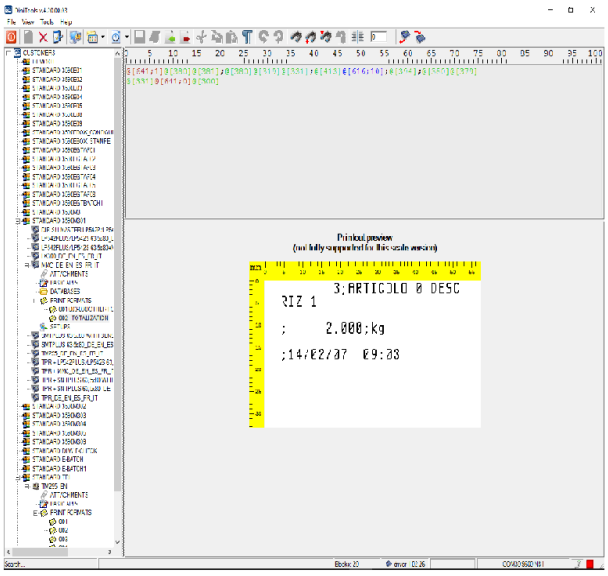
TECHNICAL OPERATING MANUAL

DINITOOLS: PC SOFTWARE FOR INDICATOR MANAGEMENT



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1. INTRODUCTION

The Dinitools software allows the management of the 3590M3/3590E, APD, CPW03/CPWE, DFW03, DFW06, DFWATEX, DFWATEX2GD/3GD, DFWKR DFWATEX2GDF, DFWT, DGT, DGTQ-F, TRB, TRD, TRS03 series' indicators: there is a customer database in which it is possible to store the indicators which are used. By receiving and transmitting directly the instrument data directly from PC, it is possible to recall the desired configurations and/or transfer them on a similar instrument without repeating the programming from keyboard.

1.1 MAIN FUNCTIONS

- Formatting the print formats.
- Programming of the printout heading.
- Back-up, restore and modification of the available data on the indicators (set-up, calibration, databases).
- "Weigh Console" application: display of the current weight on the PC with possibility of receiving the standard weight string from the indicator by pressing a key on the PC.

2. PC MINIMUM REQUIREMENTS AND PROGRAMME INSTALLATION

2.1 PC MINIMUM REQUIREMENTS

- Pentium 4 with 256 Mb Ram
- 200 MB of empty space on disk
- Windows XP operating system
- Monitor with 800x600 minimum resolution, 256 colours
- A RS232 serial port.
- Installation of the following components:
  - Run-time Visual Basic 5.0
  - Microsoft Data Access Component 2.7
  - Microsoft .net Framework 2.0. **Careful:** larger or smaller frameworks do not support the application.
  - Microsoft Jet 4.0 Service Pack 8 for Windows XP

2.2 INSTALLATION

- In order to install the DINITOOLS in the system, launch the executable of the installation and follow the suggested steps
- To launch the programme one should:
  - Click on the connection automatically created on the Desktop, or:
  - Choose in the Windows **START** menu, **All the programmes >> DiniTools >> DiniTools**.

3. THE MAIN MENU

3.1 FILE MENU:

- **New:** To create a new object (a customer, a scale, a print format, etc.).
- **Open:** To modify the data of the selected object.
- **Delete:** To cancel the selected object.
- **Save:** To save the modifications made.
- **Exit:** To exit the programme.

3.2 VIEW MENU:

- **Refresh:** To update the screen data.
- **Print preview:** To print a preview of the selected print format or of the selected heading, for the configured printer.
- **Details:** To view the details of the objects.
- **Icons:** To view the objects in a large icon format.
- **Small Icons:** To view the objects in a small icon format.

3.3 TOOLS MENU:

- **Calibration Tool:** Allows to receive, modify, transmit and file the complete set-up of an indicator, if supported (see section 9.4.2).
- **Weigh Console:** Programme for viewing on PC the weight displayed by the indicator and receive it by pressing a key (see section 10.1 "Weigh Console");
- **Communication:** To configure the parameters relative to the PC communication port (see section 5);
- **Options:** Allows setting the configuration options of the system (see section 6);

3.4 HELP MENU:

- **Supported instrument:** To view information regarding the instruments and the relative versions supported by DiniTools. By selecting an instrument one can view from which version it can be managed with DiniTools.
- **About:** To view information regarding the DiniTools version in use, the warranty, the user license and the user's declaration of responsibility. The "e-mail" and "Web" links respectively allow to transmit an e-mail using its own electronic e-mail programme to the Dini Argeo s.r.l. information section and to automatically connect to the Dini Argeo s.r.l. home page. Press "**OK"** to exit.

4. THE TOOLBAR

	Exit: to exit the programme
	New: to create a new object (a customer, a scale, a print format, etc.)
	Delete: to cancel a selected object
	Open: to modify the selected object data
	Options: Allows setting the configuration options of the system
	View: - Details: to view the objects' details. - Icons: to view the objects in a large icon format. - Small Icons: to view the objects in a small icon format
	Help: - **Supported instrument:** To view information regarding the instruments and the relative supported versions by DiniTools. By selecting an instrument one can view from which version it can be managed with DiniTools - **About**: to view information regarding the Dini Tools version in use, the warranty, the user license and the user's declaration of responsibility. The "e-mail" and "Web" links respectively allow to transmit an e-mail using its own electronic e-mail programme to the Dini Argeo s.r.l. information section and to automatically connect to the Dini Argeo s.r.l. home page
	Save label: in the print formats management, it allows to save the modifications made through the Dinitools editor.
	Run Editor: in the print formats management, it allows to edit the format through the Windows editor used on the PC (e.g. Notepad).
	Import: to import a printout format or a database table.
	Export: to export a printout format or a database table
	Cut: to cut a text (in the printout format editor) or an archive record.
	Copy: to copy a text (in the printout format editor) or an archive record
	Paste: to paste a text (in the printout format editor) or an archive record.
	Show/hide terminators: to show/hide the printout terminators
	Undo: to cancel the last modification of the printout format
	Redo: to repeat the last modification of the printout format
	Find: to search a word in a printout format / database
	Find next: to search next
	Find previous: to search previous
	Replace: to replace a text in the printout format editor
	Show/hide column maker: to show/hide the column marker in the printout format with box to insert the number of the column

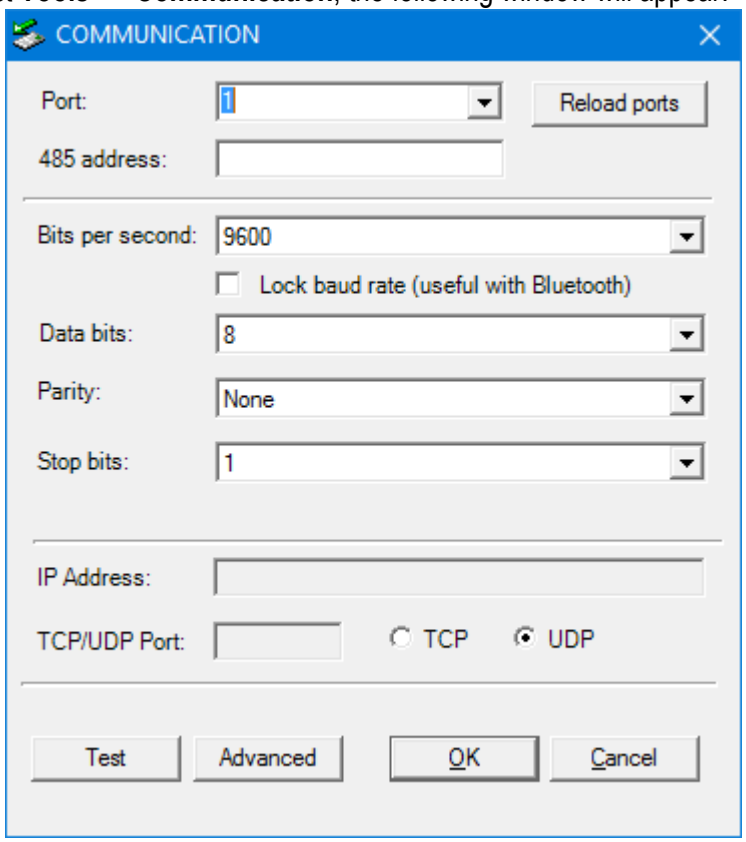
	Receive: to receive the selected printout format/database
	Transmit: to transmit the selected printout format/database
Esci	**Exit:** to exit on the printout format

5. COMMUNICATION

5.1 CONFIGURATION

Allows setting the parameters relative to the communication between the PC and the weight indicator.

- With the mouse's left key click on the icon which is in the lower right section of the status bar, or from the main menu select **Tools >> Communication**; the following window will appear:



- "**Port**" specifies which port is connected to the weight indicator: select / insert the number of the serial port (COM) of the PC or select Net if the communication takes place through the TCP/UDP socket.
- "**485 Address**" specifies the 485 address of the weight indicator, if the "**485**" communication protocol is being used, leave the box empty if a **"standard"** communication protocol is being used.
- "**Bit per second**", "**Data bit**", "**Parity**" and "**Stop Bit**" must be compatibly set with the indicator's configuration (see the indicator's technical manual) if the communication takes place through the serial port.
- "**Lock baud rate (useful with Bluetooth)**" forces the setup transmission and reception with the selected speed (bit per second).
- "**IP address**" and "**TCP/UDP port**" must be configured if the communication takes place through the TCP/UDP socket compatibly with the indicator configuration.
- By pressing "**Test**", a test programme is started which, with a 485 communication, searches the scale/s eventually connected to the configured port (up to the 10 address); while with a 232 communication or through the TCP/UDP socket it verifies the correct setting of the configuration parameters: either the "Test successful" or "No scale found" message will appear.
- Confirm with "**OK**" or press "**Cancel**" in order to not save the changes made.

Note: on the indicator it is necessary to configure the data transmission mode as "upon request" and the communication protocol as "standard" or "485" (see the indicator's technical manual).

5.2 STATUS OF THE CONNECTION

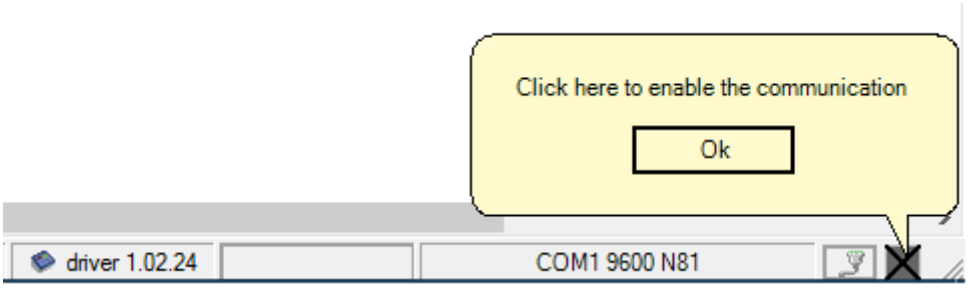
An icon on the bottom, on the left of the window indicates the status of the data transmission between the PC and the indicator:

- (green) indicates that the communication is correct.
- (yellow) indicates that it is waiting for a data transfer.
- (red) icon indicates communication problems: check the serial communication 1parameters on the PC as well as on the indicator.
- (grey) indicates that the communication is disabled: see section 5.3.

5.3 DISABLING / ENABLING

It's possible to disable the communication, in case one wants to use the programme also with the indicator not connected, and reenable it later on, when the indicator is connected once again.
With the left key click on the icon in the lower right of the screen, indicating the status of the data transmission between the PC and the indicator; a menu will appear which varies depending on the connection status:

- Disable communication in case of enabled connection; select this option to disable the communication; the following message will appear:

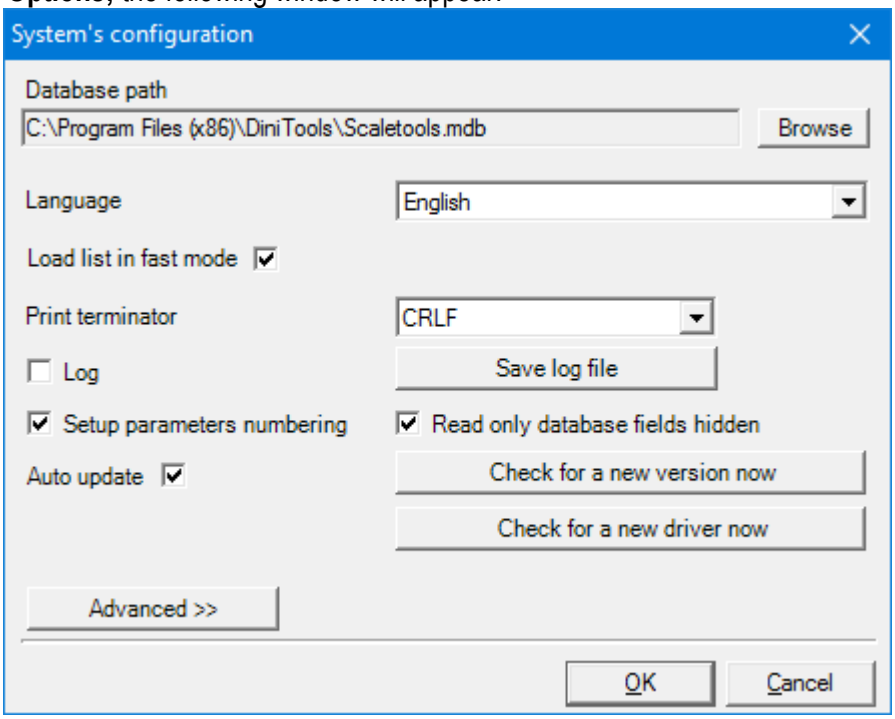


informing the user to click on the icon in the lower right in order to reenable the connection.

- Enable communication in case of disabled connection; select this option to reenable the communication.

6. SYSTEM CONFIGURATION

Select the **Tools >> Options;** the following window will appear:



6.1 SETTING THE DATABASE FILE PATH.

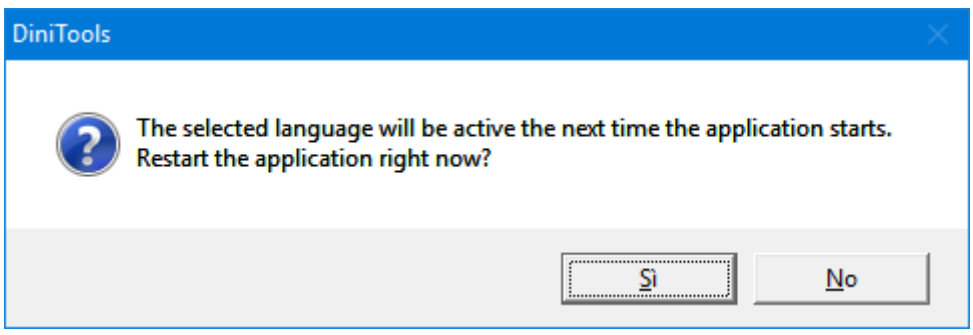
- Press the "**Browse**" key of the "**Database Path**" field if one wants to change the path of the file.
- Select the new path.
- Confirm with "**OK**" or press "**Cancel**" to not save; confirm with "**OK**"; the programme automatically opens the selected database.

NOTES:

- By selecting "**Load List in fast mode**" the database elements are loaded only in the moment in which these are selected; with a very full database, the Dinitools will have a much quicker start that in the "normal" mode.

6.2 DINITOOLS LANGUAGE SELECTION

- Select one of the available languages in the “Language” field to view the menu descriptions and the checks in the desired language.
- Confirm with "**Ok**" or press "**Cancel**" to not save; by confirming with "**OK**" one will be asked to restart the programme:



- Confirm with "**Yes**" or press "**No**" to not restart.

6.3 PRINT TERMINATOR SELECTION

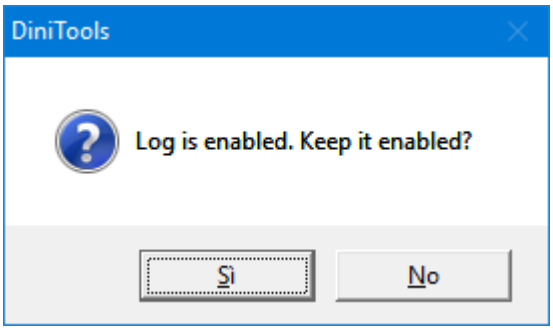
- Select one of the available print terminators in the “Print terminator” field.

  The selected terminator is used:
  - In the print preview of a print format or of a heading (see sections 9.1.8 and 9.3.6): after each print macro which provides for the terminator, the selected terminator is inserted.
  - Each time one inserts a terminator (enter key of the pc keyboard), the selected terminator is inserted

- Confirm with "**OK**" or press "**Cancel**" to exit without saving.

6.4 ENABLING OF THE LOG

- By selecting “Log”, at the next start of the program the Datalog.log file is created inside the folder of the program. This file contains information such as date and time of program’s start, the version of the program, the database path, the data of system’s configuration and the communication data. At every next start of the program the following message is displayed:



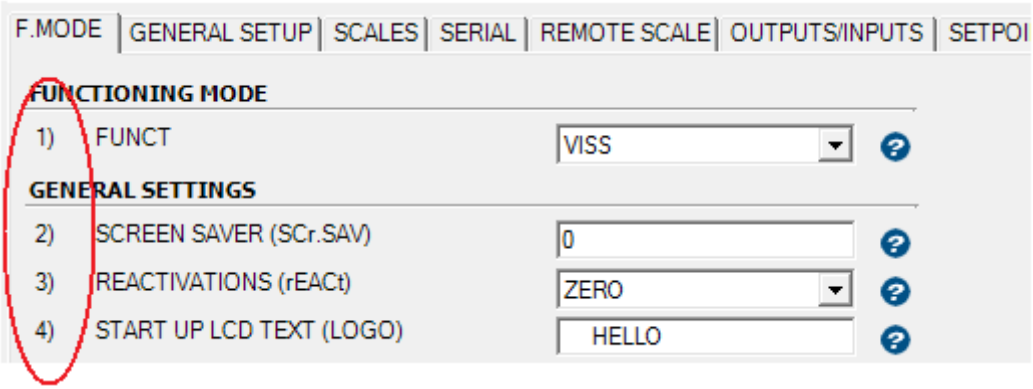
- Confirm with Yes; by pressing No the log is disabled.

6.5 AUTO UPDATE

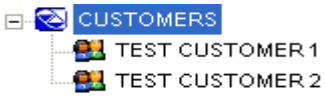
By selecting “**Auto update**”, it’s possible to enable the automatic update of the DiniTools (if there is an internet connection). It’s also possible to manually check if a new software/driver version is available by click on “**Check for a new version now**” and “**Check for a new driver now**”

6.6 SETUP PARAMETERS NUMBERING

By selecting “**Setup parameters numbering**”, it’s possible to number all the parameters of the configuration of the scales:



7. "CUSTOMERS" MENU - CUSTOMERS MANAGEMENT



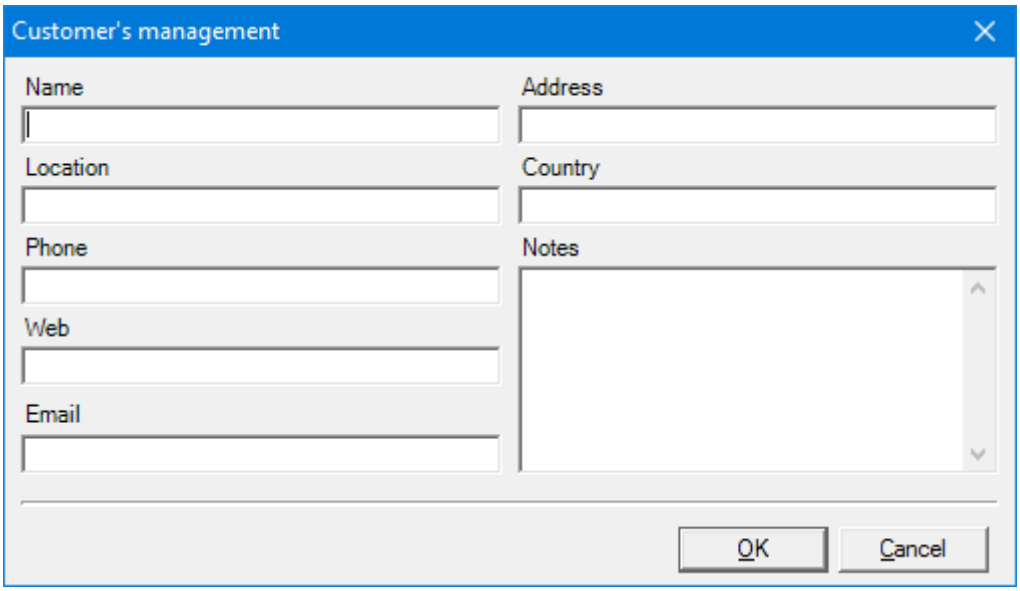
The "CUSTOMERS" allows managing the data of the customers and the relative scales through a tree menu system.

7.1 CREATION OF A NEW CUSTOMER

To create a new customer one can proceed in the following ways:

1) With the left key of the mouse click on the "**Customers**" item in left window and:
   - From the main menu choose "**File**" and "**New**" (or the CTRL+N fast keys), or
   - From the toolbar press "**New**",
2) With the right key of the mouse click on the "**Customer**" item in the left window and choose the "**New Customer**" item.

The following window will appear:



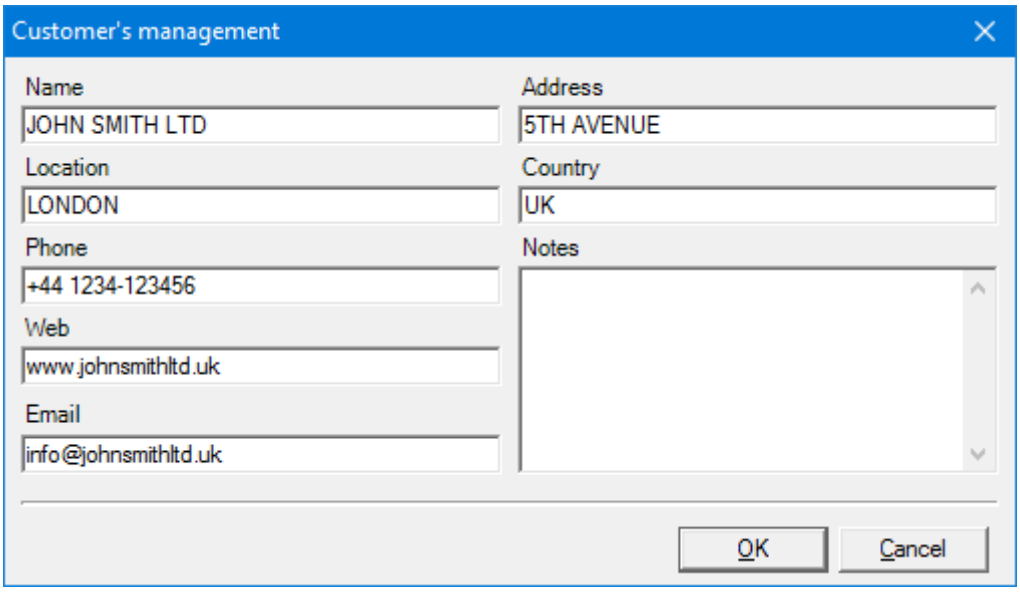
- Enter the customer name in the "**Name**" field (obligatory field) and possibly the other available fields.
- Confirm with "**OK**": the inserted customer will appear in the tree menu on the left.
- Press "**Cancel**" to exit without saving.

7.2 MODIFYING DATA OF A CUSTOMER

To modify a customer one can proceed in the following ways:

1) With the left key of the mouse click on the desired customer.
   - From the main menu choose "**File**" and "**Open**", or
   - From the toolbar press "**Open**";
2) With the right key of the mouse click on the desired customer in the left window, and choose "**Edit Selected Customer**",
3) With the left key of the mouse select the "**Customers**" item in the left window and:
   - Press the right key of the mouse on the desired customer in the right window and choose "**Edit Selected Customer**".

The following window will appear:



- Modify the desired fields.
- Confirm with "**OK**", or just "**Cancel**" to not save.

7.3 CANCELLATION OF A CUSTOMER

To cancel a customer together with its scales one can proceed in the following ways:

1) With the left key of the mouse click on the desired customer and:
   - From the main menu choose "**Edit**" and "**Delete**" (or the CTRL+D fast keys), or
   - From the toolbar press "**Delete**";
   - Confirm the request of the cancellation.
2) With the right key of the mouse click on the desired customer in left window, and:
   - Choose "**Delete Selected Items**",
   - Confirm the request of the cancellation.

7.3.1 CANCELLATION OF SEVERAL CUSTOMERS

To cancel various customers simultaneously one should:

- With the left key of the mouse select the "**Customers**" item in the left window
- With the left key of the mouse click on the customer to be eliminated in the right window.
- With the right key of the mouse click on one of the selected customers in the right window, and choose "**Delete Selected Items**",
- Confirm the cancellation request.

