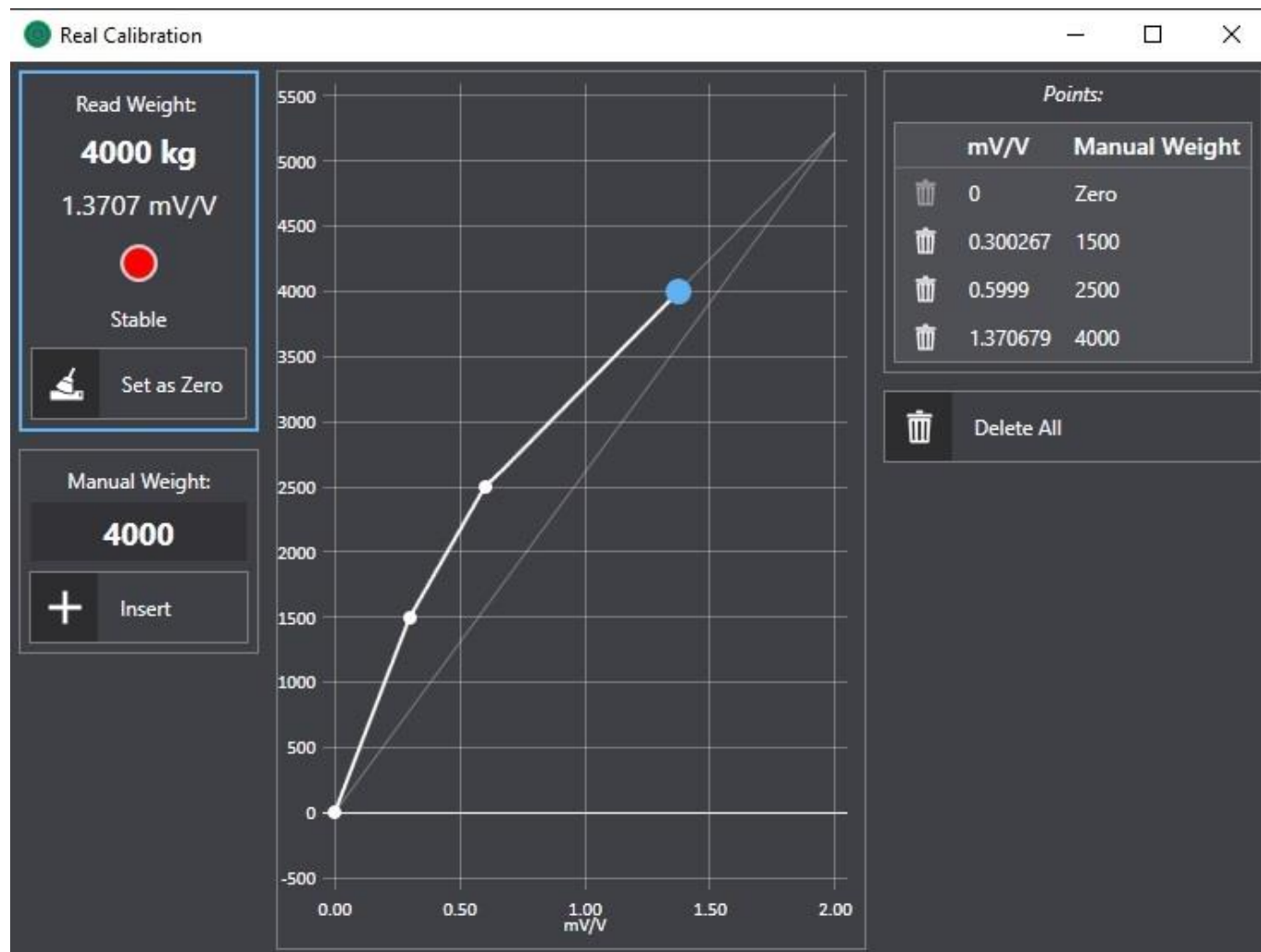
- establish a real time connection with the instrument (see section **CONNECT**);
- select the menu *Operations* → *Real Calibration*

or

click on the toolbar icon ;

- the software will show the real calibration window;
- unload 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* panel.
To delete all calibration points, click *Delete All* in the *Points* panel.