NOTE

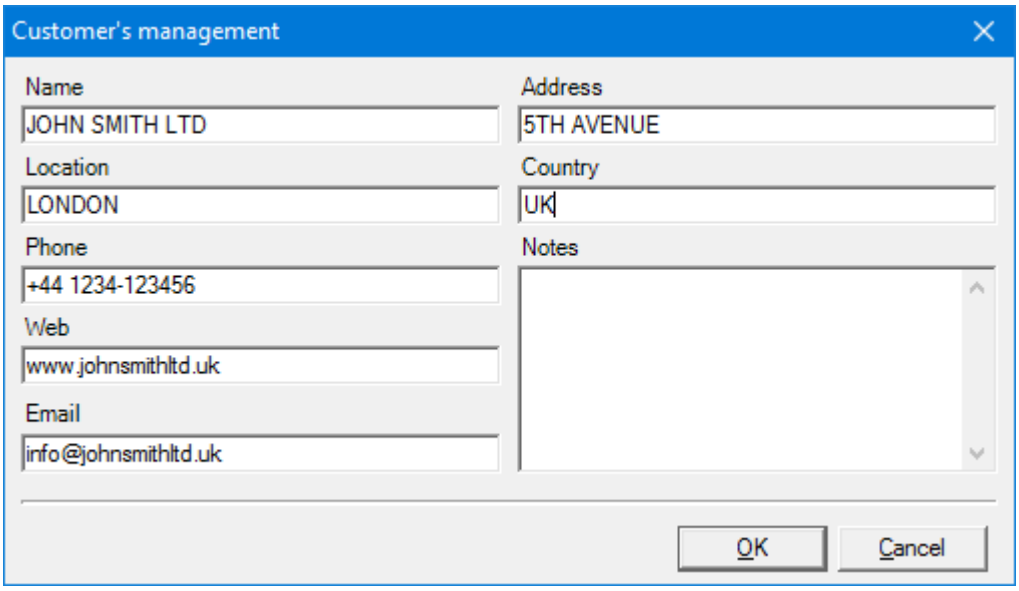
To select various objects simultaneously, keep the CTRL key pressed of the PC keyboard and click on the desired codes.

7.4 COPY OF A CUSTOMER

To copy the data and the scales of an existing customer into a new customer one can proceed in the following ways:

1) With the right key of the mouse click on the desired customer in left window, and choose "**Copy selecet customer**",
2) With the left key of the mouse click on the "**Customer**" item in the left window and:
   - With the right key of the mouse click on the desired customer in right window and choose "**Copy selecet customer**".

The following window will appear:



- Modify the name of the customer in the "**Name**" field (compulsory fiedl) and eventually the other available fields.
- Confirm with "**OK**", or press "**Cancel**" to not save.
- Wait for the customer copy, and once finished, the customer copy will appear in the tree menu on the left.

7.5 EXPORTING A CUSTOMER IN A DATABASE FILE

To export the data and the scales of an existing customer in an external database file one can proceed in the following ways:

1) With the right key of the mouse click on the desired customer in left window and choose "**Export selected customer**",
2) With the left key of the mouse click on the "**Customer**" item in the left window and:
   - With the right key of the mouse click on the desired customer in right window and choose "**Export selected customer**".

7.5.1 EXPORTING PROCEDURE

- Select the destination path of the file to be created.
- Enter the name of the database file to be created.
- Press on "**Save**".
- Wait for the export of the customer.

Once ended, a new database file (.mdb) will be in the selected path; this file will hold the selected customer with the relative data and scales.
This file can be opened like a main database (see section 6.1) or used to import the customer into another database (see section 7.6).

7.5.2 EXPORTING VARIOUS CUSTOMERS

To export various existing customers in an external database file one should:

- With the left key of the mouse click on the "**Customer**" item in the left window.
- With the left key of the mouse choose the customers to be exported into the right window.
- With the right key of the mouse click on one of the selected customers in the right window and choose "**Export selected customer**",

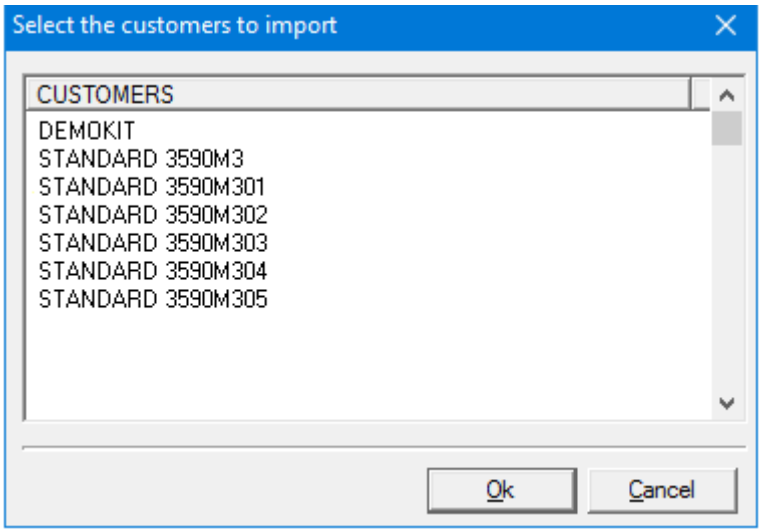
At this point it's possible to execute the exportation of the selected customers, see section 7.5.1.

NOTE
To select various objects at the same time, keep the CTRL key pressed of the PC keyboard and click on the desired codes.

7.6 IMPORTING CUSTOMERS FROM A DATABASE FILE

To import the data and the scales of a customer stored in an external database file one should:

- With the right key of the mouse click on the "**Customers**" item in the left window;
- Choose "**Import customers**".
- Select the destination path of the file that is selected.
- Select the database file from which the customers are imported.
- Click on "**Open**".
  The following window will appear:



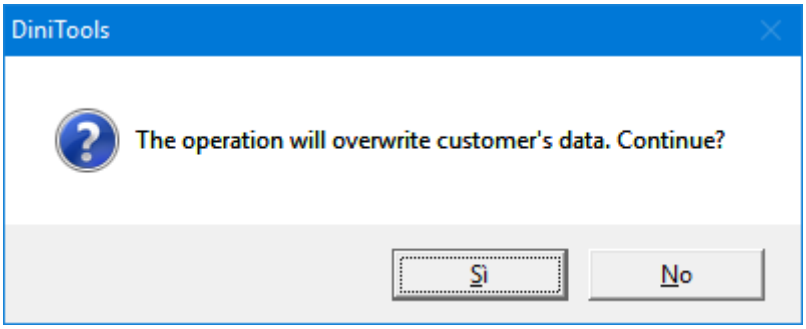
- With the left key of the mouse select the customers to be imported;
- Press on "**Ok**" to confirm or "**Cancel**" to cancel;
- Wait for the selected customers to be imported, and once finished, the imported customers will appear in the tree menu on the left.

7.7 UPDATING A CUSTOMER FROM A DATABASE FILE

To update the data and the scales of a customer with the ones of a customer stored in an external database file one should:

- With the right key of the mouse click on the customer to be updated in the left window;
- Choose "**Import selected customer**".

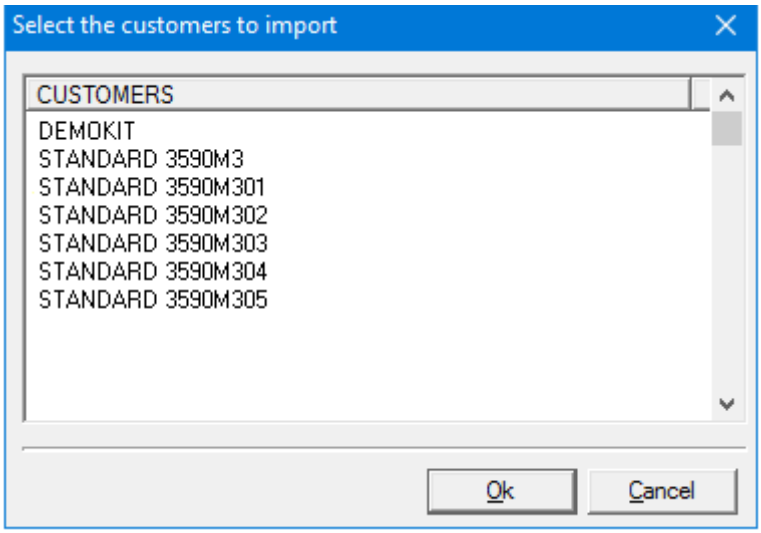
The following window will appear:



Confirm with “YES"

- Select the destination path of the file that is selected.
- Select the database file for which you want to search the customer.
- Click on "**Open**".

The following window will appear:



- With the left key of the mouse select the customers to be imported;
- Press on "**Ok**" to confirm or "**Cancel**" to cancel;
- Wait for the updating of the selected customer, and, once finished, the data of the customer will be overwritten with the ones of the customer in the database file.

8. SCALE'S MANAGEMENT

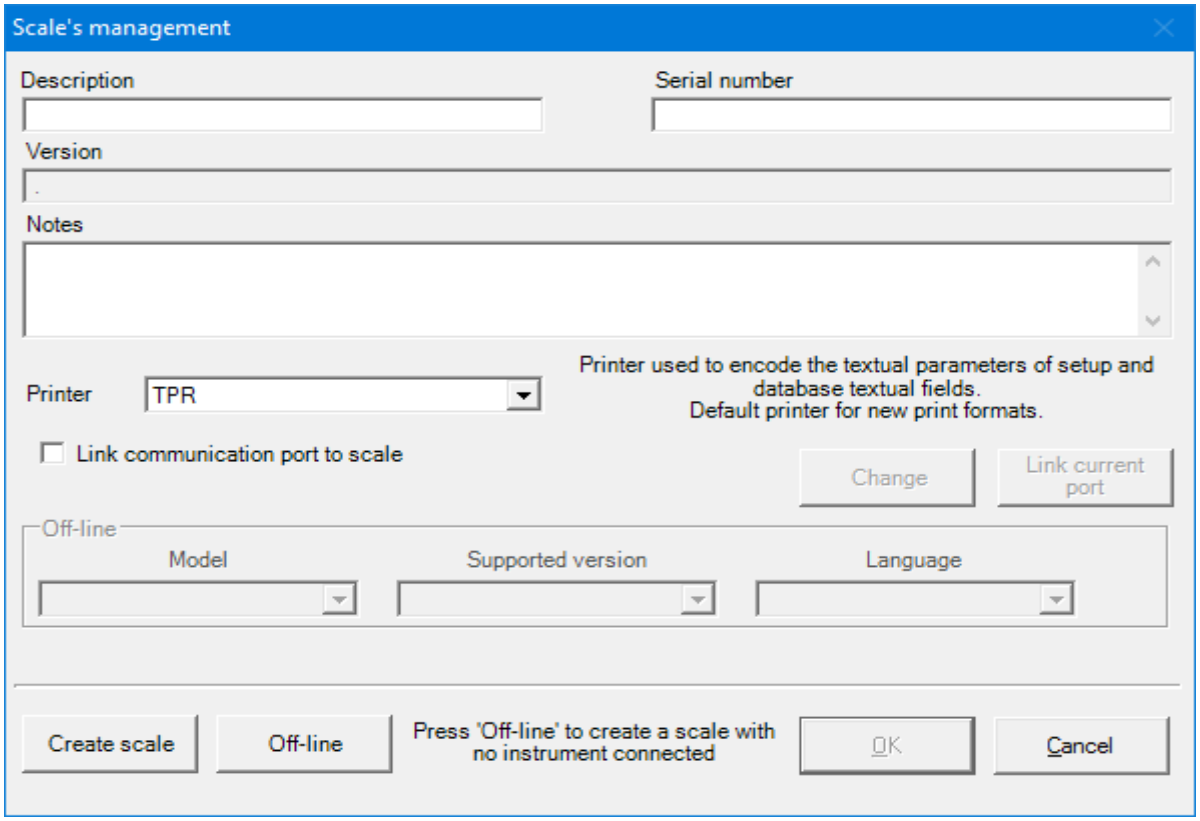
8.1 CREATION A NEW SCALE

To create a new scale one can proceed in the following ways:

1) With the left key of the mouse click on the customer to whom you want to link the scale with, in the left window:
   - From the main menu choose "**File**" and "**New**" (or the CTRL+N fast keys), or
   - From the toolbar press "**New**",
2) With the right key of the mouse click on the customer to whom you want to link the scale with, and choose the "**New Scale**" item.

8.1.1 SCALE CONFIGURATION

The following window will appear:

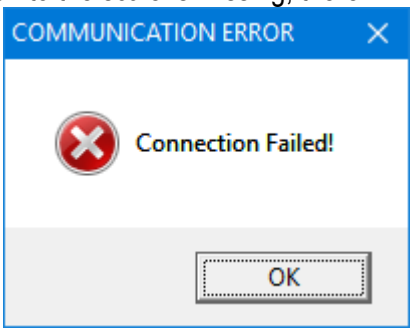


In the "**Description"** and **"Serial number**" fields one should enter the description and the serial number which one wants to link to the scale, and which will be viewed in the tree list of the left window. The **Serial number** field is automatically compiled when one press "**Create scale**" if the version of the scale allow it.

- In the "**Version"** show the version of the firmware.
- In the "**Notes**" field one can insert any useful annotations.
- In the **"Printer"** field one can select the codepage of the printout or directly the printer model (TPR).

READING OF THE FIRMWARE VERSION OF THE SCALE

- Press the " **Create scale**" button:
  The connected indicator version as well as the structure of the databases will be received automatically.
- In case of communication problems, which can be caused by an incorrect serial port connection or a wrong parameter setting, or if the connection to the scale is missing, there will be the following error,



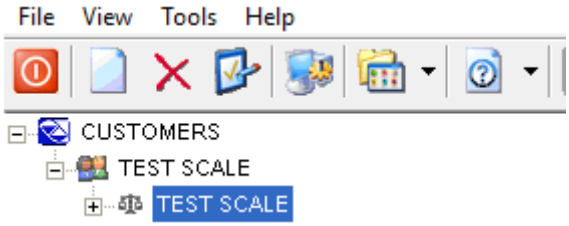
- If the databases are not provided for on the indicator, the "**Archive Structure not Available**" message will be given.

MANUAL SETTING OF THE FIRMWARE VERSION

- Press the "**off-line**" button
- Select the model, version and language **(if foreseen)** of the desired indicator;
- Press the "**Create scale**" button
  Automatically both the version of the selected indicator as well as the database structure will be received.

SAVING THE CONFIGURATION

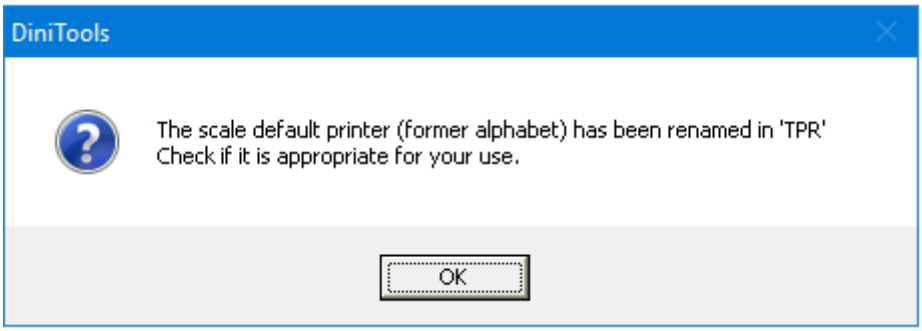
Confirm with "**OK**"; the scale will appear in the tree menu on the left:



8.2 MODIFYING A SCALE'S DATA

To modify a scale one can proceed in the following ways:

1) With the left key of the mouse click on the desired scale and:
   - From the main menu choose "**File**" and "**Open**", or
   - From the toolbar press "**Open**";
2) With the right key of the mouse click on the desired scale in the left window, and choose "**Edit selected scale**",
3) With the left key of the mouse click on its customer in the left window and:
   - With the right key of the mouse click on the desired scale, in the right window, and choose "**Edit selected scale**".
   - If the scale has been created with an old version of DiniTools, the following message will appear:



The "**Printer**" field will be automatically set on **TPR:**

- At this point it is possible to modify the scale configuration; see section 8.1.1.

8.3 DELETING A SCALE

To delete a scale one can proceed in the following ways:

1) With the left key of the mouse click on the desired scale and:
   - From the main menu choose "**Edit**" and "**Delete**" (or the CTRL+D fast keys), or
   - From the toolbar press "**Delete**";
   - Confirm the deletion request.
2) With the right key of the mouse click on the desired scale in the left window, and:
   - Choose "**Delete Selected Items**",
   - Confirm the deletion request.

8.3.1 DELETION OF SEVERAL SCALES

To cancel various scales at the same time one should:

- With the left key of the mouse click on its customer in the left window.
- With the left key of the mouse click on the scales to be deleted in the left window.
- With the right key of the mouse click on one of the selected scales in the right window and choose "**Delete Selected Items**".
- Confirm the deletion request.

NOTE

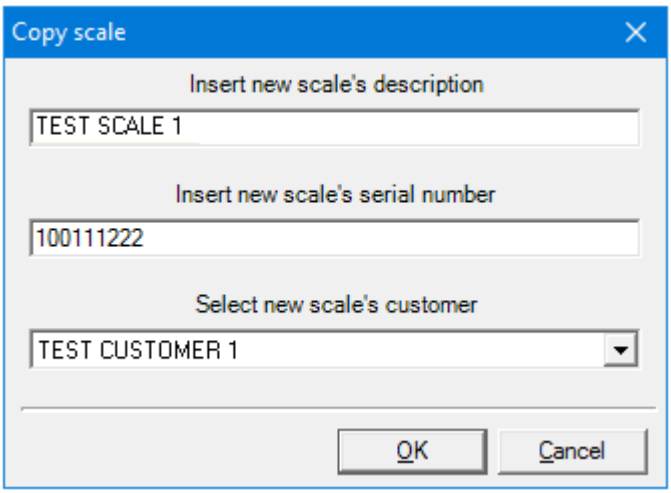
To select various objects simultaneously, keep the CTRL key pressed of the PC keyboard and click on the desired codes.

8.4 COPY OF A SCALE

To copy the databases, the headings, the print formats and the setups of an existing scale into a new scale one can proceed in various ways:

1) With the right key of the mouse click on the desired scale in the left window, and choose "**Copy selected scale**",
2) With the left key of the mouse click on its customer in the left window and:
   - With the right key of the mouse click on the desired scale in the right window and choose "**Copy selected scale**".

The following window will appear:



Modify the description / serial number of the scale (compulsory field) and select the customer into which the scale should be copied.

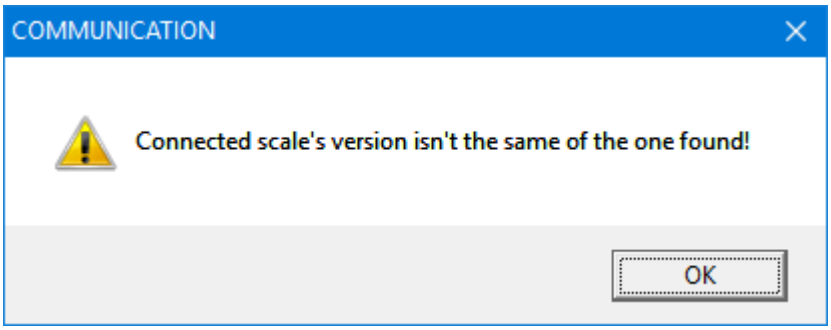
- Confirm with "**OK**", or press "**Cancel**" to not save.
- Wait for the scale copy and, once finished, the copied scale will appear in the tree menu on the left.

8.5 SCALE TEST

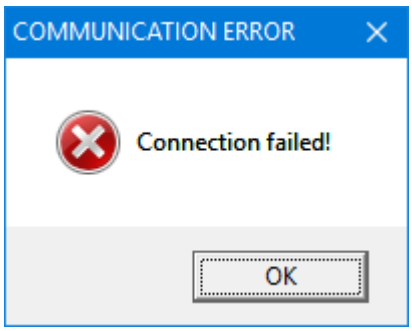
By pressing the right key of the mouse on the desired scale in the left window, and by selecting "**Test selected scale**" one starts a test to verify whether the indicator version corresponds to that of the selected scale:

- if this is so, the following message will appear:

- while if the version is different one will have the following message:

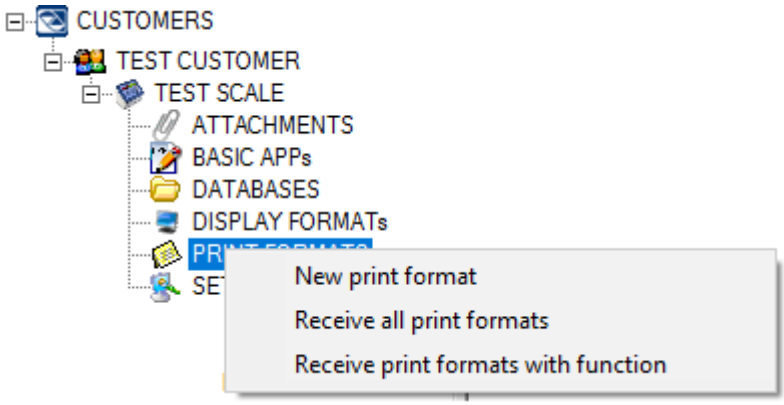


- while with an impossible connection, one will have the following message:



9. OPERATIONS ON THE SCALES

9.1 PRINT FORMATS MANAGEMENT



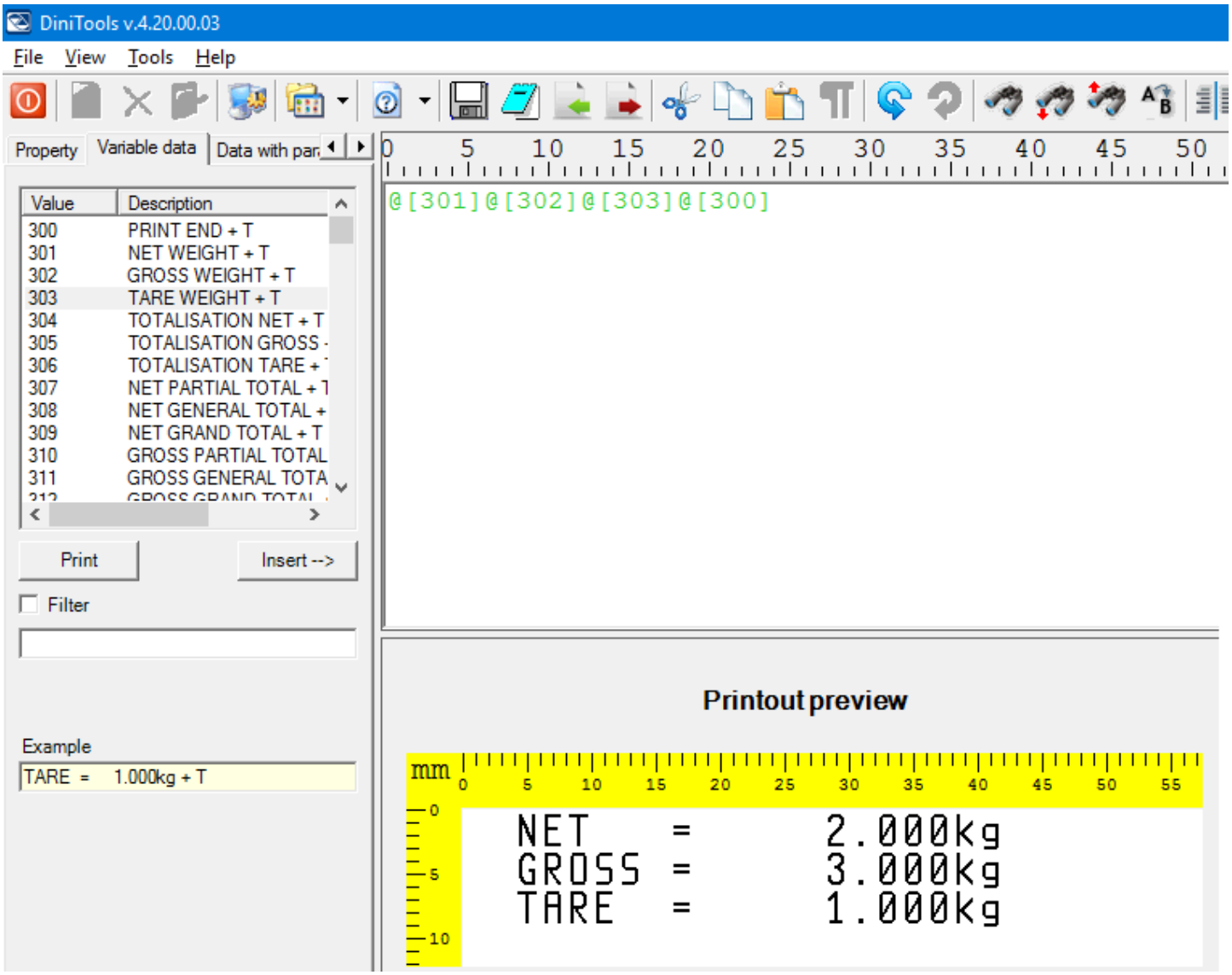
9.1.1 CREATION OF A NEW PRINT FORMAT

To create a new print format one can proceed in the following ways:

1) With the left key of the mouse click on the "**Print formats**" item, in the left window and:
   - From the main menu choose "**File**" and "**New**" (or the CTRL+N fast keys), or
   - From the toolbar press "**New**",
2) With the right key of the mouse click on the "**Print formats**" item, and choose the "**New Print format**" item.

9.1.1.1 PRINT FORMAT CONFIGURATION

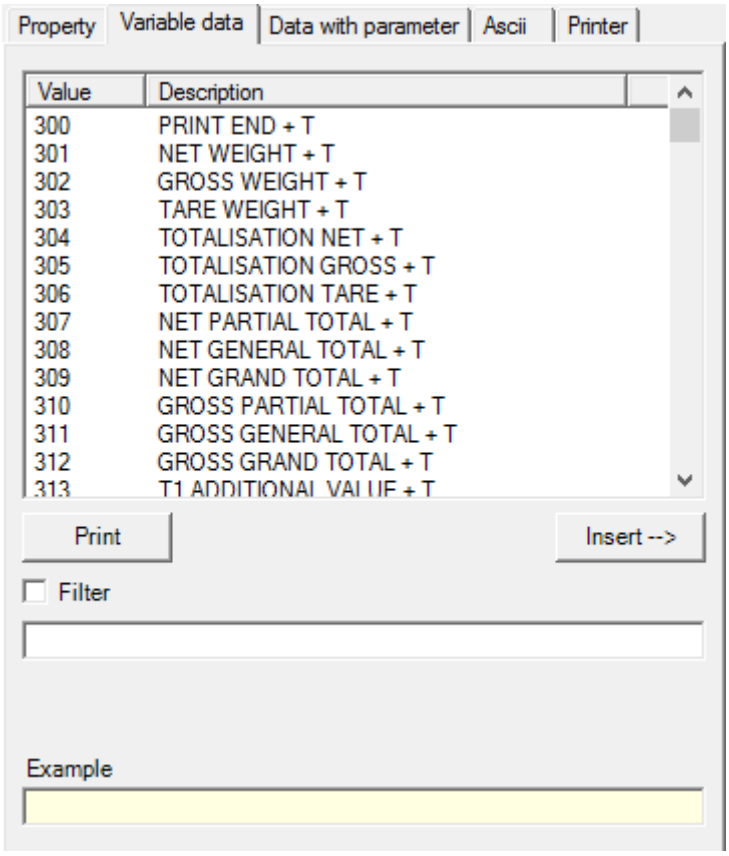
The following window will appear:



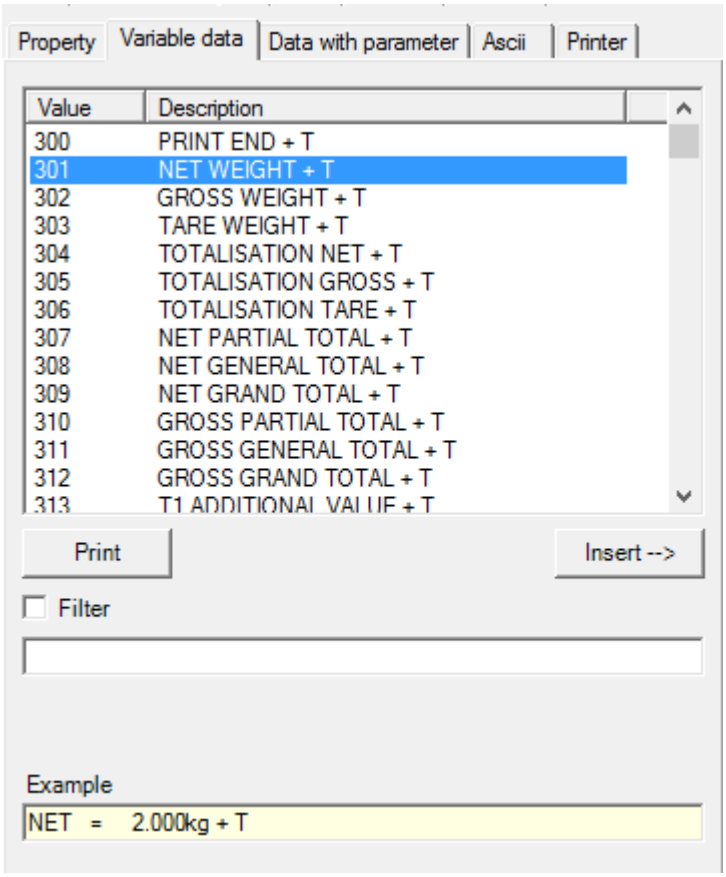
- Enter the format name in the "**Name**" field (if it's not entered, the key is not enabled).
- In the "**Print Format Number(s)**" field enter the number(s) with which the print format will be transmitted to the indicator, in the following formats:
  - Single format, ex: 1.
  - Single formats, ex: 1,3,8.
  - Interval of formats with the first and the last separated by a hyphen, ex: 1-5.
  - Concatenation of single formats and interval of formats separated by a hyphen, ex: 1-3,8,12-15.
- To know the exact correspondence between the numbers and print formats, refer to the indicator's technical manual, in the "Print programmings" section.
- In the **"Printer"** field one can select the codepage of the printout or directly the printer model (TPR). By selecting **GENERIC**, one can select the type of codepage in the field "**Character set**"
- Select the print terminator in the "**Print terminator**" field
- By selecting "**No variable data management"**, the items **variable data**, **data with parameter** and the **printout preview** will not be displayed
- Confirm with , or go out with "**Exit**".

FORMAT CONFIGURATION FROM DINITOOLS

- By selecting the item **Variable data** or **Data with parameter**, one can select and insert a print block (called MACRO) into the print format.



- By entering a text in the "**Filter**" field and by clicking the **Find** key one can view all the print macros which contain this text inside the Name field.
- By selecting the desidered macro, an example will be shows in the **Example** field. Click on **Insert→** to add the macro in the print format.



- As one may notice the print blocks are expressed in the **@[number]** format; the window may also be an **editor** of the programme, in other words it's possible to modify the format directly from the window typing the desired characters. To save the modifications press in the instruments bar.

NOTES:

- **The complete list of the print blocks is in the indicator's technical manual.**
- **If one enters a print block of the type "with parameter" (see the indicator's technical manual) one will be asked to enter an additional number.**
- **By selecting the "ASCII" form, it is possible to access the complete list of the ASCII codes**

FORMAT CONFIGURATION WITH THE WINDOWS EDITOR

One can modify the print format by opening the Windows editor used on the PC (i.e.. Notepad), by pressing this icon

All the modifications saved inside the Windows editor will be shown also in the format, after the closing of the editor.

Notes on the use of the Windows Editor

- One should **create and select** a print format in order to enable the editor icon.
- It's not possible to use DiniTools until the editor is closed.

9.1.2 MODIFYING A PRINT FORMAT

To modify a print format one can proceed in various ways:

1) With the left key of the mouse click on the desired format in the left window and:
   - From the main menu choose "**File**" and "**Open**", or
   - From the toolbar press "**Open**";
2) With the right key of the mouse click on the desired format in the left window and choose "**Edit Selected Print Format**",
3) With the left key of the mouse click on its scale in the left window and:
   - With the right key of the mouse click on the desired format in the left window and choose "**Edit Selected Print Format**".

At this point it's possible to modify the print format, see section 9.1.1.1.

9.1.3 DELETION OF A PRINT FORMAT

To cancel a print format one can proceed in various ways:

1) With the left key of the mouse click on the desired format and:
   - From the main menu choose "**Edit**" and "**Delete**" (or the CTRL+D fast keys), or
   - From the toolbar press "**Delete**";
   - Confirm the request of the deletion.
2) With the right key of the mouse click on the desired format in left window, and:
   - Choose "**Delete Selected Items**",
   - Confirm the request of the deletion.

9.1.3.1 DELETION OF SEVERAL FORMATS

To cancel various print formats simultaneously one should:

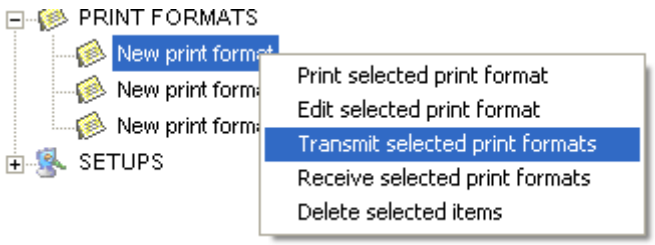
- With the left key of the mouse click on the "Print Formats" items in the left window.
- With the left key of the mouse choose the print formats to be deleted in the right window.
- With the right key of the mouse click on one of the selected formats in the right window and choose "**Delete Selected Items**".
- Confirm the request of the cancellation.

NOTE
To select various objects simultaneously, keep the CTRL key of the PC keyboard pressed and click on the desired codes.

9.1.4 TRANSMISSION OF ONE OR MORE PRINT FORMATS TO THE INDICATOR

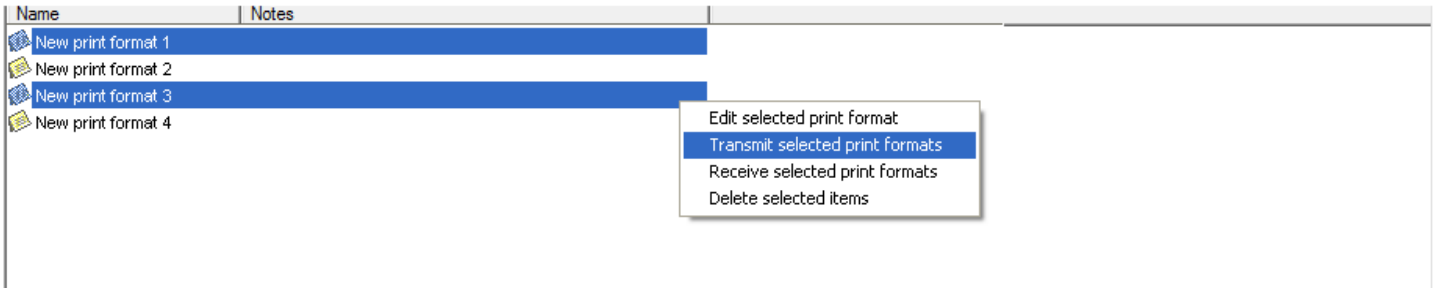
To transmit one or more print formats one can proceed in the following ways:

TO TRANSMIT ONE PRINT FORMAT:
With the right key of the mouse click on the print format to send in the left window and choose "**Transmit selected print formats**":

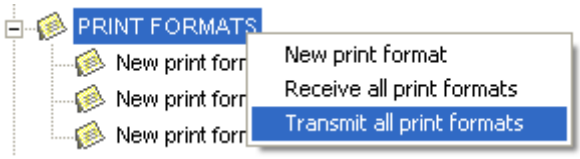


TO TRANSMIT VARIOUS PRINT FORMATS:

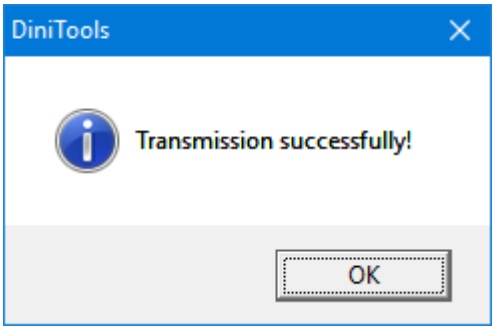
- With the left key of the mouse choose the "**Print formats**" item in the left window
- With the left key of the mouse choose the print formats to be transmitted in the right window.
- With the right key of the mouse click on one of the selected formats in the right window and choose "**Transmit selected print formats**":



TO TRANSMIT ALL PRINT FORMATS
With the right key of the mouse click on the "Print formats" in the left window and choose "**Transmit all print formats**":



Wait for the transmission, and once ended, the following window will appear:



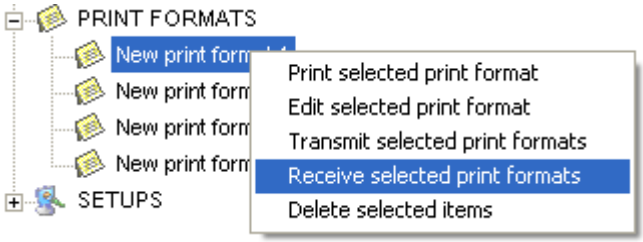
Confirm with "Ok".

9.1.5 RECEPTION OF ONE OR MORE PRINT FORMATS FROM THE INDICATOR

To receive one or more print formats one can proceed in the following ways:

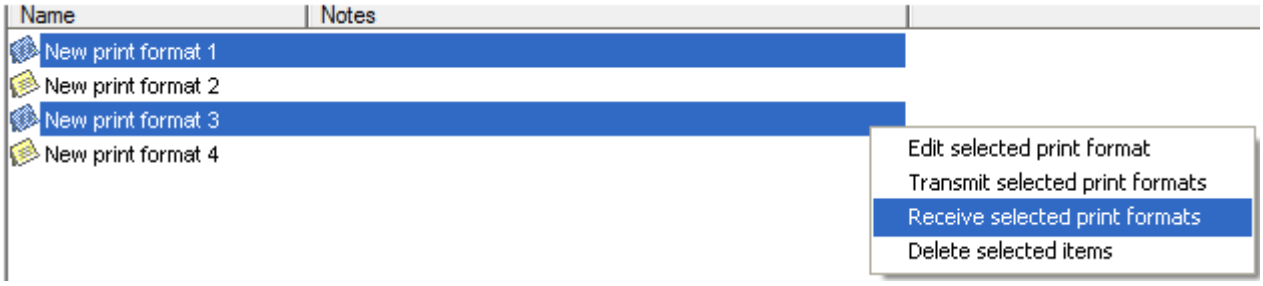
TO RECEIVE ONE PRINT FORMAT:

With the right key of the mouse click on the print format to receive in the left window and choose "**Receive selected print formats**":



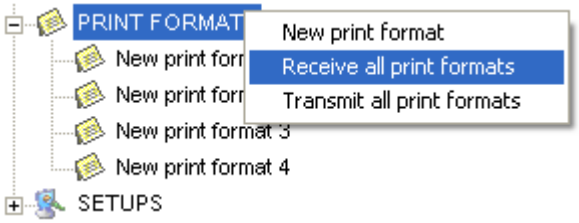
TO RECEIVE VARIOUS PRINT FORMATS:

- With the left key of the mouse choose the "**Print formats**" item in the left window
- Hold pressed the Ctrl key and with the left key of the mouse select the print formats to be received in the right window.
- With the right key of the mouse click on one of the selected formats in the right window and choose "**Receive selected print formats**":



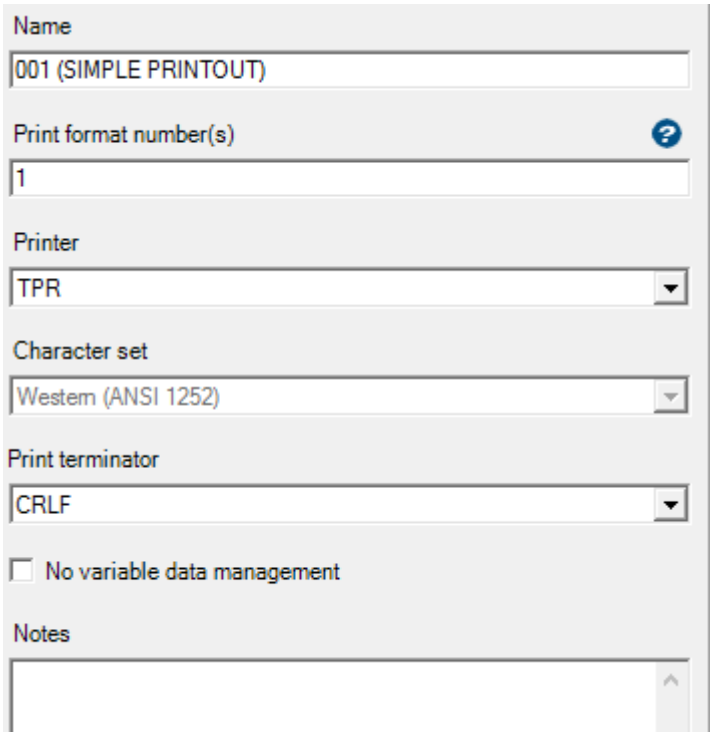
TO RECEIVE ALL PRINT FORMATS:

- With the right key of the mouse click on the "Print formats" item in the left window;
- Choose "**Receive all print formats**";



Once the reception is ended, it's possible to execute some operations before saving the received formats:

- Modify the name or the format number: select the format to be modified and press the "Modify" button; the following window will appear:



Modify the desired fields, and press "Ok" to confirm or "Cancel" to cancel.

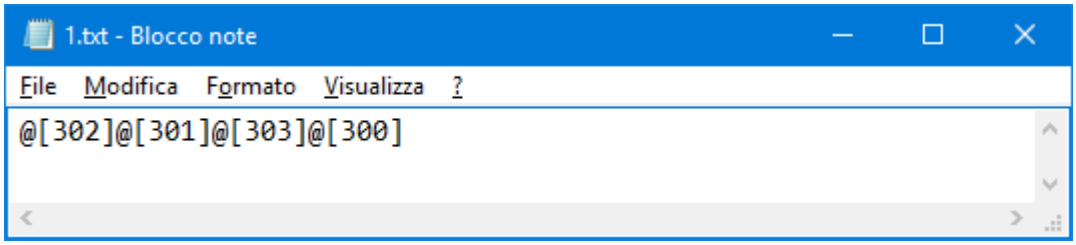
- Cancel one or various formats: select the formats to be cancelled and press the "Delete" button.

- Press "Ok" to save the received formats or "Cancel" to cancel the operation. By pressing on "Ok" the received formats will appear in the tree menu on the left.

9.1.6 EXPORTING OF THE PRINT FORMAT IN A TEXT FILE

- Once the print format is opened, press on the " " key:
- Select the path of the file destination.
- Enter the name of the file.
- Press on "**Save**".
- One will have a new text file in the selected path which has the ASCII codes and the inserted print blocks.

EXAMPLE

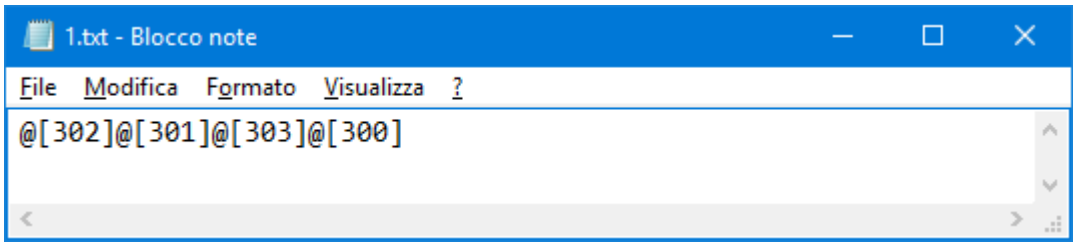


The print blocks are translated in the **@[XXX]**, format in which XXX is the block number, while the ASCII codes are interpreted according to their value (for example the ASCII code decimal 65, will be translated into "A").

9.1.7 IMPORTING OF THE PRINT FORMAT FROM AN EXISTING TEXT FILE.

- Press on the " " key
- Select the desired text file.
- Press "**Open**": the print format **will substitute the present one:** the codes entered in the **@[XXX]** format (in which XXX is the block number) are translated as print blocks; the other characters are decoded in the relative ASCII decimal code.

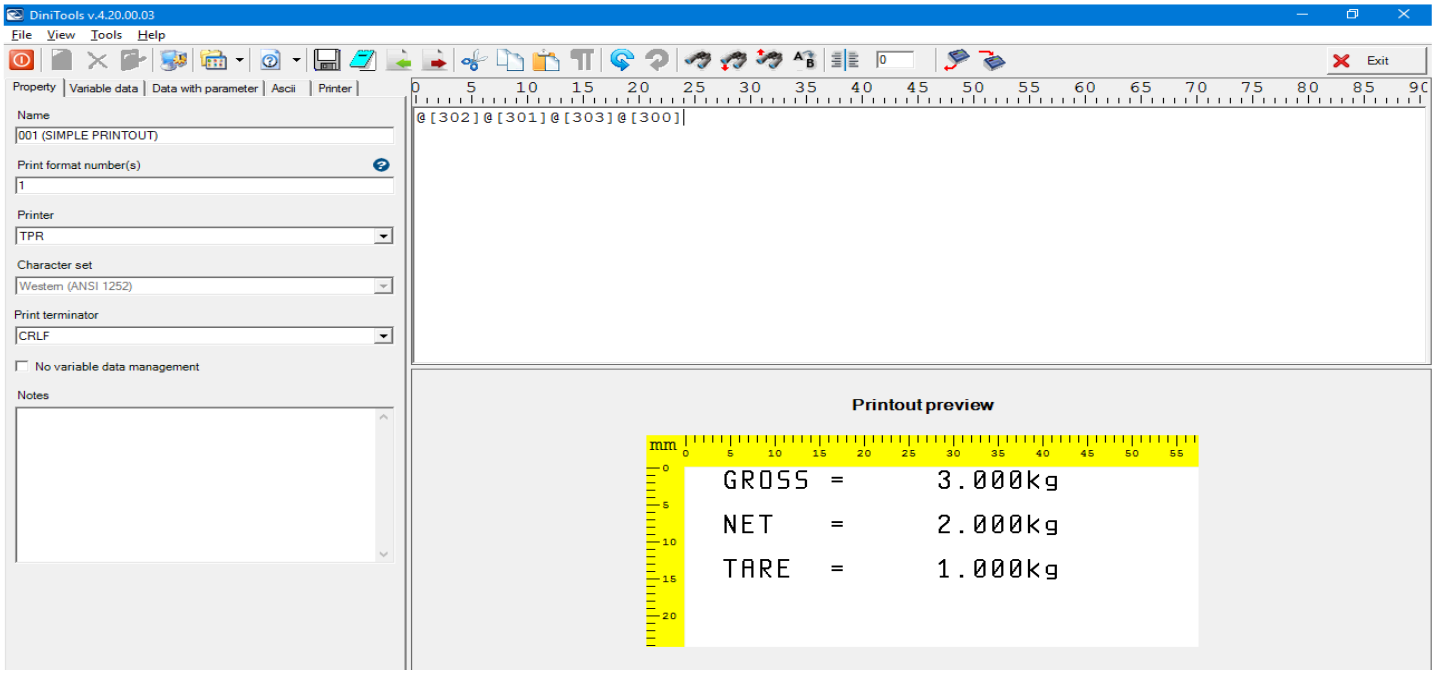
EXAMPLE



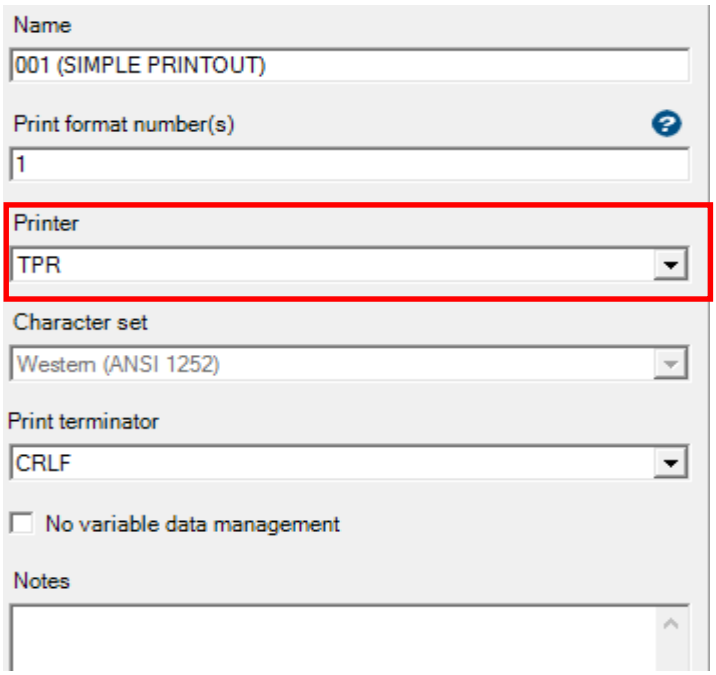
9.1.8 FORMAT PRINT PREVIEW VISUALIZATION

Once a format is configured, it's possible to view a formatted print preview for the type of selected printer.
To set the type of printer see section 9.1.1.1.

Select the desired format with the left key of the mouse, in the left window; the right window is subdivided in two parts:



To view the print preview, it's necessary to select **TPR** as printer in the print format:



9.2 DATABASE MANAGEMENT (3590M3 AND 3590E INDICATORS)

Depending on which indicator is connected, it is possible to manage the relative databases; if an indicator is connected which version is without database management, an error will be given upon the acquisition of the database structure (see section 8.1): "**Archive structure not available**".

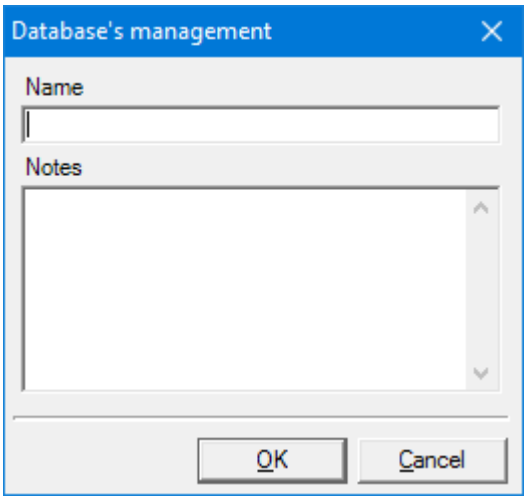
9.2.1 CREATION OF A NEW DATABASE

To create a new database one can proceed in various ways:

1) With the left key of the mouse click on the "**Databases**" item, in the left window and:
   - From the main menu choose "**File**" and " " (or the CTRL+N fast keys), or
   - From the toolbar press " ",
2) With the right key of the mouse click on the "**Databases**" item, and choose the "**New Database**" item.

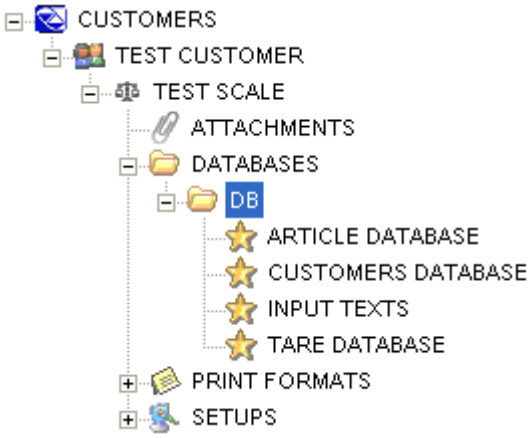
9.2.1.1 DATABASE CONFIGURATION

The following window will appear:



- Enter the name of the database in the "**Name**" field.
- If necessary enter the notes in the "**Notes**" field.
- Press "**OK**" and "**Cancel**": the new created database will appear in the tree menu on the left.
- By clicking on the name of the new created database, all the available databases will appear.