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

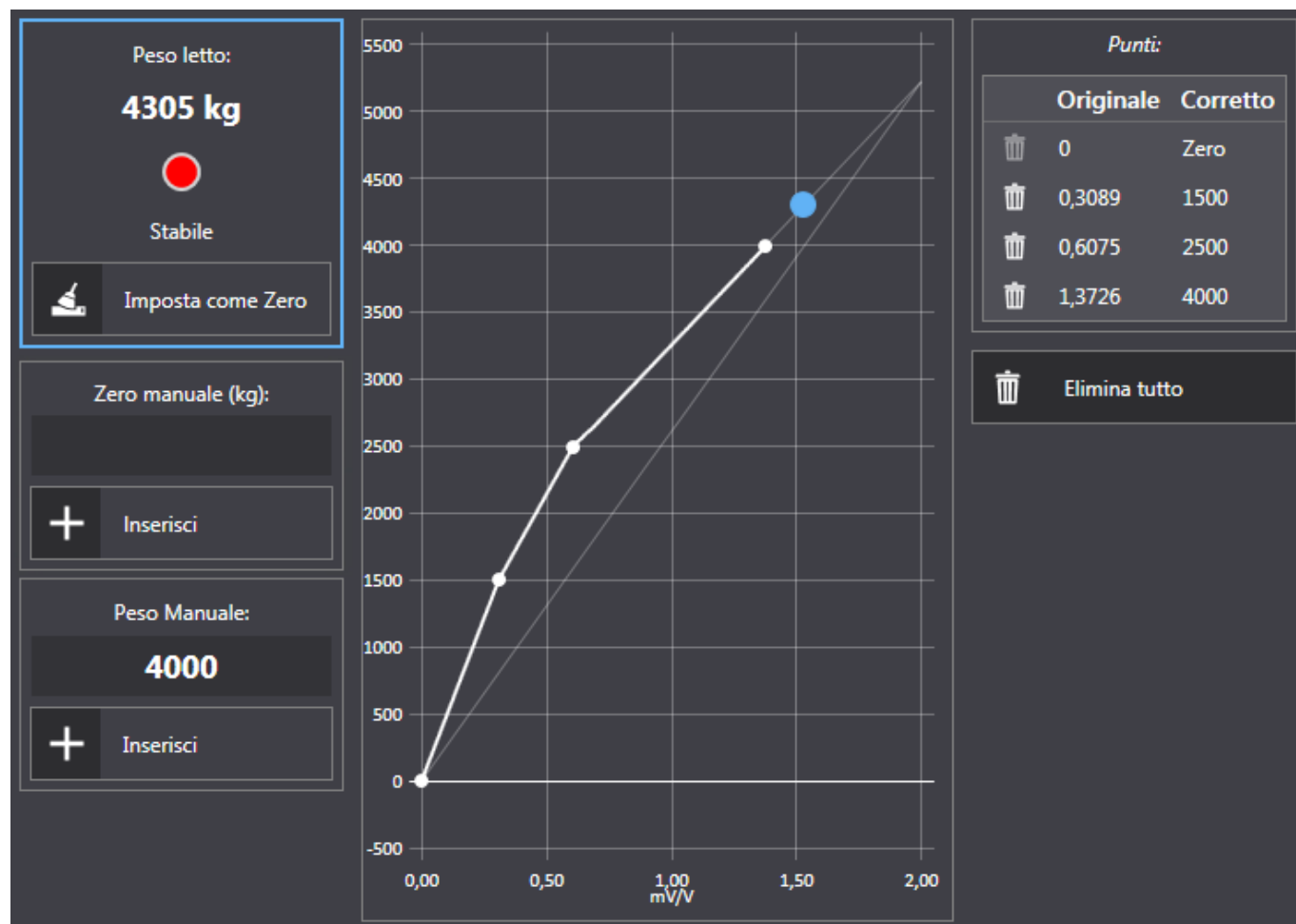


If you intend to calibrate a multichannel instrument, it is recommended you first equalise the system (see section **EQUALISATION**).

ZERO VALUE MANUAL ENTRY



Only available for LCB instruments.



It is possible to manually enter a tare value expressed in kg, correcting the zero point.

WARNING: perform this procedure only if it's not possible to reset the weighed structure tare, for example because it contains product that cannot be unloaded.

Proceed as follows:

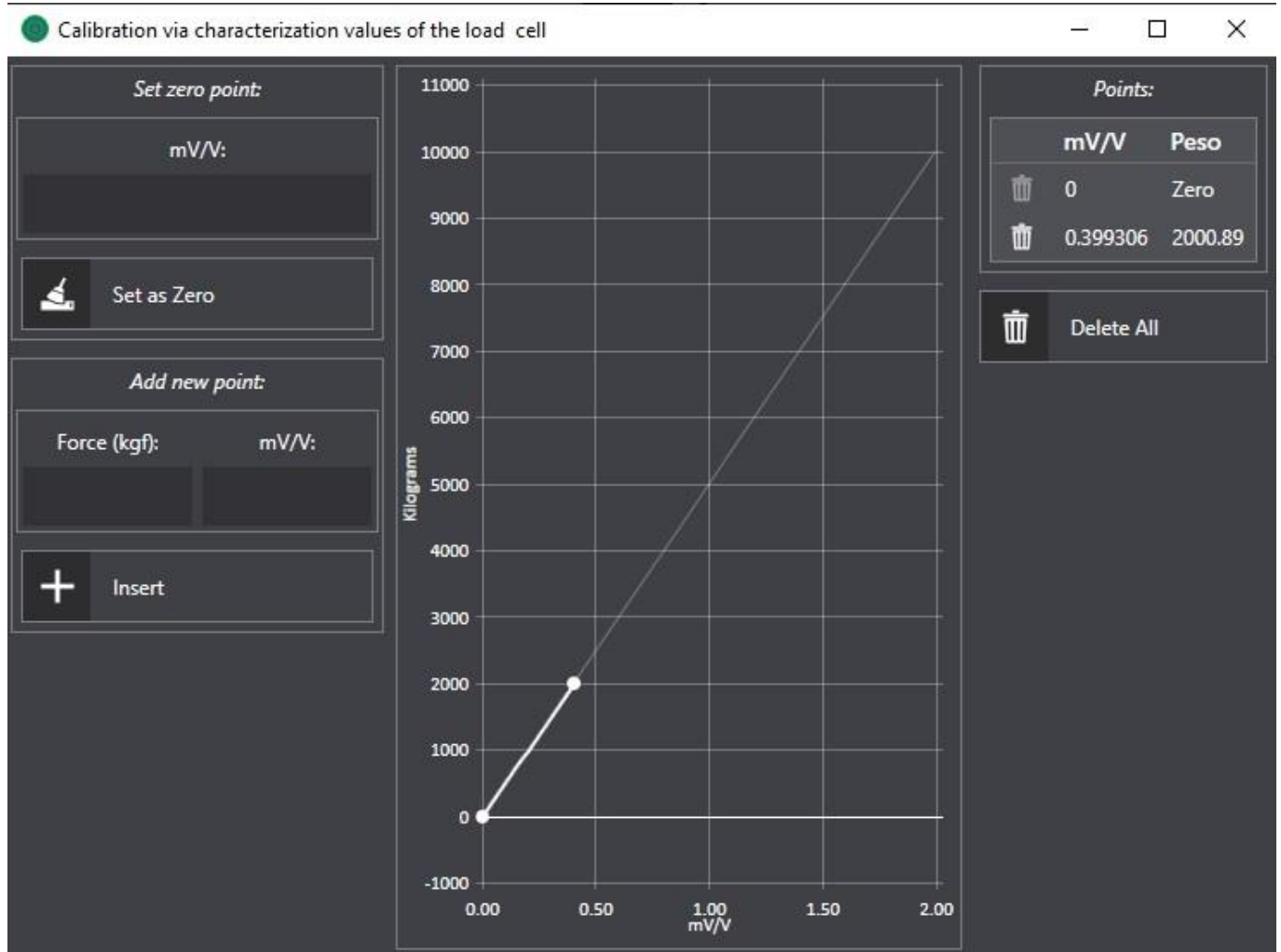
- write the tare value in kg in the *Manual zero* field;
- click on *Insert* to confirm the calibration point.

CALIBRATION VIA CHARACTERIZATION VALUES OF THE LOAD CELL



Only available for LCB instruments.

It is possible to calibrate the instrument starting from a characterization document of the load cell, using the Force-mV/V value pairs.



The graph in the *Calibration via characterization values of the load cell* window shows the calibration curve currently active on the instrument.