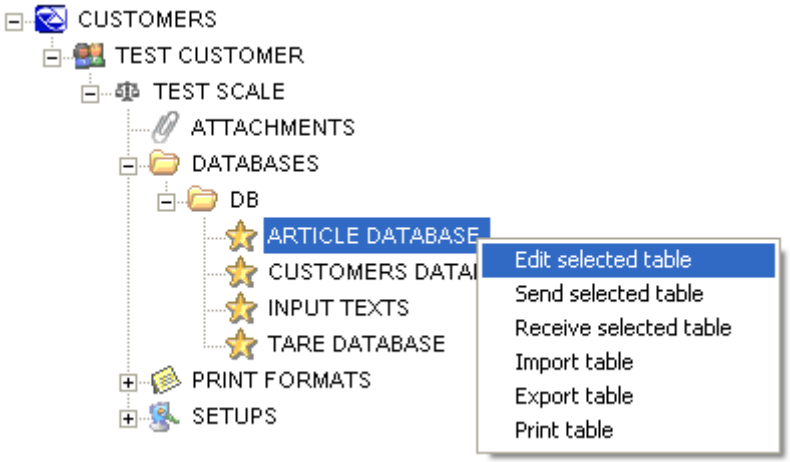
Example:



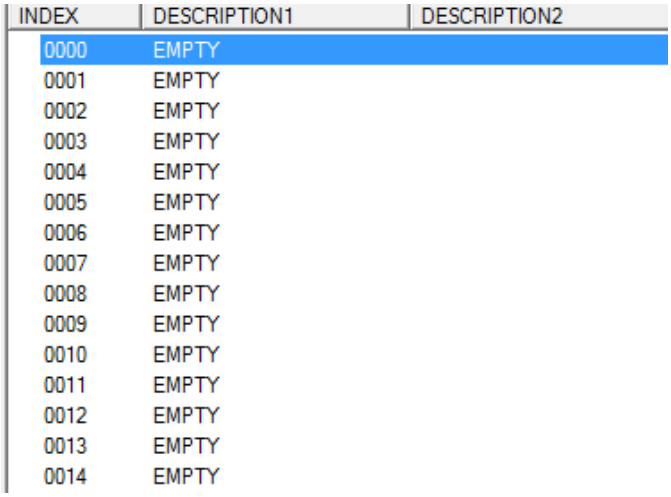
Depending on the type of database, there will be various data to be filled in; for example an article database will have various description lines, a linked tare, etc. This can be seen by clicking on the database itself and in the window on the right all the linked fields.

9.2.2 COMPILATION AND MANAGEMENT OF A DATABASE

With the right key of the mouse click on the name of the desired table of the database and select "**Edit Selected Table**".



The window with the modification, cancellation, transmission and reception commands is the same for all types of tables:



INDEX	DESCRIPTION1	DESCRIPTION2
0000	EMPTY	
0001	EMPTY	
0002	EMPTY	
0003	EMPTY	
0004	EMPTY	
0005	EMPTY	
0006	EMPTY	
0007	EMPTY	
0008	EMPTY	
0009	EMPTY	
0010	EMPTY	
0011	EMPTY	
0012	EMPTY	
0013	EMPTY	
0014	EMPTY	

- **EDIT RECORD**: allows filling in the selected object.

Note: in case one enters numeric values (e.g. tare, APW, etc…) one must enter the number inclusive of the decimal point.

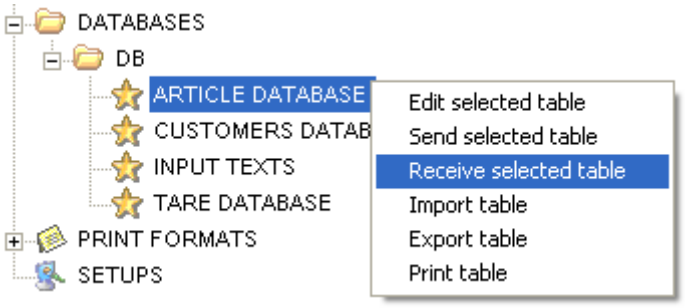
- **CLEAR SELECTED:** allows cancelling the selected object (all the descriptions will be empty).
- **GET SELECTED:** Allows receiving from the indicator **just the selected object**.
- **SEND SELECTED:** Allows receiving from the indicator **just the selected object**.
- **COPY RECORD:** Allows to copy the content of **a single record.**
- **PASTE RECORD:** Allows to paste the content of **a single record.**
- **IMPORT TABLE:** Allows to import the content of a table from a .csv file or a .xml file.
- **EXPORT TABLE:** Allows to export the content of the table in a .csv file or in a .xml file.
- **SEND:** Allows transmitting to the indicator **all the database objects**.
- **GET:** Allows receiving from the indicator **all the database objects**.
- **PRINT:** Allows to generate an XML file with the list of the stored objects.

NOTE
To select various objects simultaneously, keep pressed the CTRL key of the PC and click on the desired codes.

9.2.3 RECEPTION OF ONE OR MORE TABLES

To receive one or more content of a table of a database, one can proceed in the following ways:

TO RECEIVE ONE TABLE:
Click with the left key of the mouse on the name
of the database and then with the right key of the mouse on the name of the desired table, then select **"Receive selected table"**.

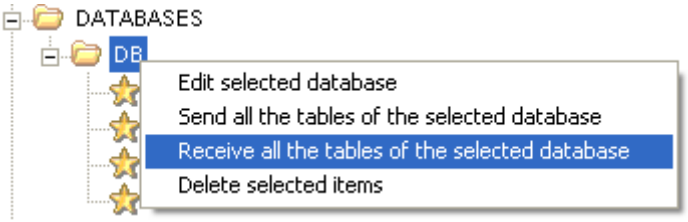


Press Yes to confirm or No to not receive the data.

TO RECEIVE VARIOUS TABLES:
Click with the left key of the mouse on the name of the database and, by holding
pressed the Ctrl key, select with the left key of the mouse the desired tables in the window on the right. Then click with the right key of the mouse on one of the selected tables and press **"Get selected tables"**.

Press Yes to confirm or No to not receive the data.

TO RECEIVE ALL THE TABLES:
Click with the left key of the mouse on the name of the
desired database and select **"Receive all the tables of the selected database"**.



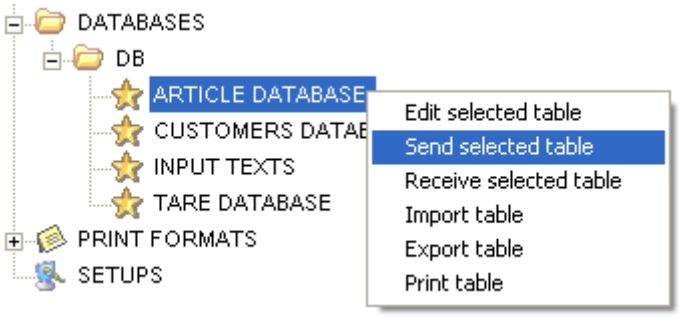
Press Yes to confirm or No to not receive the data.

9.2.4 TRANSMISSION OF ONE OR MORE TABLES

To transmit to the indicator the content of a table of a database, one can proceed in the following ways:

TO TRANSMIT ONE TABLE:

Click with the left key of the mouse on the name of the database and then with the right key on the name of the desired table, then select **"Send selected table"**.



Press Yes to confirm or No to not transmit the data.

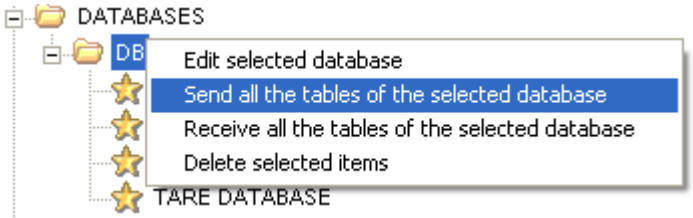
TO TRANSMIT VARIOUS TABLES:

Click with the left key of the mouse on the name of the database and, by holding pressed the Ctrl key, select with the left key of the mouse the desired tables in the window on the right. Then click with the right key of the mouse on one of the selected tables and press **"Send selected tables"**.

Press Yes to confirm or No to not transmit the data.

TO TRANSMIT ALL THE TABLES:

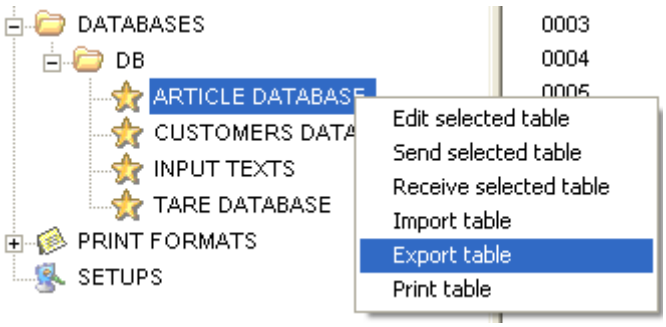
Click with the right key of the mouse on the name of the desired database and select **"Send all the tables of the selected database"**.



Press Yes to confirm or No to not transmit the data.

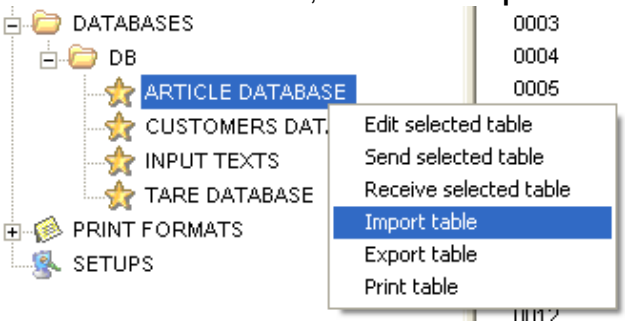
9.2.5 EXPORTING AND IMPORTING OF A TABLE

TO EXPORT the data of a table of a database, click with the left key of the mouse on the name of the database and then with the right key on the name of the desired table, then select **"Export table"**:

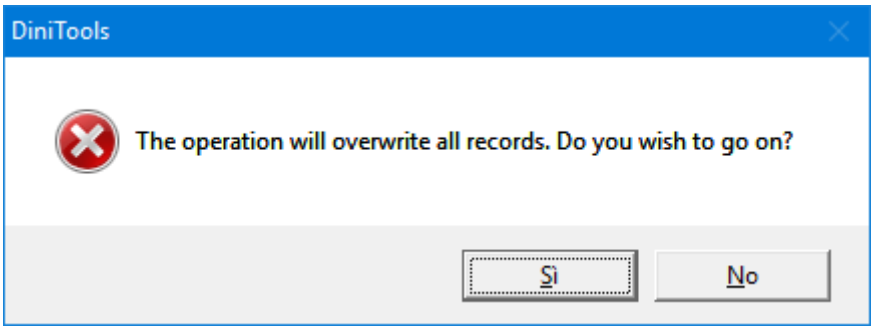


- Select the path of the file destination.
- Select the .csv format or the .xml format.
- Insert the name of the file.
- Press on "**Save**".

TO IMPORT the data of a table of a database, click with the left key of the mouse on the name of the database and then with the right key on the name of the desired table, then select **"Import table"**:



then the following message is displayed:



- Press Yes to confirm or No to not overwrite the data.
- Select the desidered file

9.2.6 MODIFYING A DATABASE'S DATA

To modify the name and the notes of a database one can proceed in various ways:

1) With the left key of the mouse click on the desired database and:
   - From the main menu choose "**File**" and "**Open**", or
   - From the toolbar press "**Open**";
2) With the right key of the mouse click on the desired database in the left window, and choose "**Edit selected database**",
3) With the left key of the mouse click on its scale in the left window and:
   - With the right key of the mouse click on the desired database, in the right window, and choose "**Edit selected database**",

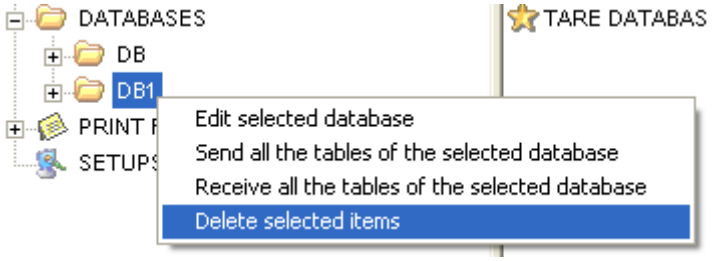
At this point it's possible to modify the desired data, see section 9.2.1.1.

9.2.7 CANCELLATION OF ONE OR MORE DATABASES

To cancel a database one can proceed in various ways:

TO CENCEL ONE DATABASE:

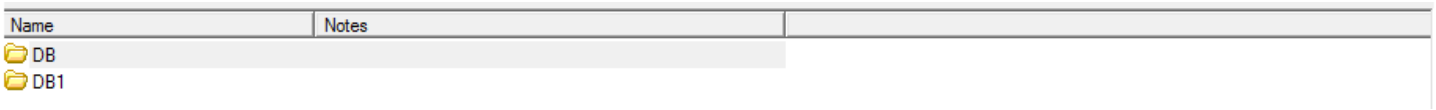
1) With the left key of the mouse click on the desired database and:
   - From the main menu choose "**File**" and "**Delete**" (or the CTRL+D fast keys), or
   - From the toolbar press "**Delete**",
   - Confirm the request of the cancellation.
2) With the right key of the mouse click on the desired database in the left window, and:
   - Choose "**Delete selected items**"



   - Confirm the request of the cancellation.

TO CANCEL SEVERAL DATABASES

- With the left key of the mouse click on the "DATABASES" item in the left window.
- With the left key of the mouse choose the databases to be eliminated in the right window.
- With the right key of the mouse click on one of the selected databases in the right window and choose "**Delete selected items**".



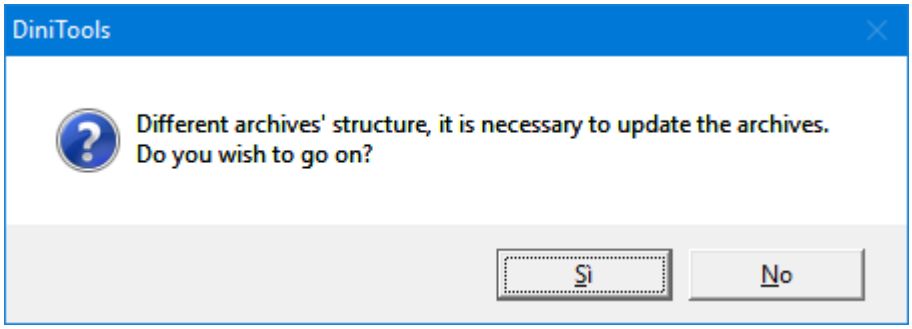
   - Confirm the request of the cancellation.

NOTE

To select various objects simultaneously, keep the CTRL key of the PC keyboard pressed and click on the desired codes.

9.2.8 UPDATING OF DATABASES' STRUCTURE

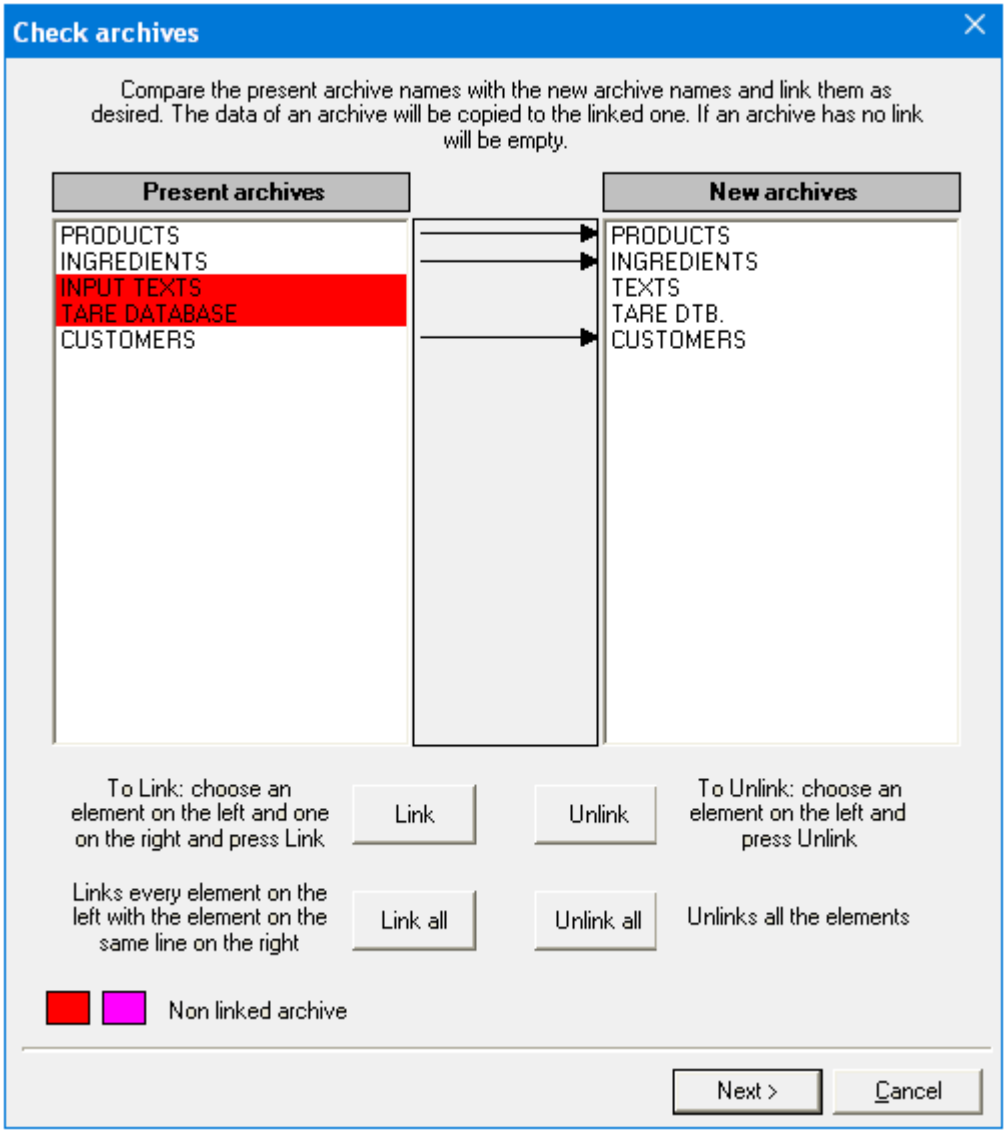
Once that one has inserted a scale with databases, if one tries to read another version of the firmware and the new structure of the databases is different, one is asked to update the databases.



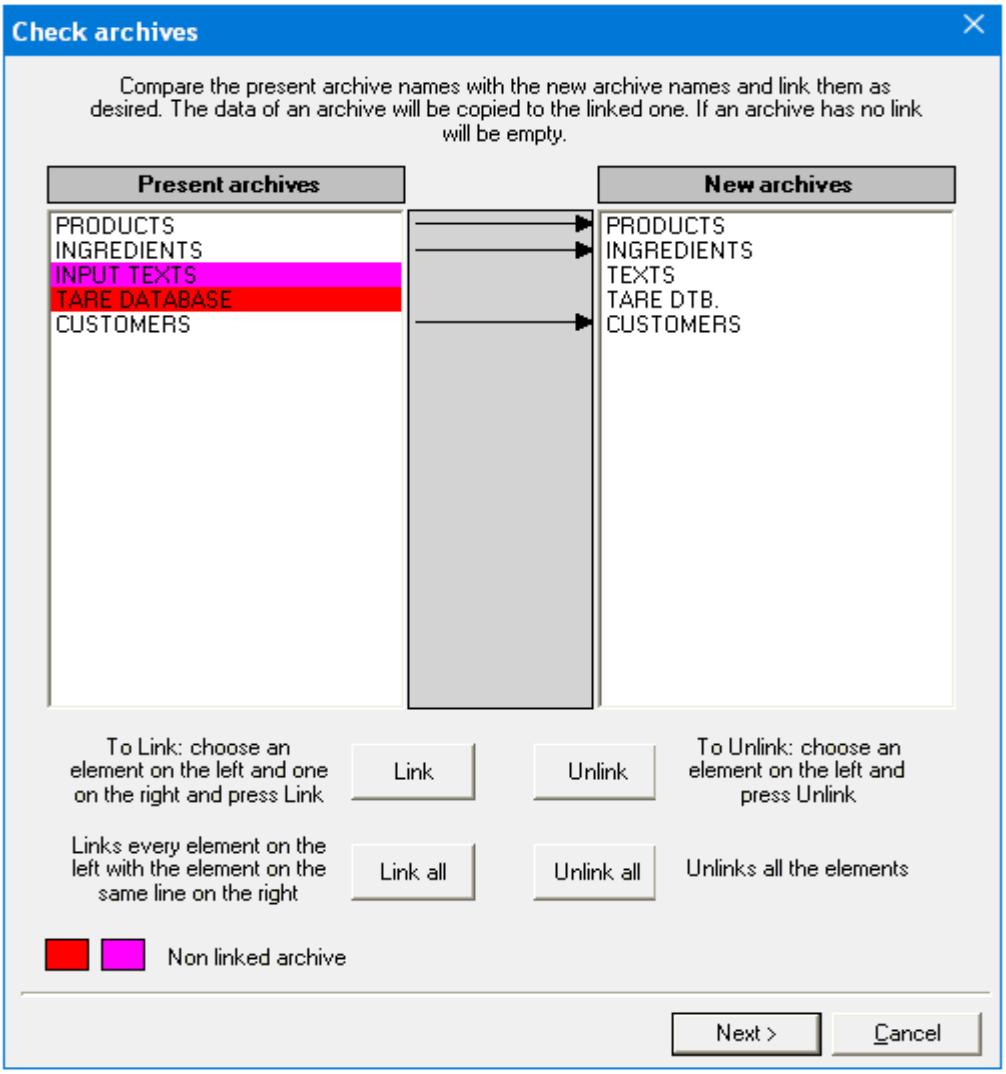
Press Yes to confirm; if No is pressed, the version of the firmware is not read.

9.2.8.1 UPDATING OF DATABASES' NAMES

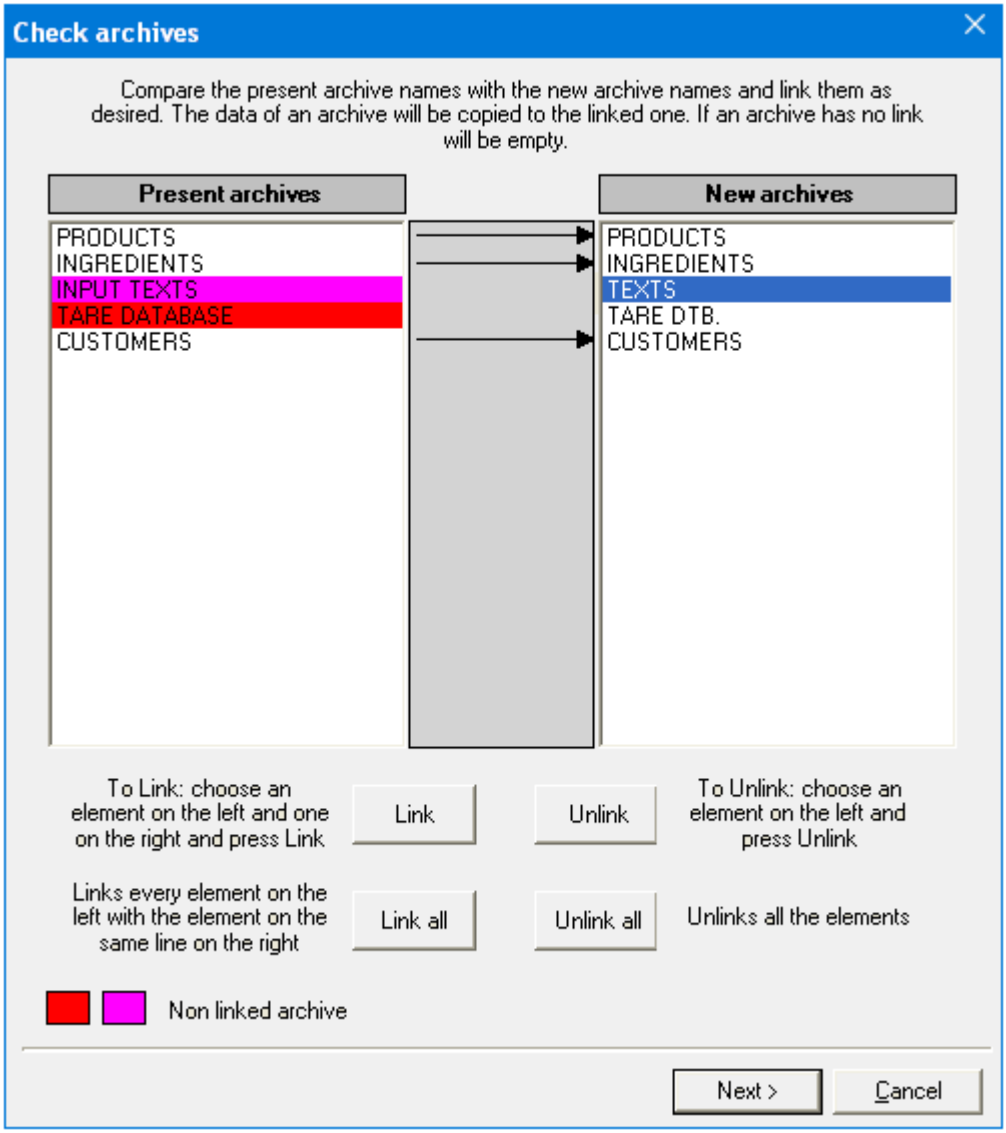
If in the new version of the firmware there are one or more databases with different names from the actual ones, the following screen is shown:



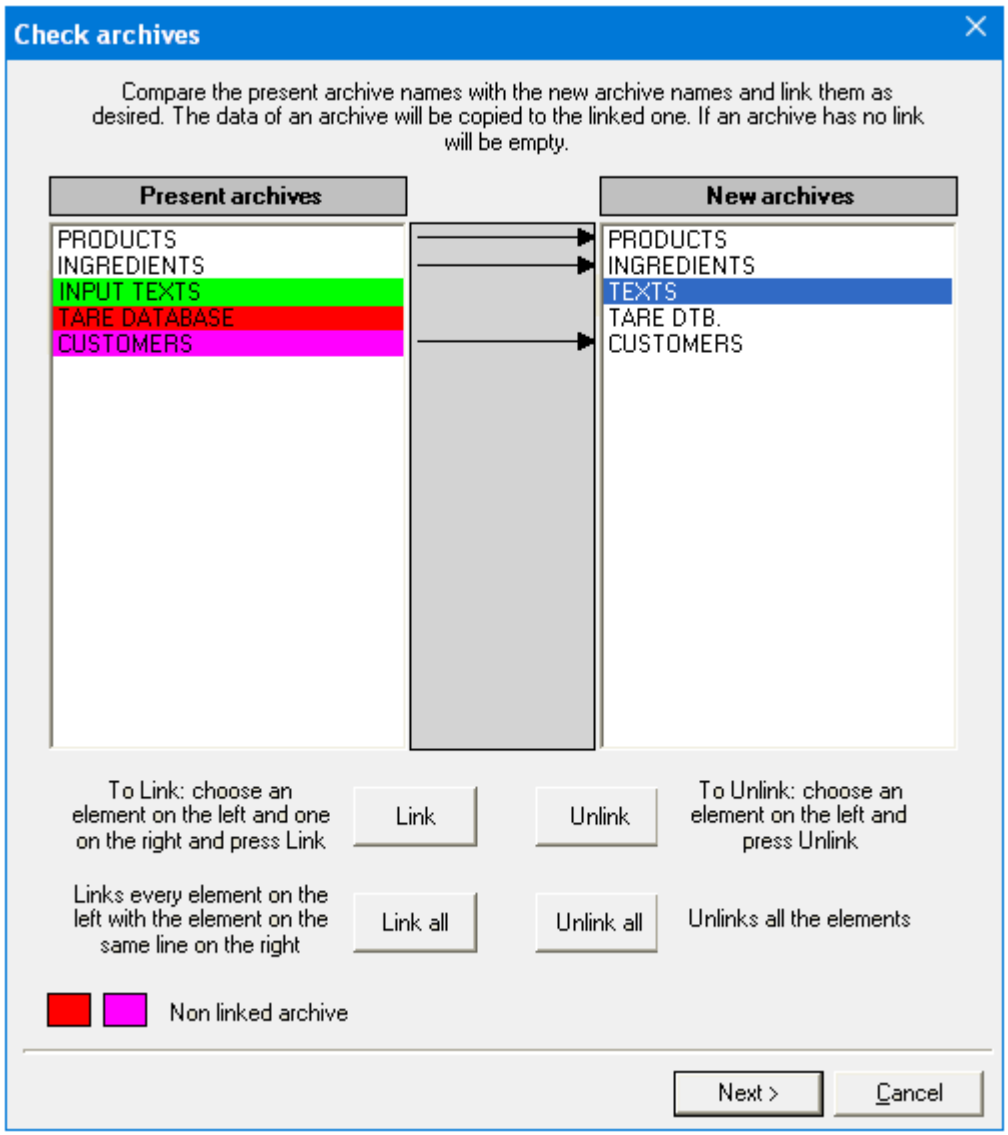
- To link only one database, select the name of the desired database in the column of the present archives:



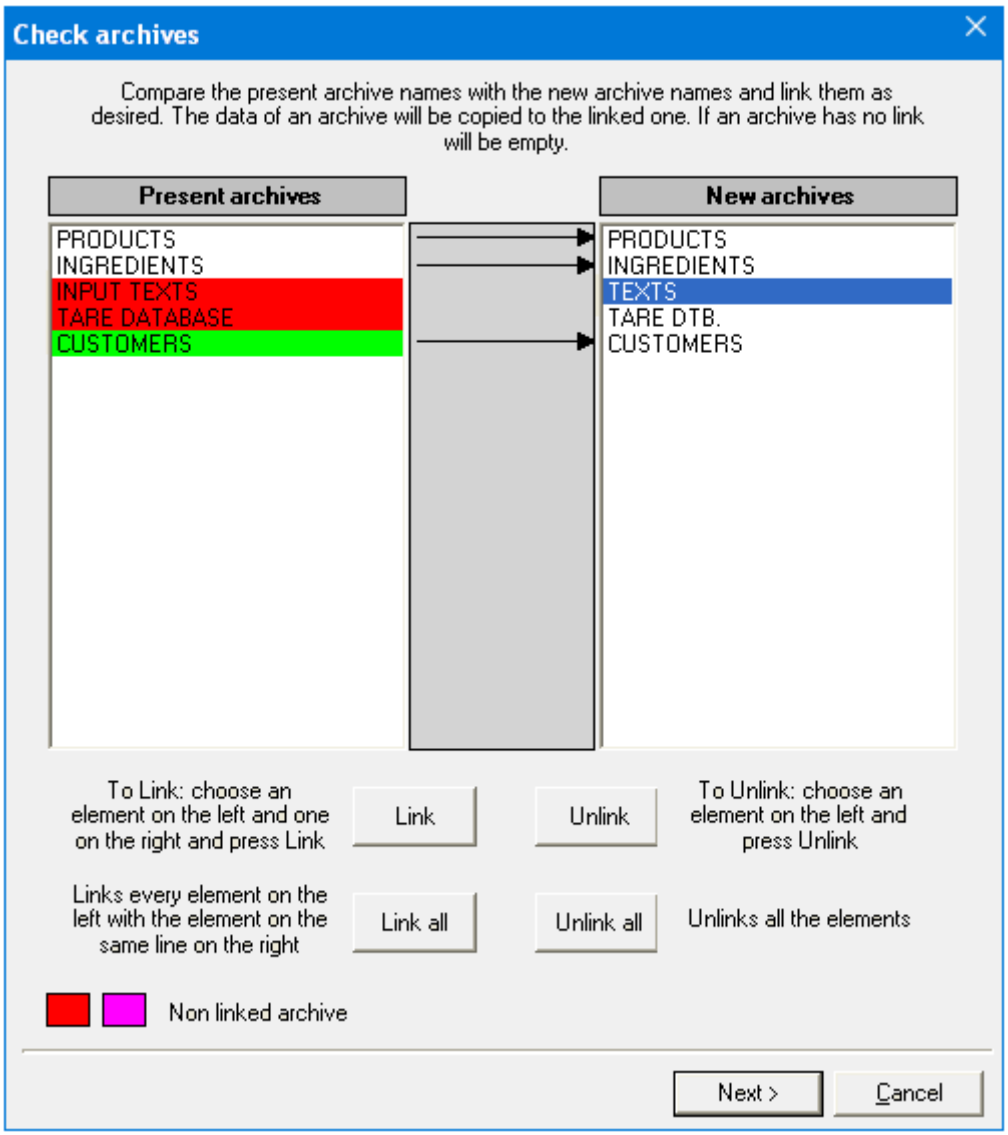
Select the name of the new database that one wants to link to the present database:



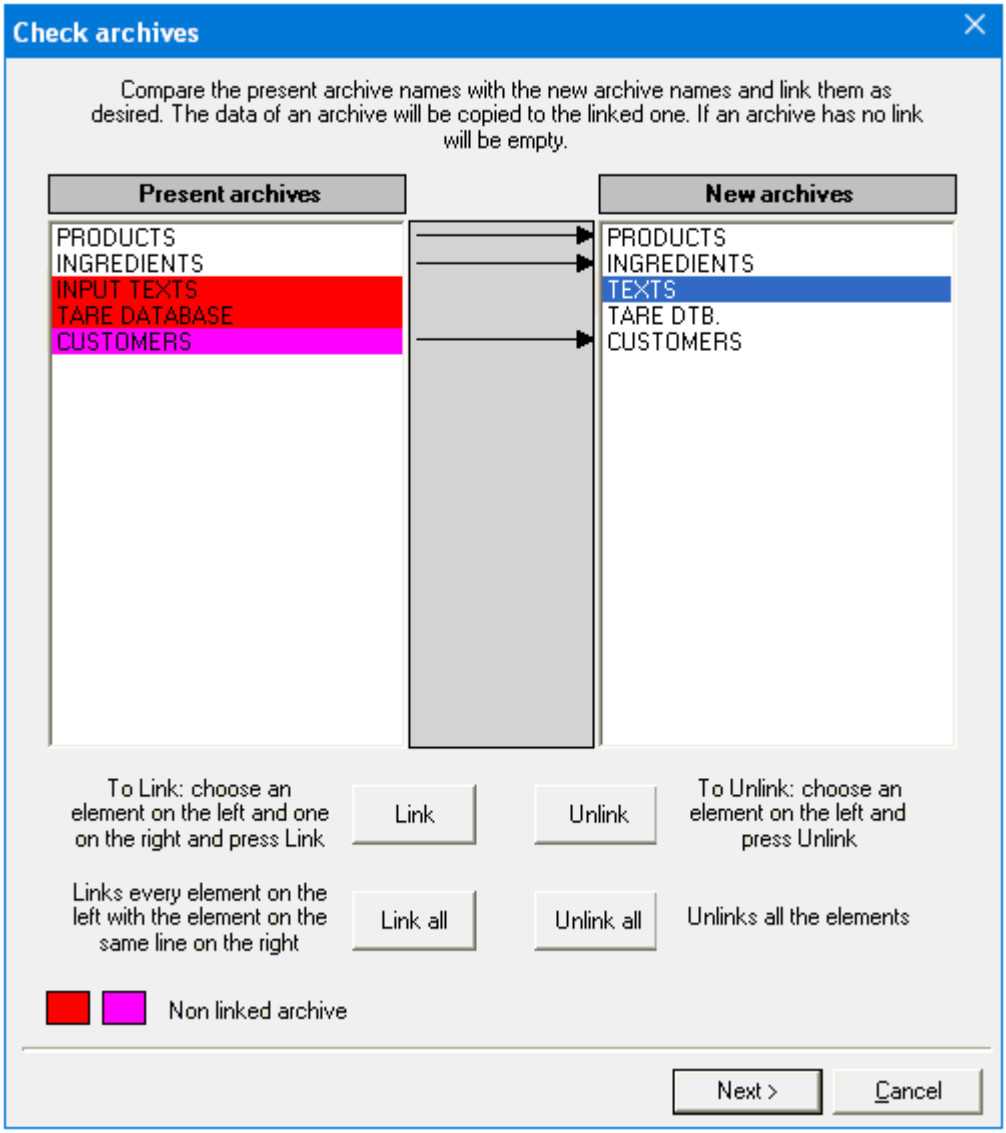
Then press the **Link** key to link the selected databases:



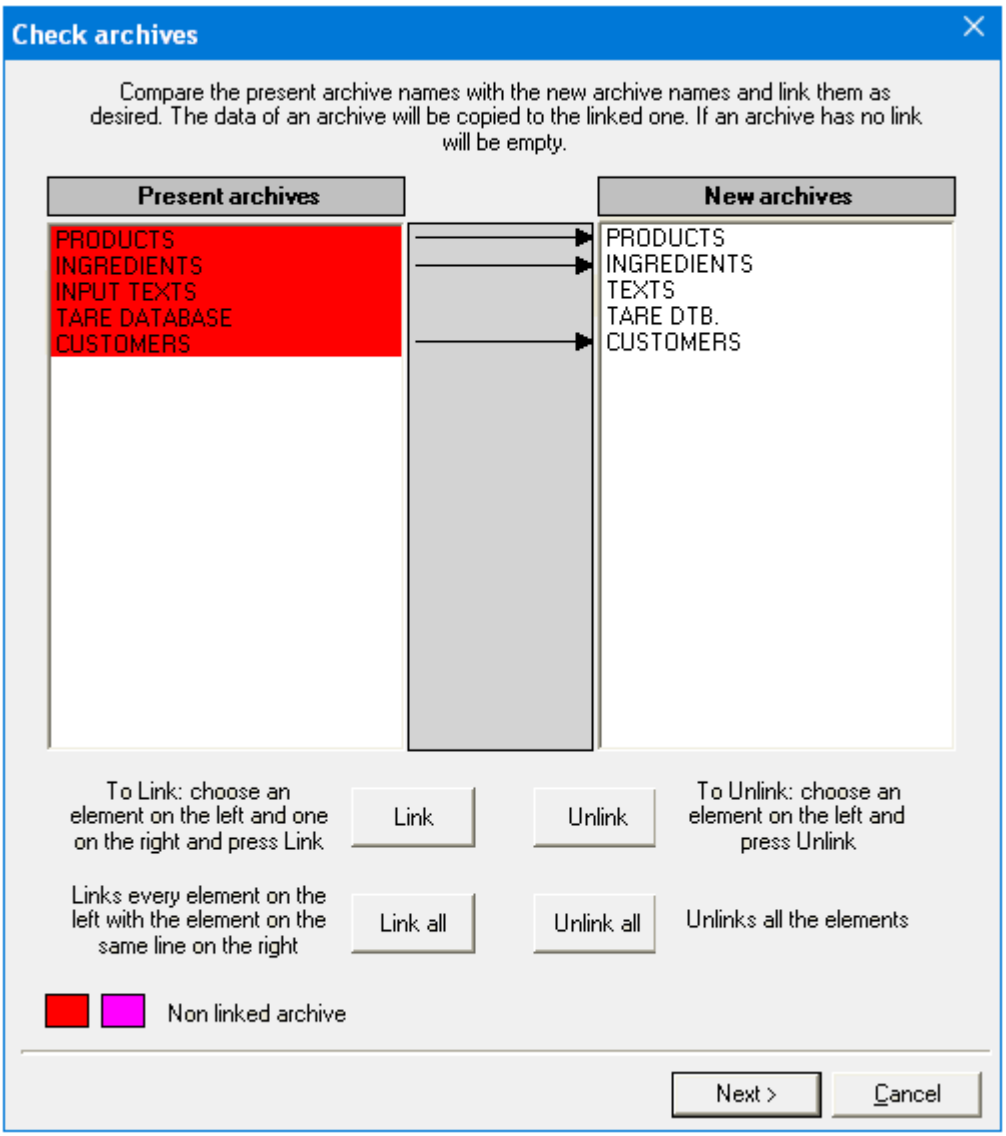
-To unlink only one database, select the name of the desired database in the column of the present archives:



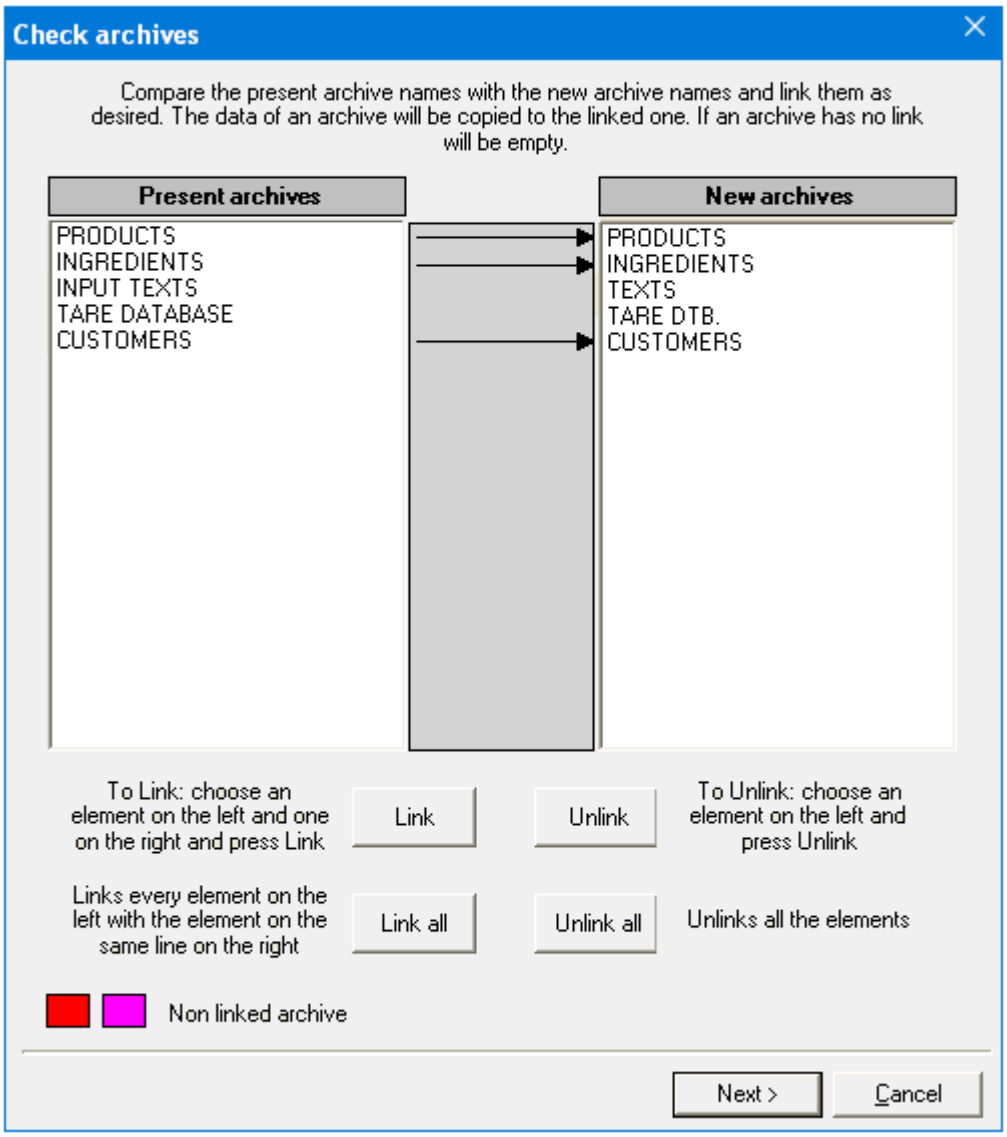
Then press the Unlink key:



-To cancel all the links between the databases, press the “**Unlink all**” key:

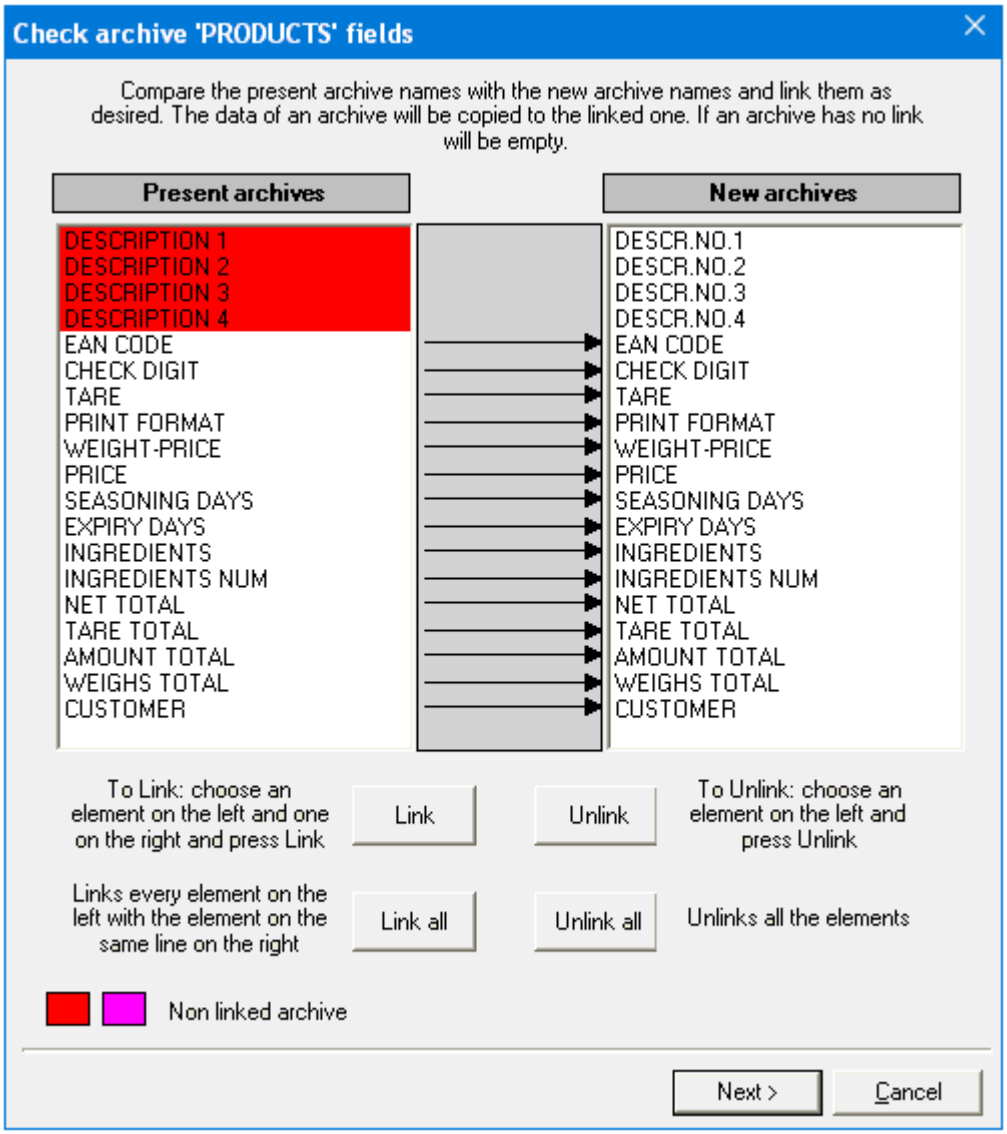


-To link each of the present databases with the new database on the same line, press the “**Link all**” key:

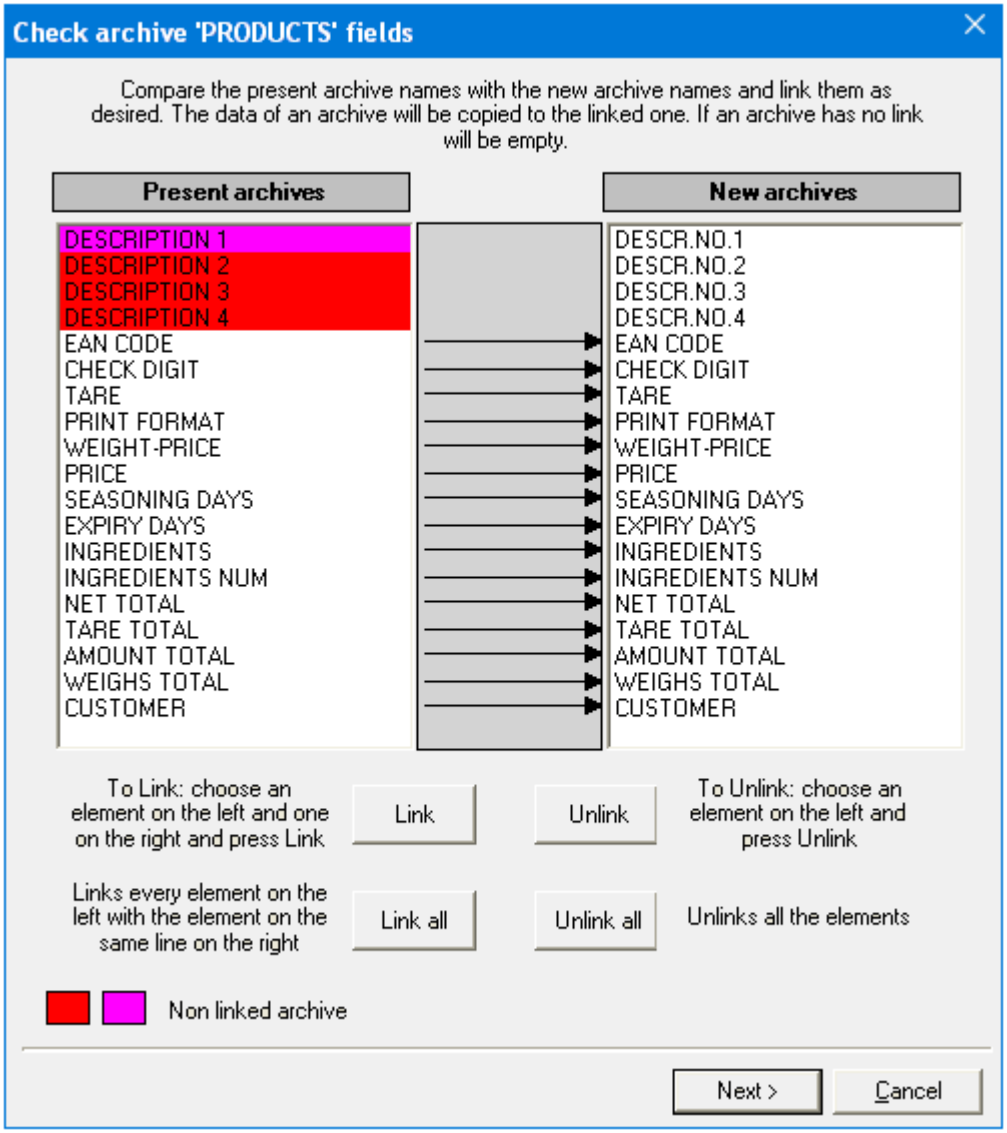


9.2.8.2 UPDATING OF THE NAMES OF DATABASES' FIELDS

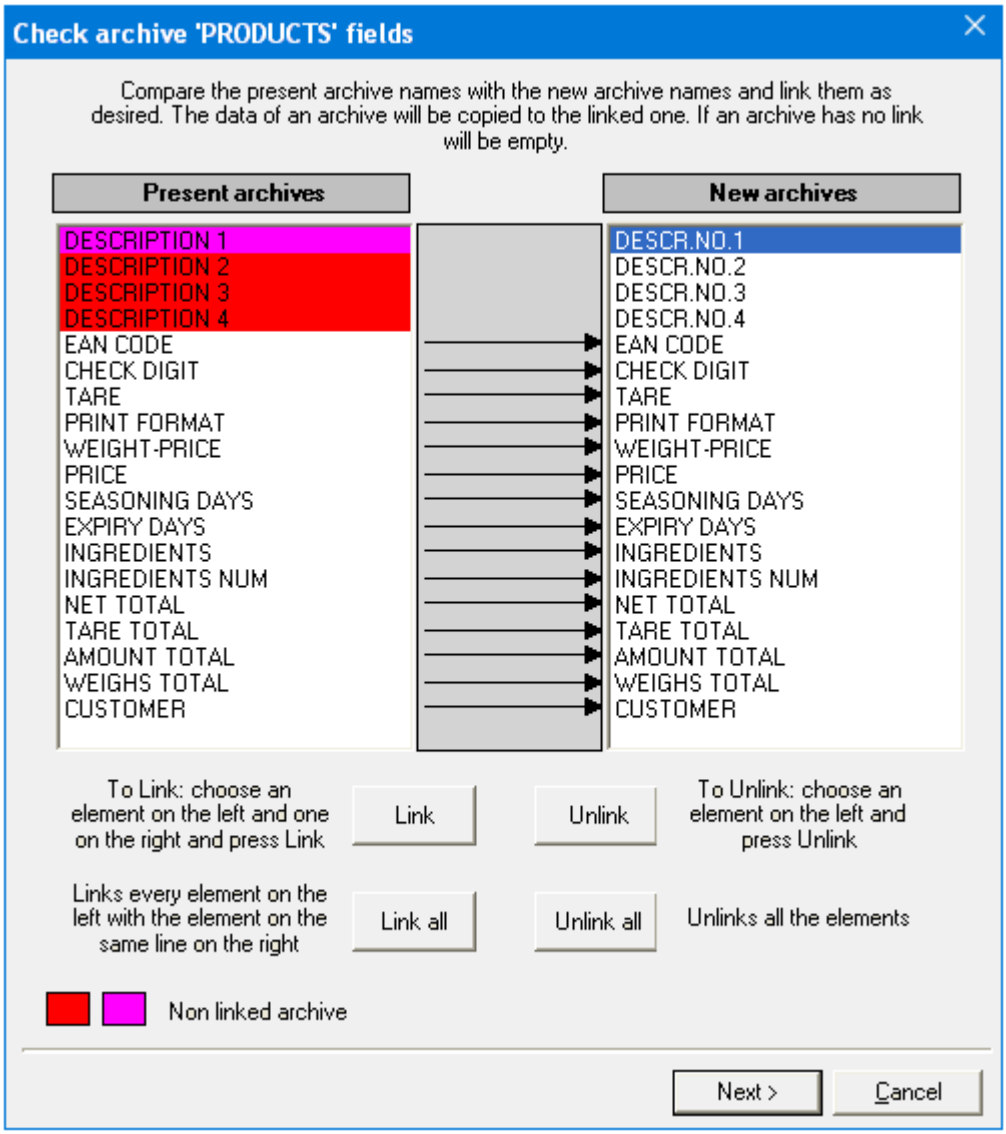
If in one or more databases of the new version of the firmware there are fields with different names from the actual ones, the following screen is shown (example: database "PRODUCTS").