To perform the calibration procedure, proceed as follows:

- establish a real time connection with the instrument (see section **CONNECT**);
- select the menu *Operations* → *Calibration via characterization values*;
- the software will show the calibration window;
- insert a mV/V value for the discharge system in the *Set zero point* field;
- click on *Set as Zero* to confirm the zero calibration point;
- Enter the pair Force-mV/V in the *Add new point* 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* panel.

To delete all calibration points, click *Delete all* in the *Points* panel.

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*.

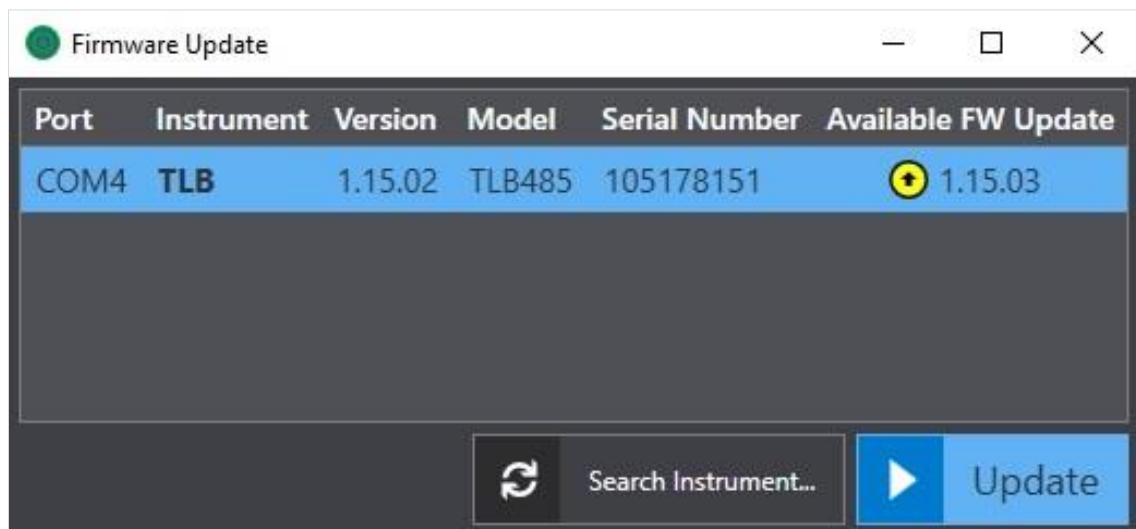
Command options:

- *Select program*: allows changing the program of the connected instrument (only available for LCB instruments);
- *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

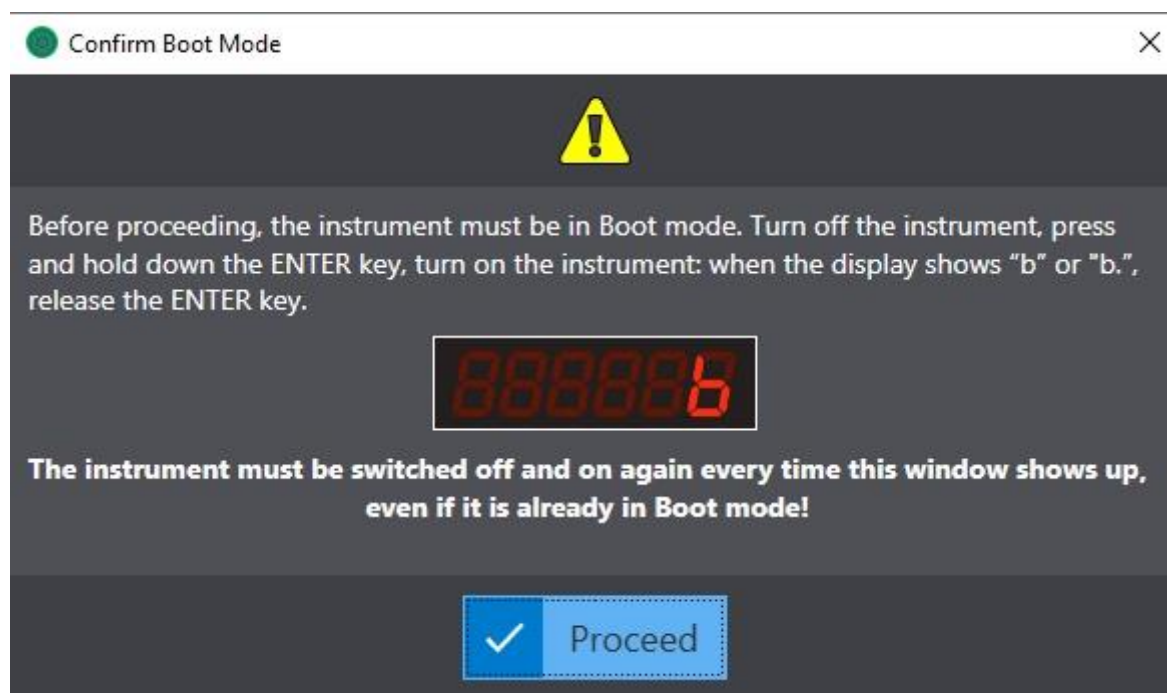
To start an update of the connected instrument proceed as follows:

- connect the instrument to the PC;
- select the menu *Advanced* → *Device* → *Firmware Update*;
- the software will show the window with the list of instruments detected;
 - o 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 *Update* or  to start the automatic update procedure;
 - o after clicking *Update*, you can specify a firmware update file manually by browsing the local folders on your computer.



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;
 - if you are prompted to perform preliminary operations before proceeding, follow the directions of the wizard shown.
2. activate the Boot mode on the instrument:
 - turn off the instrument;
 - press and hold down the ENTER key;
 - turn on the instrument;
 - when the display shows “b” or “b. ”, release the ENTER key.
 3. click on *Proceed* to confirm the update;
 4. upon completion, the software will display a message showing the outcome of the update procedure. In case of failure, see section **ERRORS DURING UPDATE**.

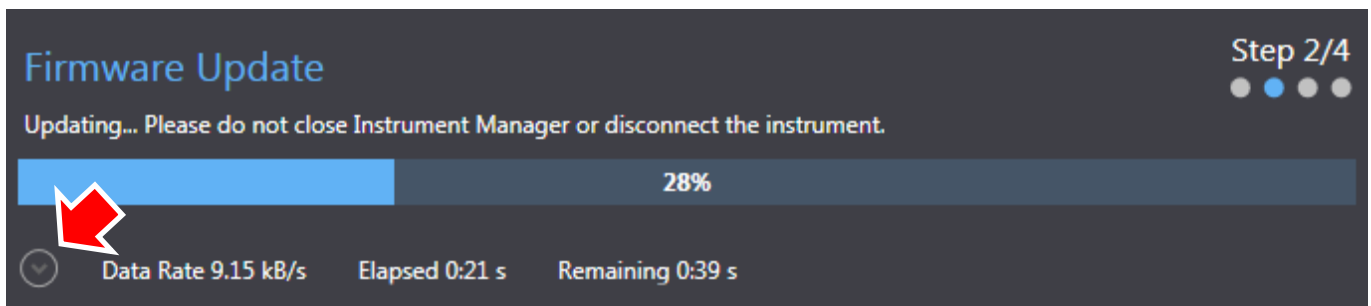
ERRORS DURING UPDATE

If the firmware update is unsuccessful the software automatically saves to file the identification data of the instrument and the information needed for recovery.

To restore the instrument see section **INSTRUMENT RESTORE**.

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

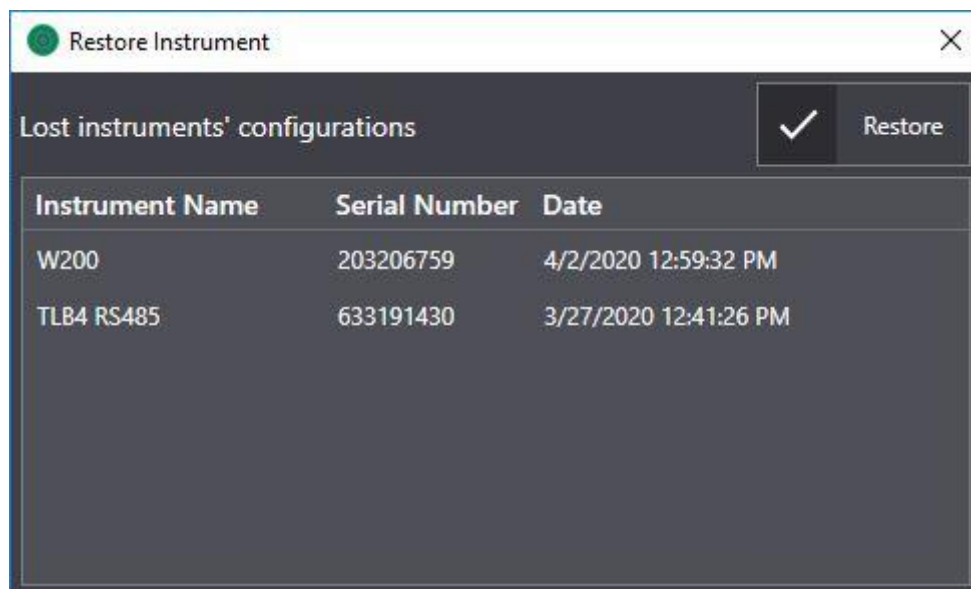
1. always try the update procedure at least twice;
2. check the connection with the instrument and check that the earth of the serial cable is connected to the earth of the instrument (for further information on the connection, consult the instrument manual);
3. if the instrument is connected to the 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. open the update console by clicking on the arrow in the figure to check the possible causes of the failure (see section **LOG EXPORT**).