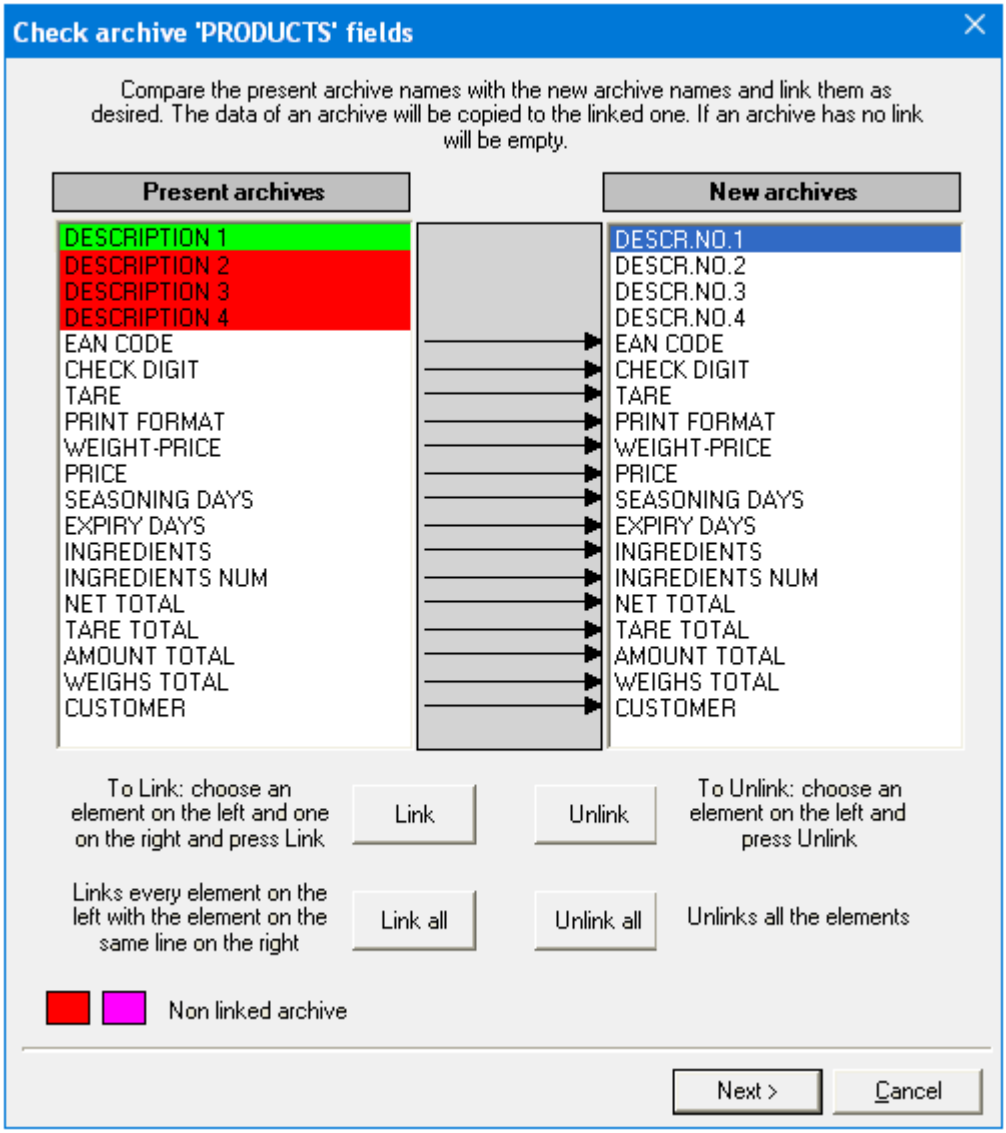
-To link only one field, select the desired field in the column of the present archives:



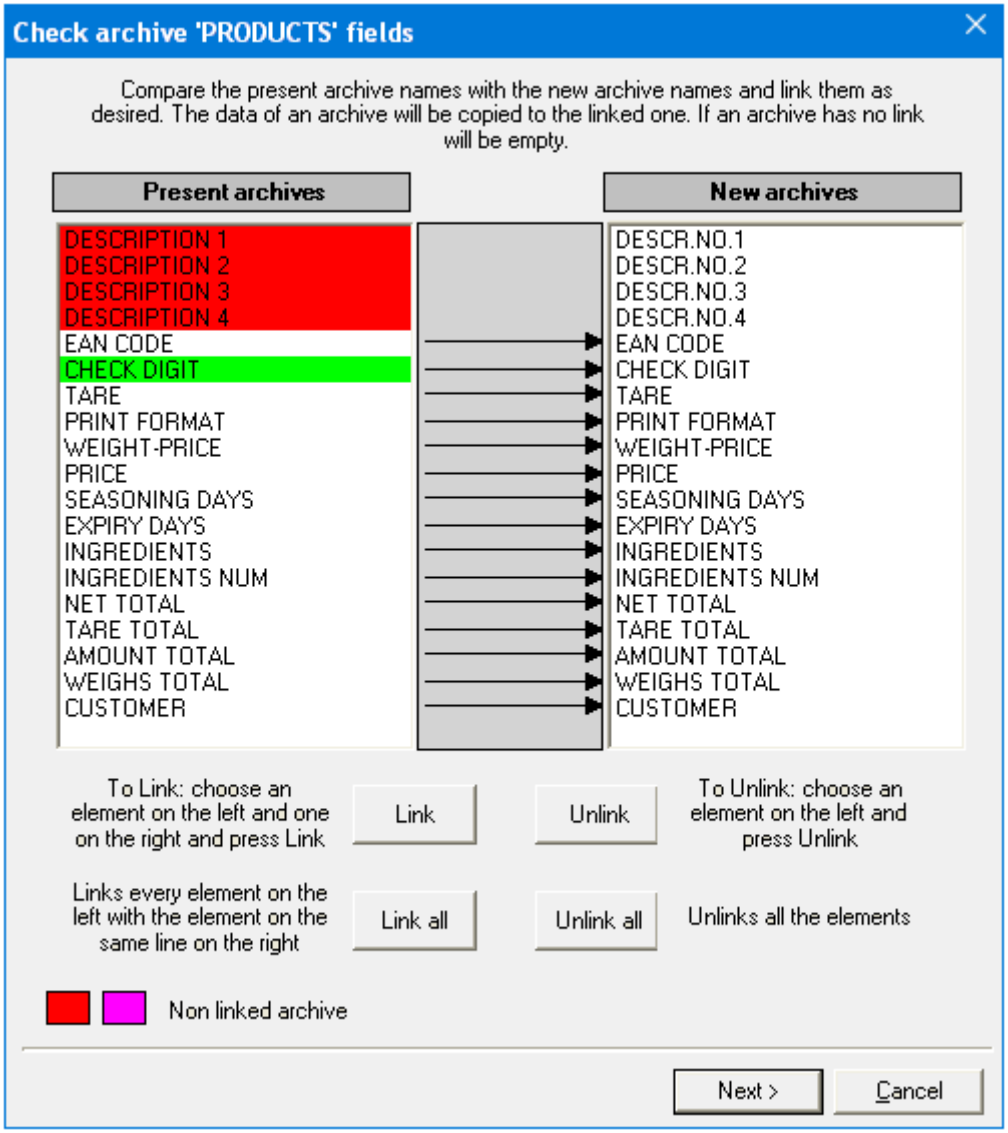
Select the new field that one wants to link to the present field:



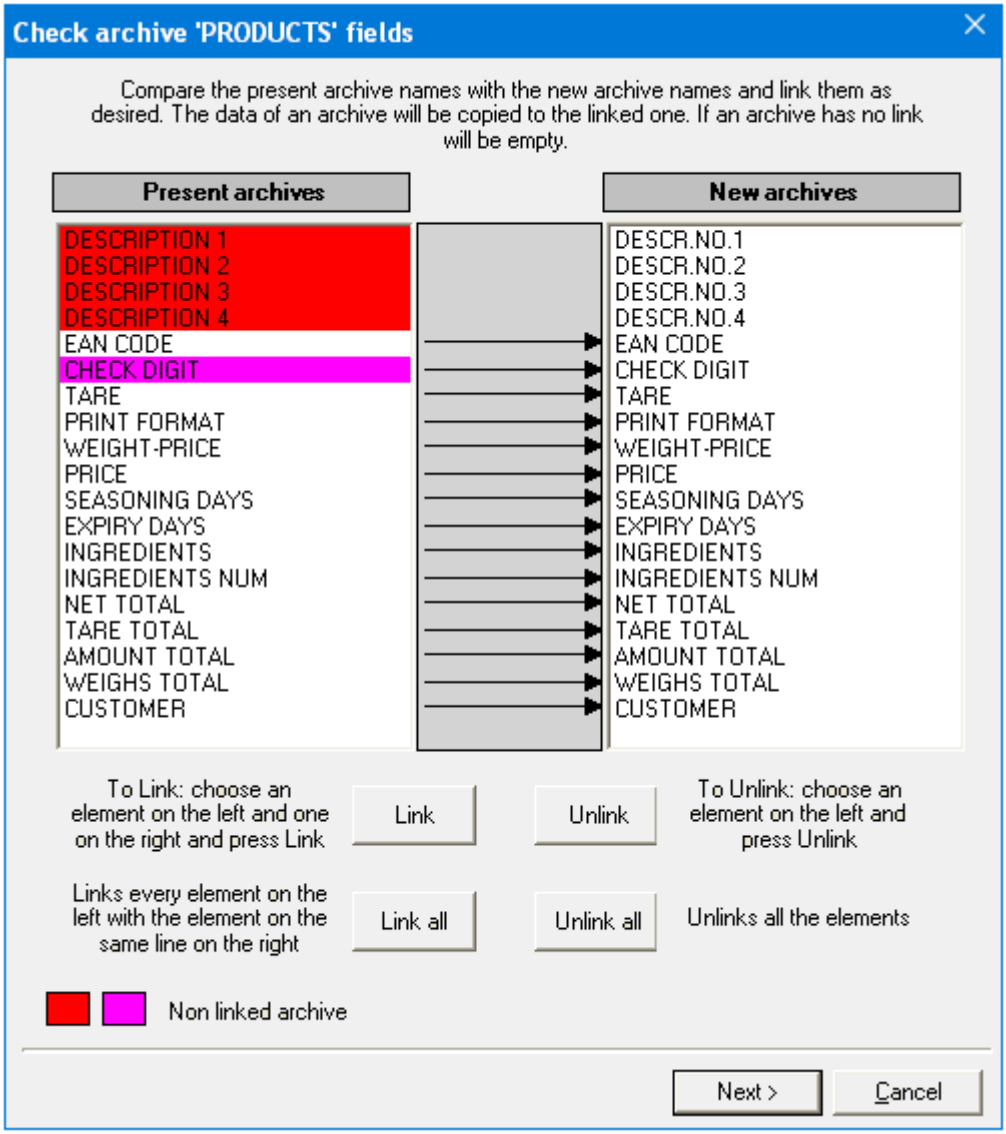
Then press the “**Link**” key to link the selected fields:



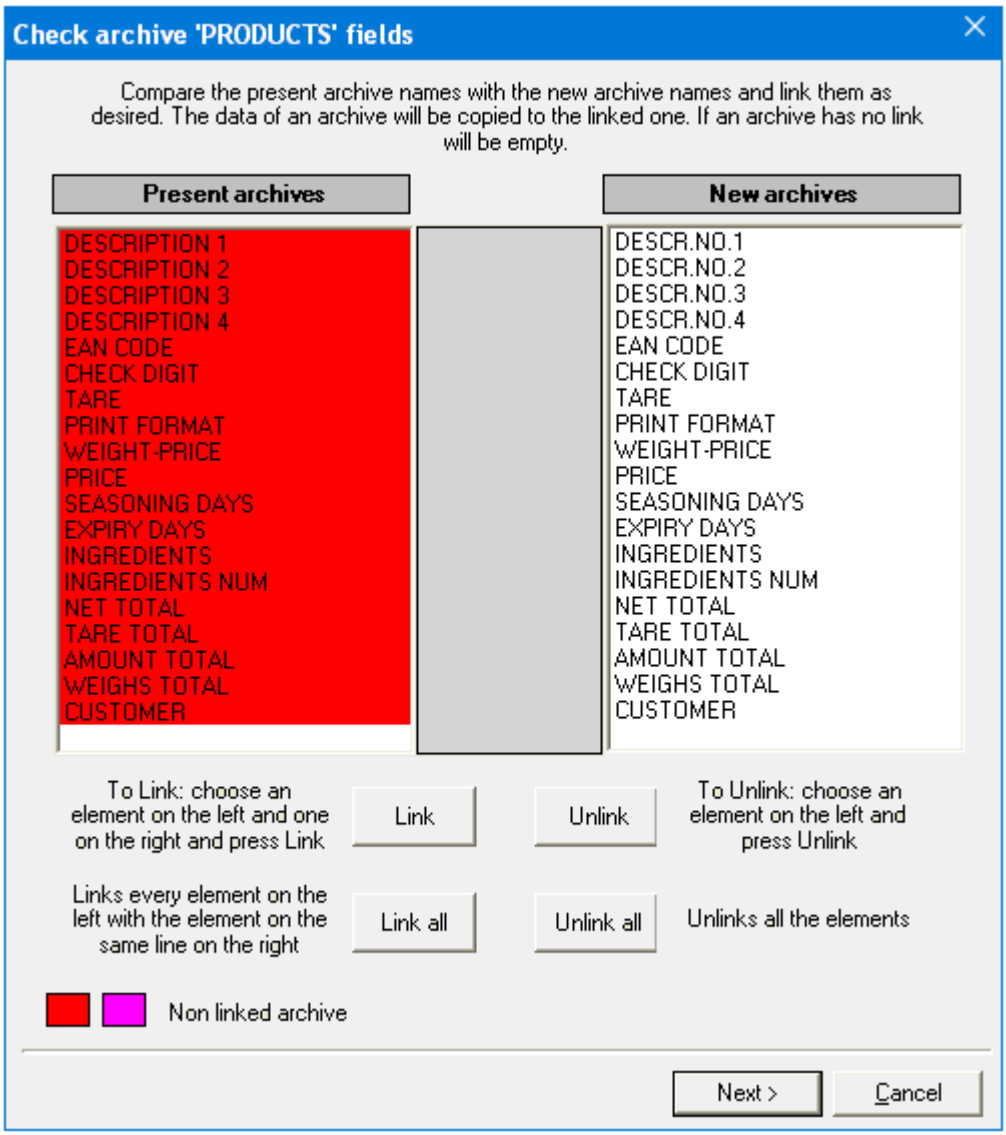
-To unlink only one field, select the desired field in the column of the present fields:



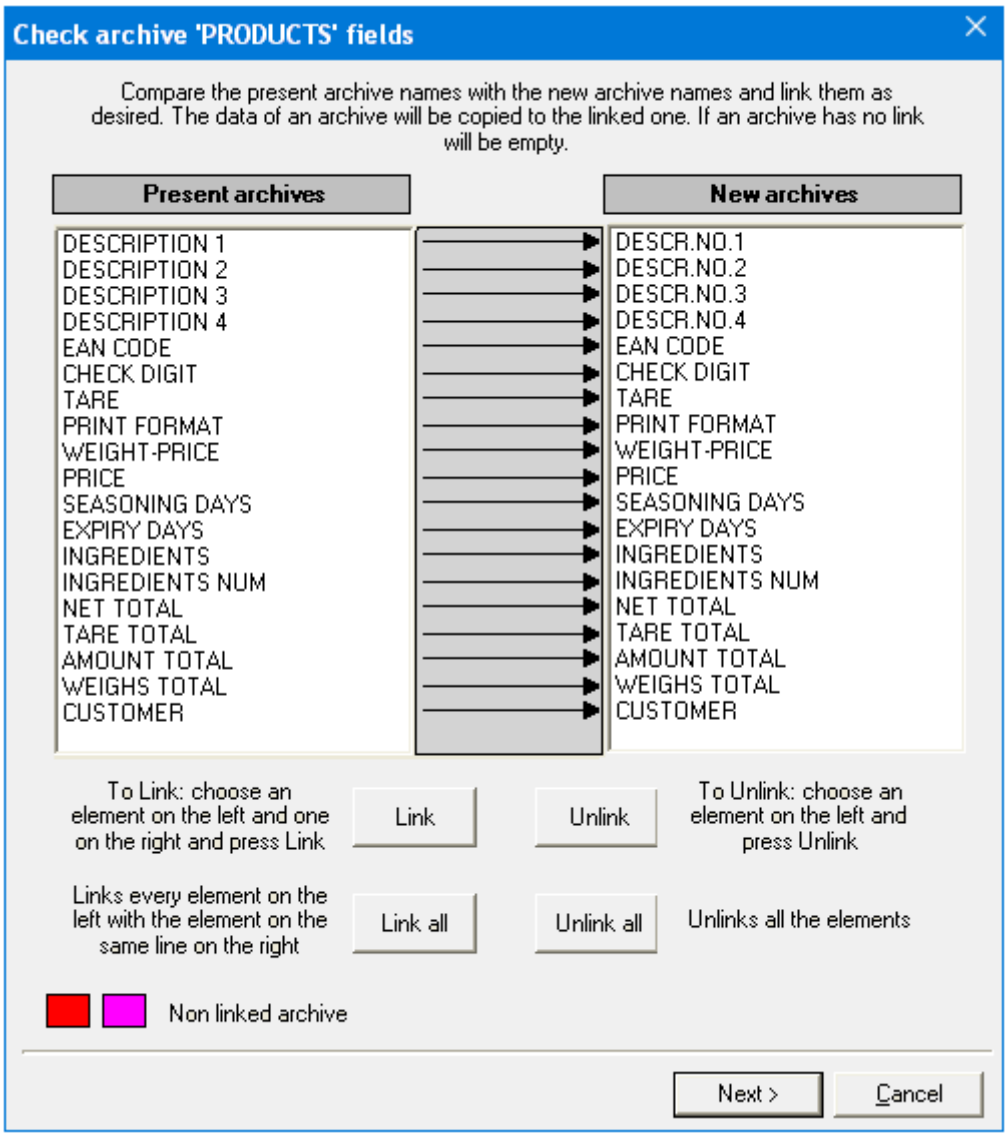
Then press the Unlink key:



-To cancel all the links between the fields, press the “**Unlink all**” key:

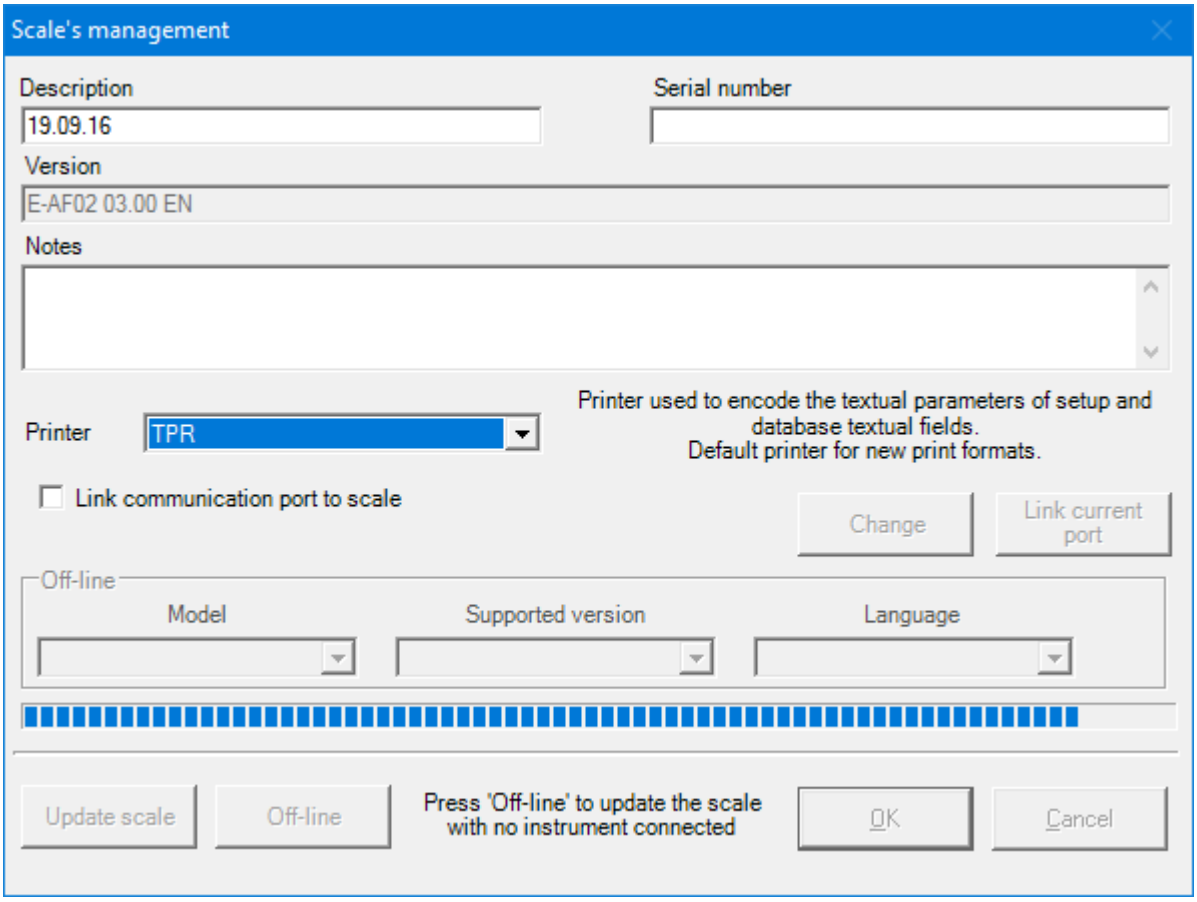


-To link each of the present fields with the new field on the same line, press the “**Link all**” key:



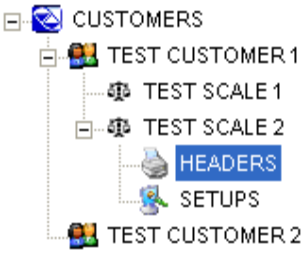
- If there are other databases with fields that have names different from the present fields, by pressing the Next> key the screens relating to these databases are shown.

- At the end of all the modifications, by pressing the Next> key the updating of the databases is executed.



9.3 MANAGING PRINTOUT HEADERS (DFW SERIES' INDICATORS)

If a DFW series' indicator is connected, there will be an item in the tree called "**HEADERS**":

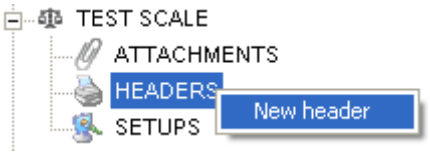


With this menu it is possible to transmit to the indicator a print header of up to 4 lines of 24 characters each; in any case it is also possible to configure the header on the indicator itself (see the relative technical manual).

9.3.1 CREATION OF A NEW HEADER

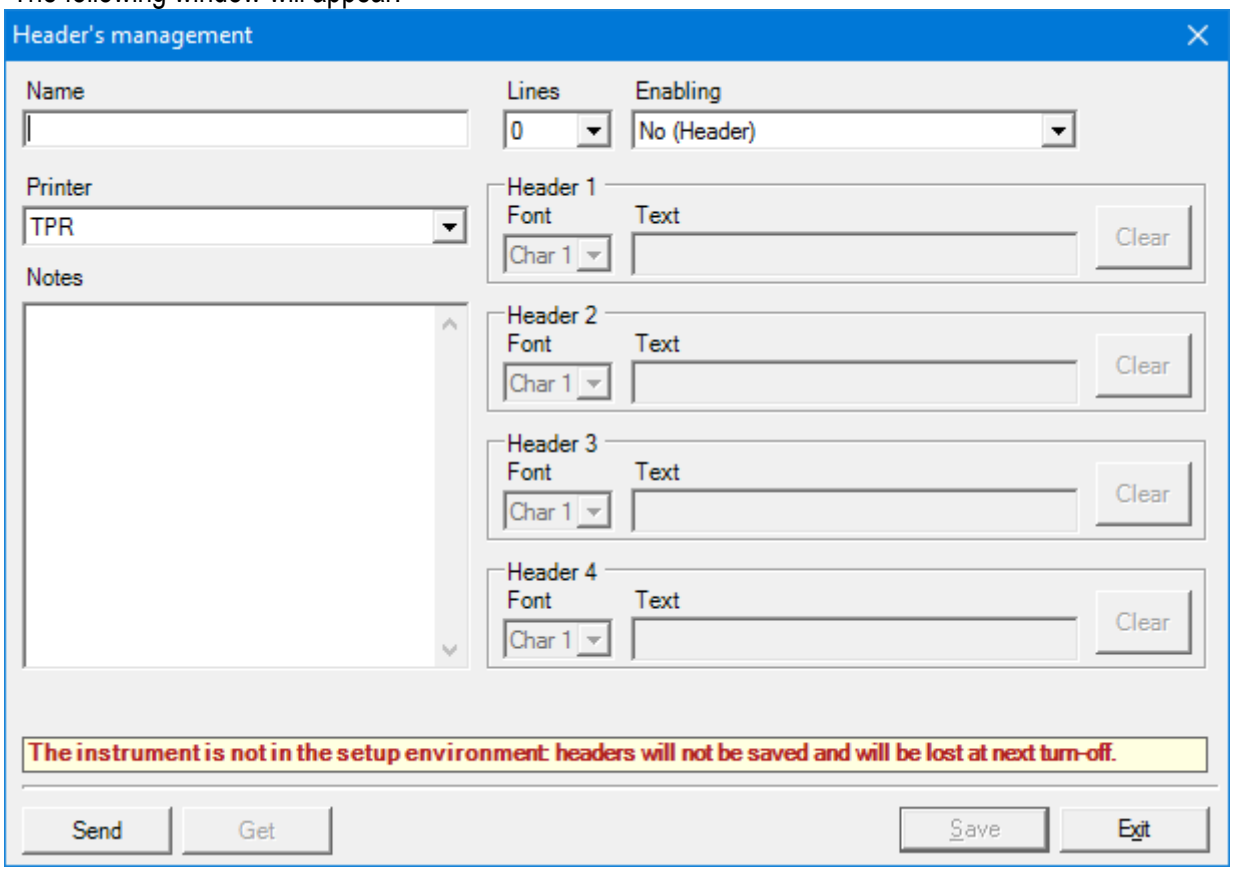
To create a new header one can proceed in various ways:

1) With the left key of the mouse click on the "**HEADERS**" item, in the left window and:
   - From the main menu choose "**File**" and "**New**" (or the CTRL+N fast keys), or
   - From the toolbar press "**New**",
2) With the right key of the mouse click on the "**HEADERS**" item, and choose the "**New Header**" item.



9.3.1.1 HEADER CONFIGURATION

The following window will appear:

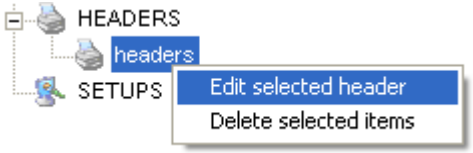


- In the "**Name**" field enter the name of the header.
- In the "**Lines**" field select the number of lines which you want to use (up to 4).
- In the "**Enabling**" field select the mode in which the header will be printed, **if one has selected the "Totalizer" functioning mode in the indicator; while if one uses another functioning mode, one just needs to select a different value from "No Header":**
  - "Print header only in the first totalization" (in other words, only after the zeroing of the total).
  - "Print header in each totalization" (with each weigh).
  - "Print header in each totalization and in the total" (with each weigh and also in the total).
- For each required line, enter in the "**Font**" field the type of character height
  ChAr 1 = prints line with normal height (for TPR) or character 1 (for LP542S).
  ChAr 2 = prints line with normal height (for TPR) or character 2 (for LP542S).
- in the "**Text**" field the text contents (up to 24 characters); the "**Clear**" key allows the quick cancellation of the entire relative line.
- In the "**Printer**" field one should select the codepage of the printout or directly the printer model, useful for the preview function of the header (see section 9.3.6).
- Use the "**Save**" key to save and go out with the "**Exit**" key.
- The new header will appear in the tree menu on the left.

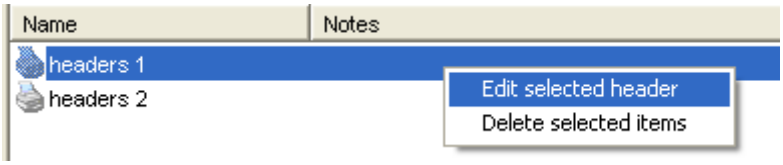
9.3.2 MODIFYING OF AN HEADER

To modify a header one can proceed in various ways:

1) With the left key of the mouse click on the desired header in the left window and:
   - From the main menu choose "**File**" and "**Open**", or
   - From the toolbar press "**Open**";
2) With the right key of the mouse click on the desired header in the left window, and choose "**Edit selected item**",



3) With the left key of the mouse click on its scale in the window on the left and:
   - With the right key of the mouse click on the desired header in the right window, and choose "**Edit selected item**".



At this point it's possible to modify the header, see section 9.3.1.1.

9.3.3 DELETION OF A HEADER

To delete a header one can proceed in various ways:

1) With the left key of the mouse click on the desired header in the left window and:
   - From the main menu choose "**File**" and "**Delete**" (or the CTRL+D fast keys), or
   - From the toolbar press "**Delete**",
   - Confirm the request of the deletion.
2) With the right key of the mouse click on the desired header in the left window, and:
   - Choose "**Delete selected items**"
   - Confirm the request of the deletion.

To delete various headers simultaneously one should:

- With the left key of the mouse click on the "HEADER" item in the left window.
- With the left key of the mouse the headers to be deleted in the window on the right.
- With the right key of the mouse click on one of the selected headers in the right window and choose "**Delete selected items**".
- Confirm the request of the cancellation.

NOTE

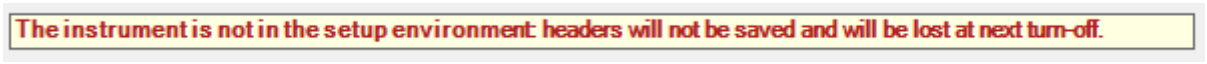
To select various objects simultaneously, keep the CTRL key of the PC keyboard pressed and click on the desired codes.

9.3.4 TRANSMISSION OF THE HEADING TO THE INDICATOR

- Enter in the modification of the header, see section 9.3.2.
- Press on the "**Send**" key: the header will be instantaneously transmitted to the indicator.

NOTE

If the connected indicator was in the normal weighing status, the heading will be lost when the instrument is turned off; this message will be highlighted in the header compilation window:



In order that the heading is permanently stored, it is necessary that before its transmission, the instrument is in the SET-UP environment (see the indicator's technical manual).
In this way, when the transmission of the header is done, one must exit the instrument's set-up environment, saving the made changes.

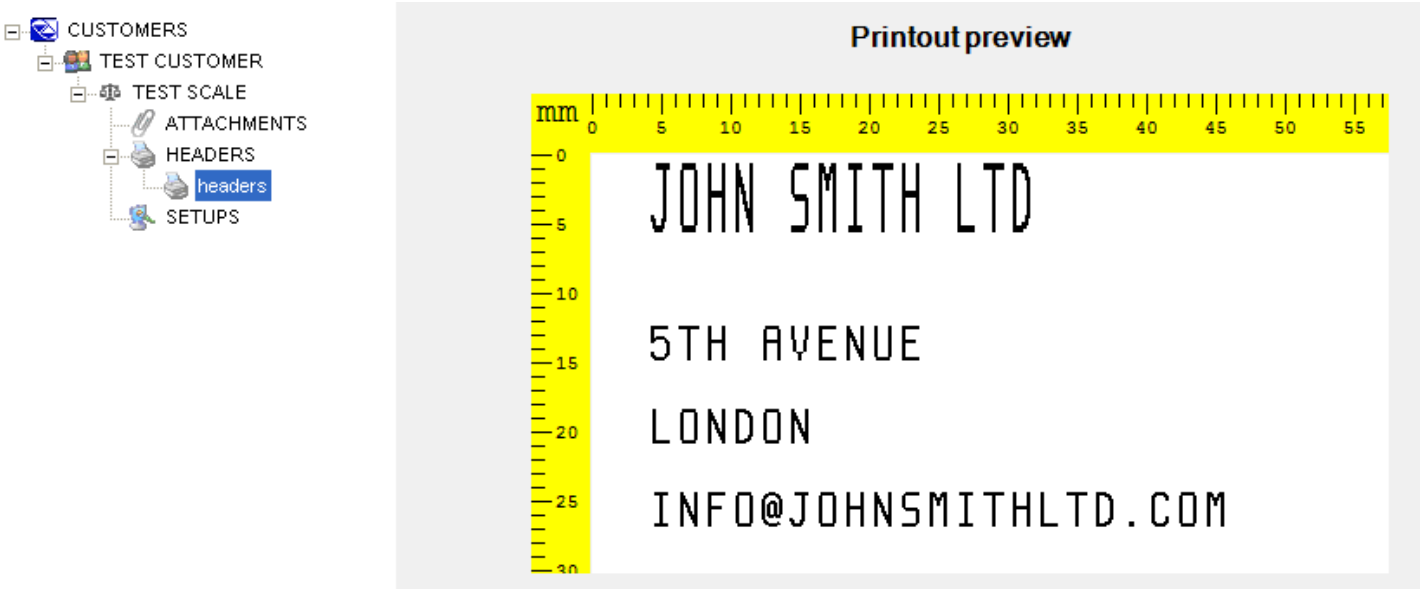
9.3.5 RECEPTION OF THE HEADER FROM THE INDICATOR

- Enter in the modification of the header; see section 9.3.2.
- Press on the "**Get**" key: the header on the indicator will be received on the PC.

9.3.6 HEADER PRINT PREVIEW VISUALIZATION

Once a header is configured, it's possible to view a preview for the type of selected printer; if one has selected "Not in list" the preview function is not available.
For the configuration of the printer type see section 9.3.1.1.

With the left key of the mouse select the desired header, in the window on the left; the window on the right will be ready to show the preview:



To update the printout preview, from the main menu choose "**View**" and "**Print preview**",

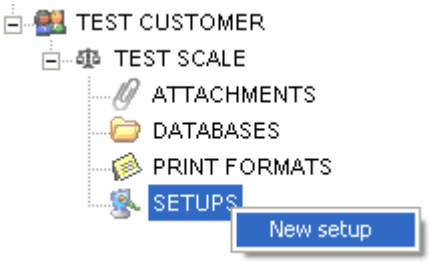
9.4 SETUP MANAGEMENT AND CALIBRATION

9.4.1 CREATION OF A NEW SETUP

To create a new setup one can proceed in various ways:

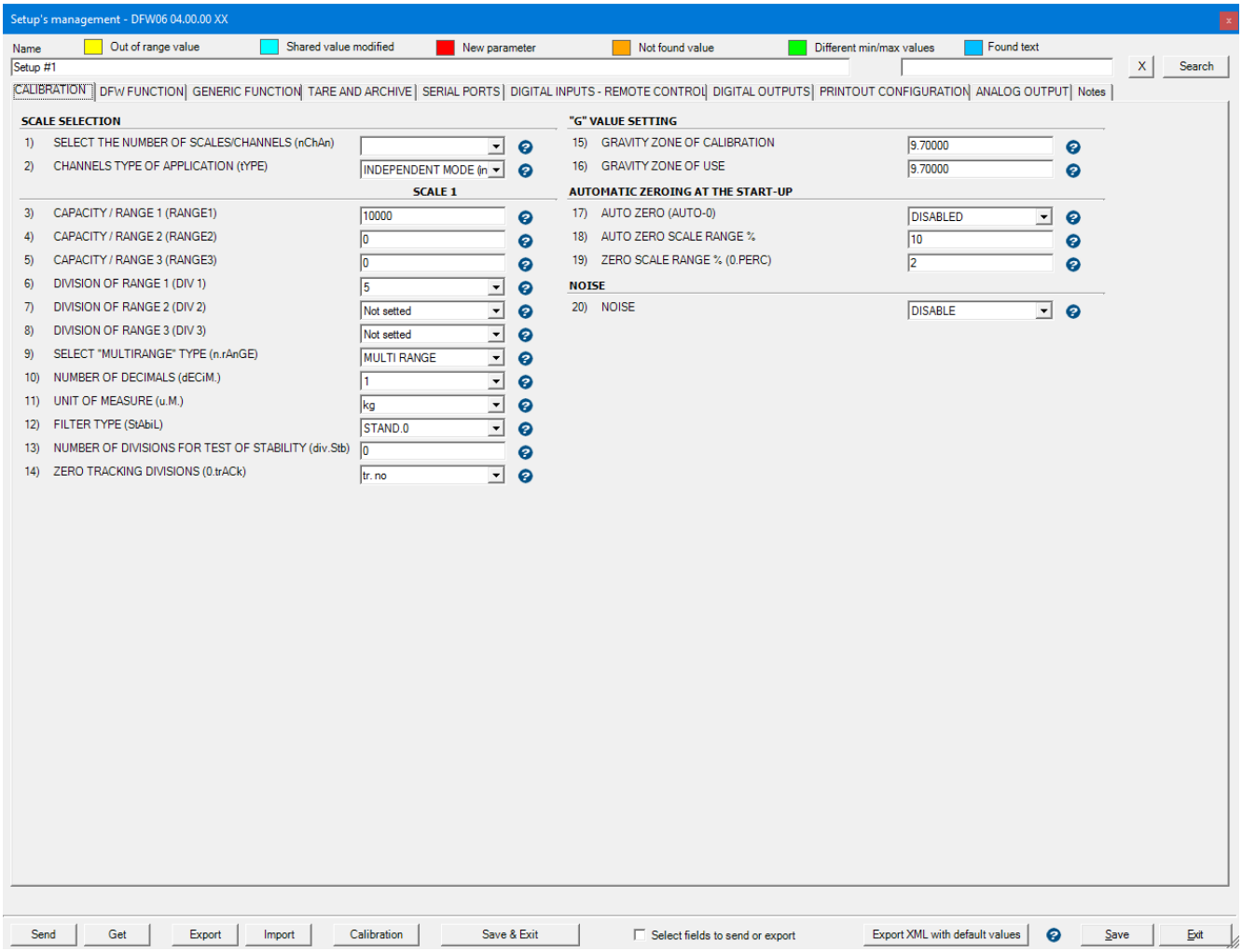
1) With the left key of the mouse click on "**Setup**" item, in the left window and:
- From the main menu choose "**File**" and "**New**" (or the CTRL+N fast keys), or
- From the toolbar press "**New**",

2) With the right key of the mouse click on the "**Setup**" item, and choose "**New setup**" item.

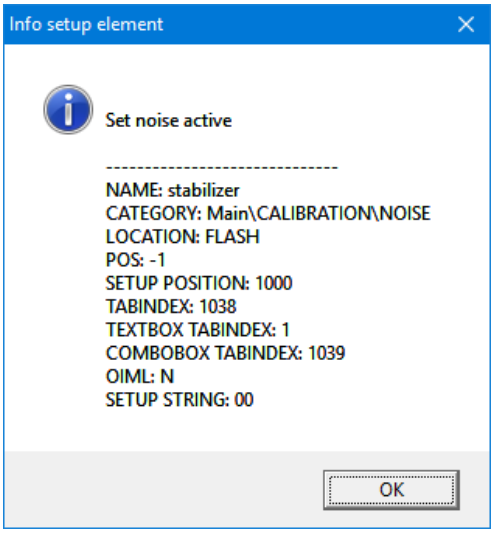


9.4.1.1 SETUP CONFIGURATION

A window will appear containing the default parameters of the Setup, subdivided in folders; here below is an example of a default setup of the DFW06 indicator:

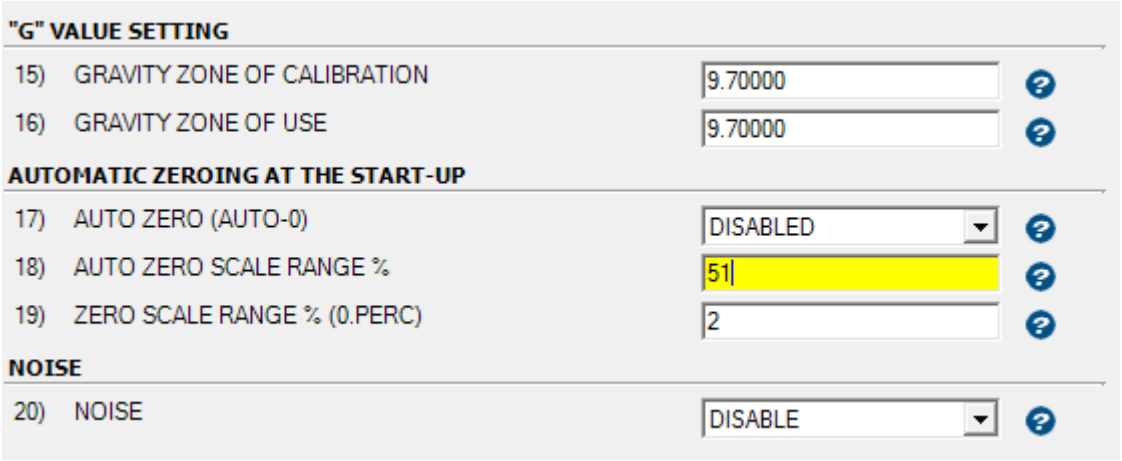


- In the "**Name**" field one have to enter the name of the Setup; in the "**Notes**" field one may enter the notes useful to the user.
- By pressing "**Get**" one may receive the complete Set-up of the connected indicator; **the indicator must be in the COMPLETE Set-up environment (in other words, if a protection password exists, it must be entered correctly).**
- After a few instants the parameters in the Set-up of the indicator will appear
- Each step shows what is contained in the indicator's set-up (shown in between the parentheses) and by pressing on the question point next to it, an info window will appear explaining the parameter:



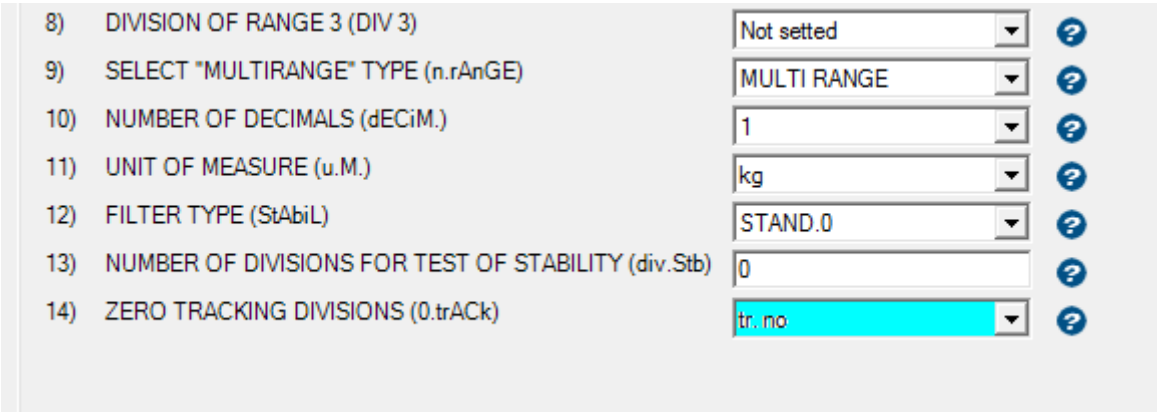
- Out of range value :

By entering a value higher than the ones allowed or wrong in a parameter, the relative field is highlighted in yellow. Enter one of the desired valid values.



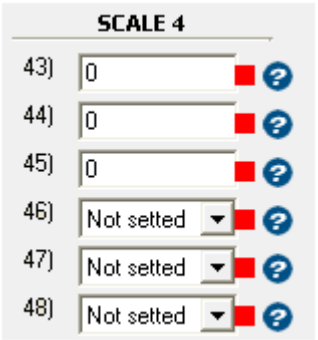
- Shared value modified :

By modifying the value of a shared parameter, the relative field is highlighted in blue. The shared parameters are the ones configured for various functioning modes, printer transmission modes, etc..



- New parameter :

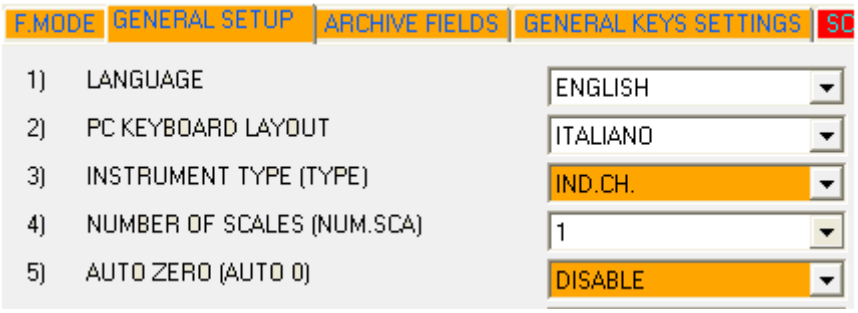
Any new parameters in the setup are indicated in red.
This happens if:
- the setup is updated after having read a version of the firmware in which the setup has more parameters than the previous version,
- one imports the .xml file of a setup that has less parameters than of the actual one.



- After having modified the desired parameters, save using the "**Save**" key.
- Press on "**Send**" to transmit the set-up to the indicator.
- To store the set-up just transmitted, go on the indicator and exit from the set-up environment and confirm with **ENTER** the saving request.
- To export the setup of the instrument, press the Export key (it is possible to create a .mot file or a .xml file).
- To import the setup of an instrument, press the Import key and select the relative .mot file or .xml file.
- Press "**Exit**" to exit the Set-up management (the name given to the Set-up will appear in the tree on the left).

- Not found value

Any parameter which misses the value from the new version is indicated in orange

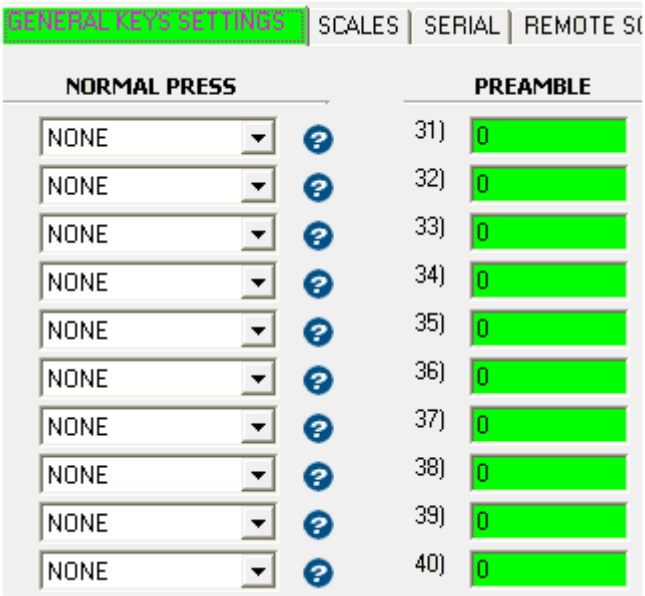


This happens if:

- the setup is updated after having read a version of the firmware in which the setup has set a parameter that miss in the new version,

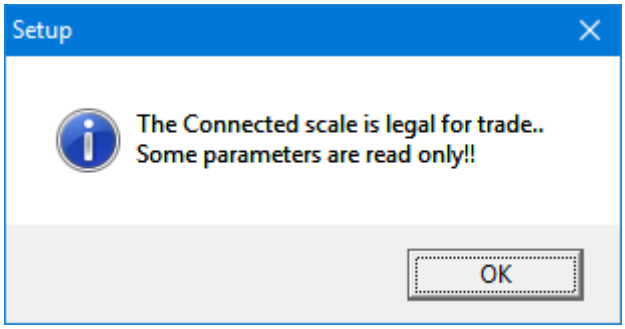
- Different min/max values

Any parameter which has different minimum/maximum range of values from the previous version is indicated in green

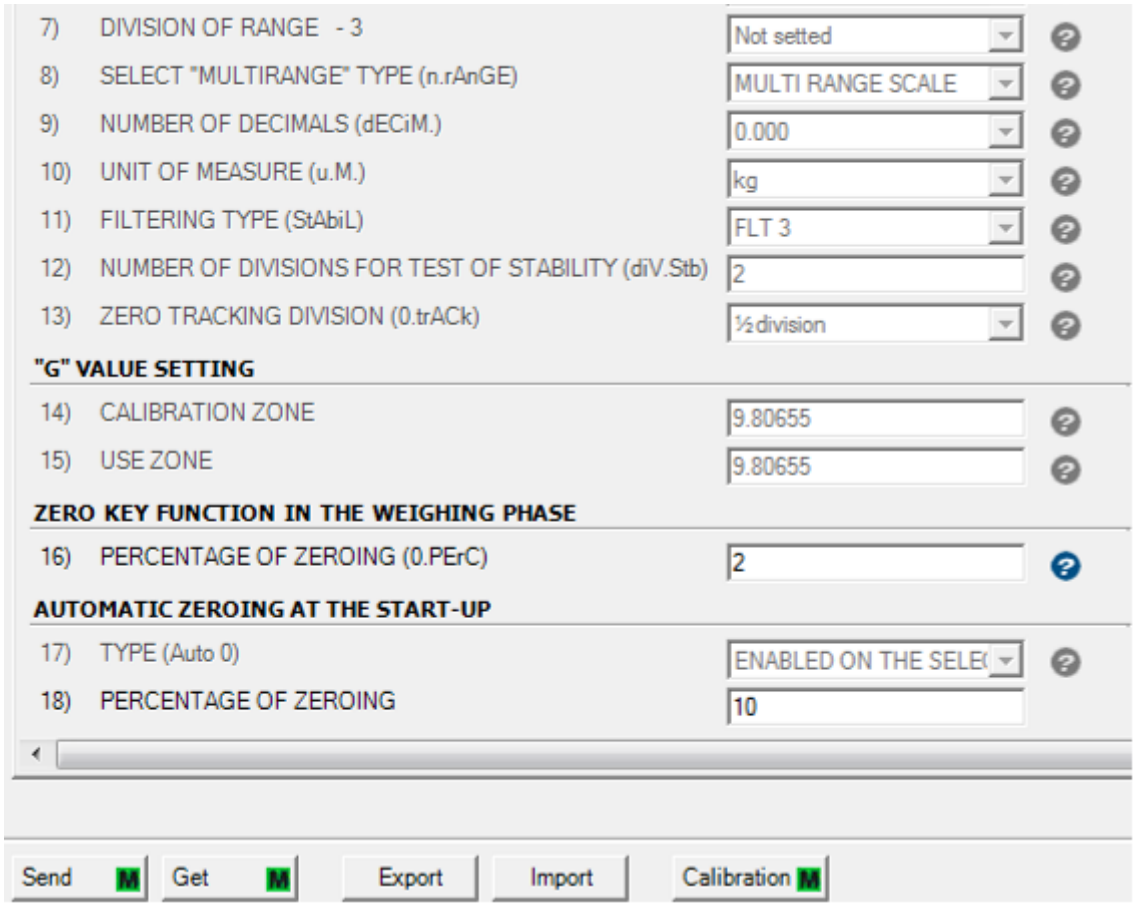


NOTES FOR APPROVED INDICATORS

- With the pressing of the "**Get**" key (setup reception), a message will appear which reminds that the indicator is approved; therefore some parameters may be READ ONLY:



by confirming this message one proceeds with the reception of the setup:



As one may note, the metrological parameters are read only, and a "M" to indicate that the setup is of an approved indicator.