INSTRUMENT RESTORE

If the firmware update is unsuccessful, proceed as follows to restore the instrument:

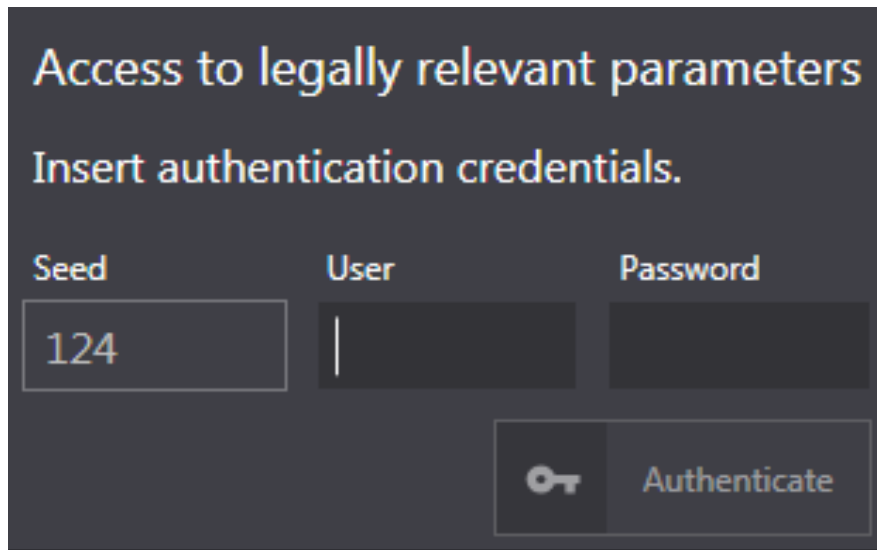
- connect the instrument to the PC;
- select the menu *Advanced* → *Device* → *Restore Instrument*;
- the software will show a window with the list of instruments for which data have been saved and whose update failed;
- select the desired instrument;
- click on *Restore*.



The software will not check that the connected instrument corresponds with the selected one. Pay special attention when selecting the instrument

QUALIFIED ACCESS


If the instrument is approved, changing some parameters and performing some functions require qualified access.



Access to legally relevant parameters

Insert authentication credentials.

Seed	User	Password
124		

 Authenticate

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 *Advanced* → *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 *Advanced* → *Qualified Access*;
- click on *Cancel Authentication*.



INMETRO approval: qualified access must be performed on the instrument.

LOG EXPORT

In the event of a malfunction or a failed firmware update, you can export log files, containing diagnostic information, to facilitate technical assistance in identifying the problem.

This information must be provided in case of a request for technical assistance.

To export the log files proceed as follows:

- select menu: ? → *Export Logs*;
- the software shows the window for saving the log file.

SOFTWARE BACKUP

To export a backup select the menu: ? → *Backup* → *Save backup*, the software will show the save dialog box.

To import a backup select the menu: ? → *Backup* → *Import from backup*, select the path of the .zip file you want to import.



WARNING: importing a backup overwrites all data contained in the current installation.

On our website www.laumas.com you can find videos on the correct installation of weighing systems and tutorials on the configuration of our weight transmitters and indicators.

Comprehensive user manuals for all LAUMAS products can be found online. They can be downloaded in PDF format from either the Products section or the Download Area of the website www.laumas.com. Registration is required.

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