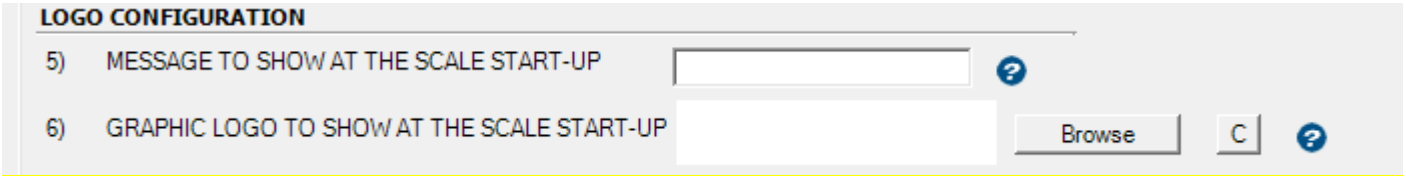
It's necessary to carry out a reception of the setup before transmitting with the "**Send**" key; a message will appear with "**Get**".

The changes made through the calibration tool, even if transmitted, will have no effect.

9.4.1.2 UPLOAD A LOGO (FOR 3590E SERIES INDICATORS)

With this procedure is possible to upload a logo (for example of own company) into the 3590E series indicators that it will shown on the display at the start-up.

- Open the new setup and receive the Setup from the scale.
- Click on the “Browse” button next to the LOGO field:



- Choose the file that has to be used as Logo, this will be shown next to the LOGO field:

- With the indicator in the setup environment, send the setup from DiniTools to the indicator.
- Save the setup on the indicator and restart it.
- The new Logo is uploaded and will be shown at start-up.

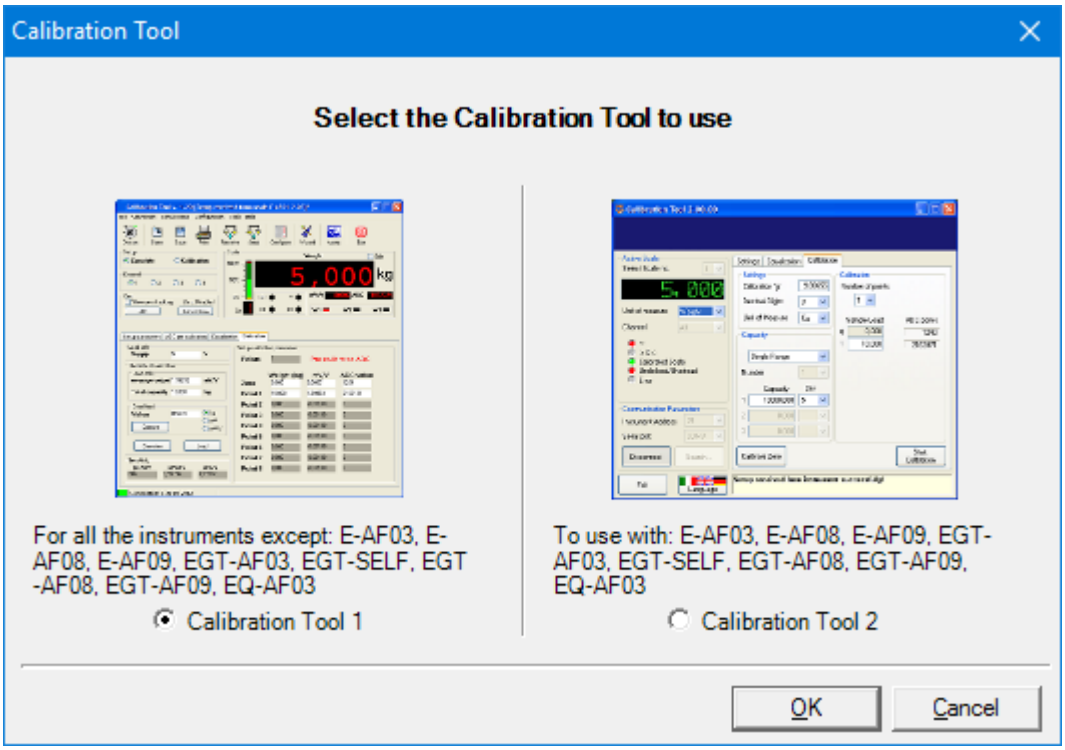
9.4.2 CALIBRATION OF THE INDICATOR

PREMISE: With a calibration done with a different channel mode in respect to the one set on the indicator in the “type” step (independent channels instead of dependent) or with a number of different channels in respect to those set on the indicator (for example 4 channels instead of 1), one should set these parameters also on the indicator transmitting the set-up. For the setup transmission refer to the previous section.

PROCEDURE

By pressing on the "**Calibration**" key, or on the **TOOLS** >> **CALIBRATION TOOL** menu, a programme opens up which allows to calibrate from the PC (Calibration Tool 1 or Calibration Tool 2 depending on the type of instrument); the metrological data used (capacity, division, decimal point, etc…) are those previously configured in the "**General Setup**" and "**Scales**" screens.

If there is not a connected scale or the communication is disabled, by pressing the "**Calibration**" key the program appropriate for the instrument to which the setup is referred opens up; by pressing on the **TOOLS** >> **CALIBRATION TOOL** menu the following screen is displayed, which allows to select the type of Calibration Tool (it is also indicated with which instruments the two types of Calibration Tool have to be used):

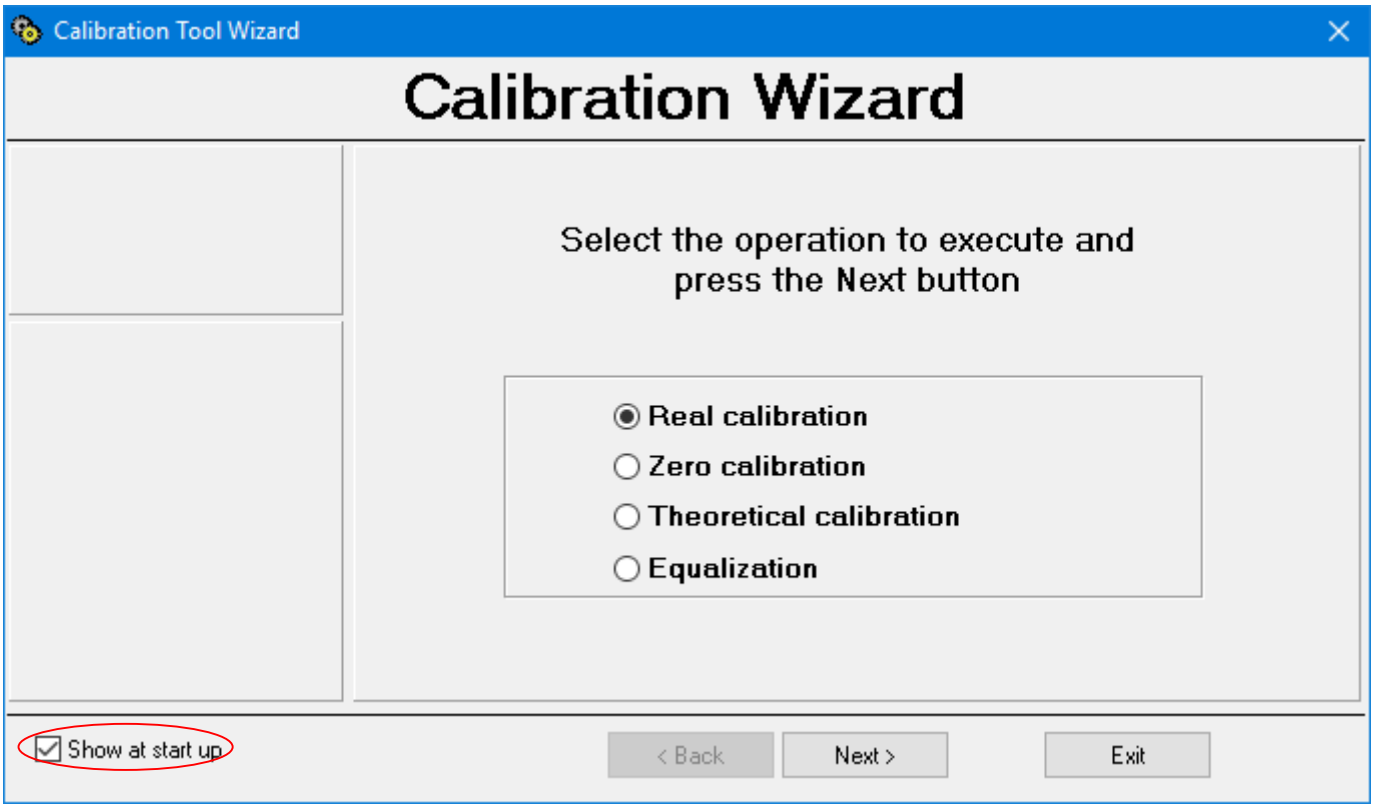


9.4.2.1 CALIBRATION WITH CALIBRATION TOOL 1

The programme offers various possibilities:

- **Calibration with Sample Weights**
- **Zero Calibration**
- **Theoretic Calibration**
- **Pre-calibration of the indicator**

To facilitate the operations, the programme is fitted of a "wizard" function which guides the user step by step:

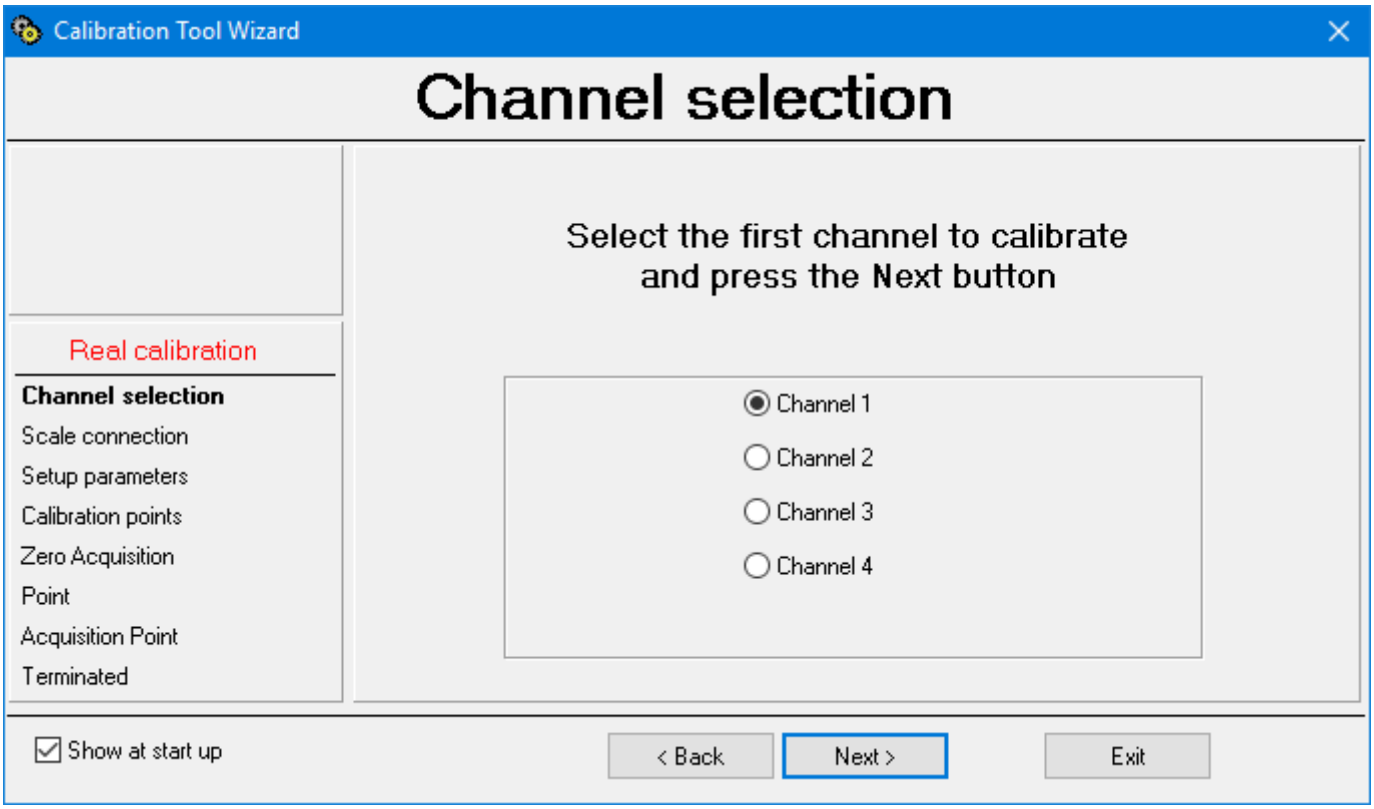


For the expert ones, it is possible to exit the Wizard through the "**Exit**" key and not view the Wizard at each programme start-up by unselecting "**Show at start-up**".

9.4.2.1.1 CALIBRATION WITH SAMPLE WEIGHTS ("REAL CALIBRATION")

9.4.2.1.1.1 USE WITH THE WIZARD

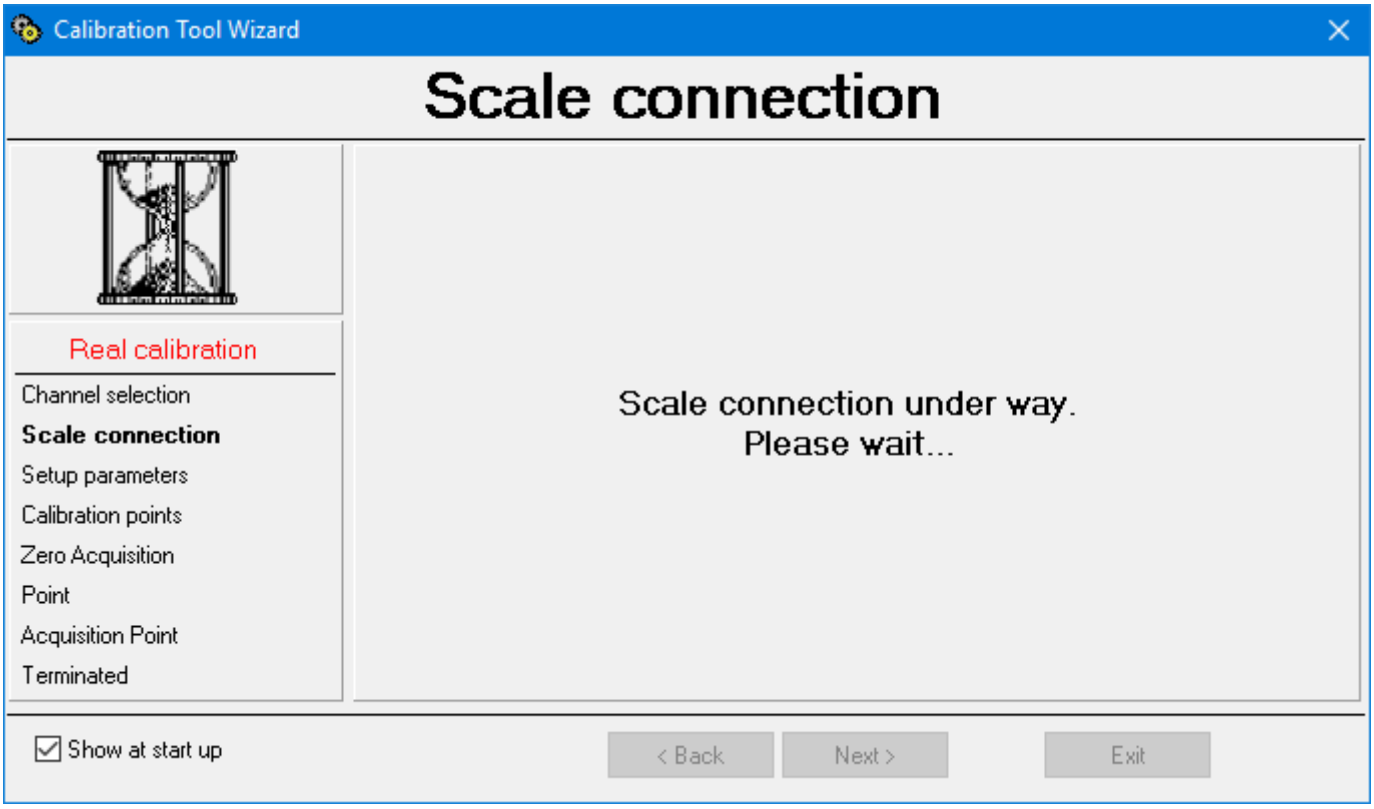
1) Select "**Real Calibration**" and press on "**Next**"; the following appears:



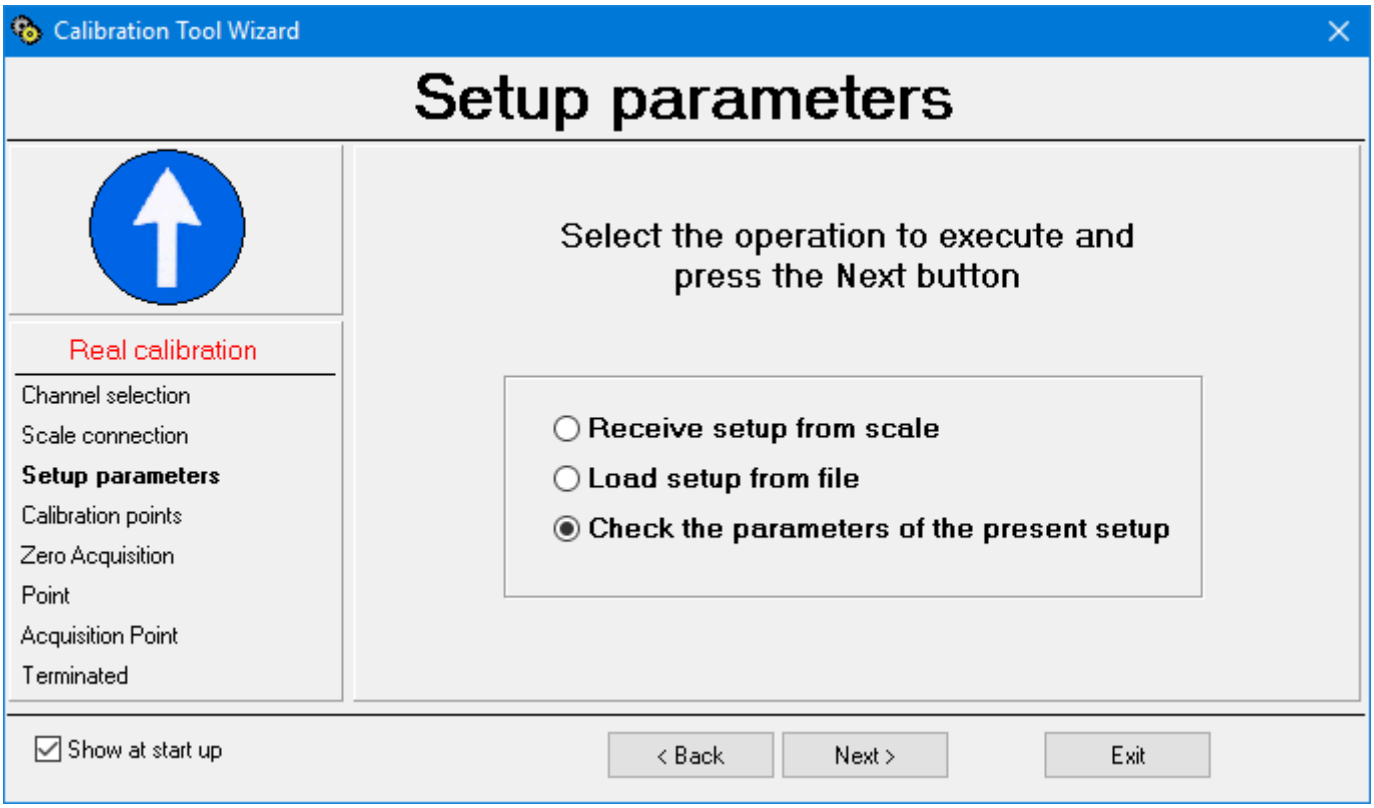
2) Select the first channel to be calibrated.

NOTE: if the scale is with dependent channels, select always "Channel 1".

3) Pressing on "Ahead", the following appears:

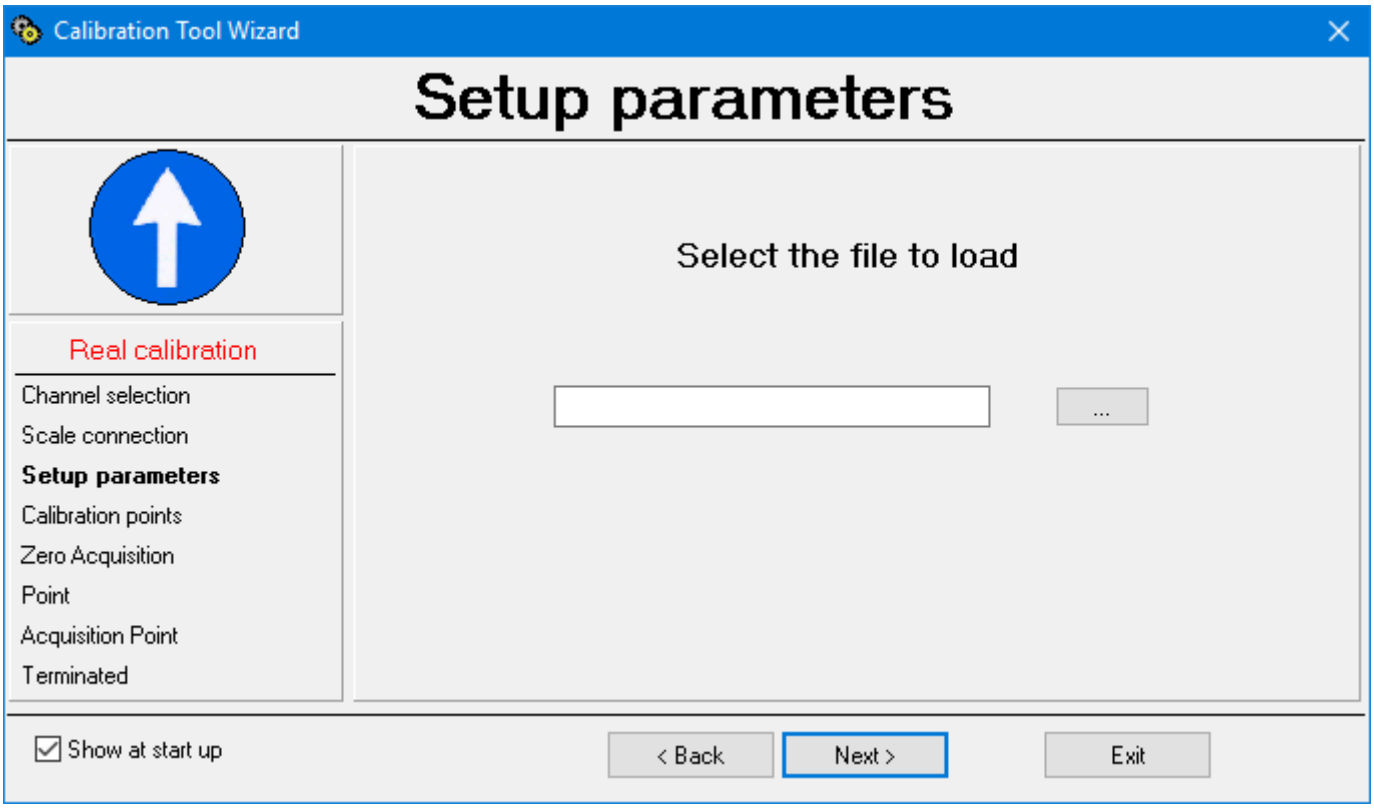


After which the following appears:



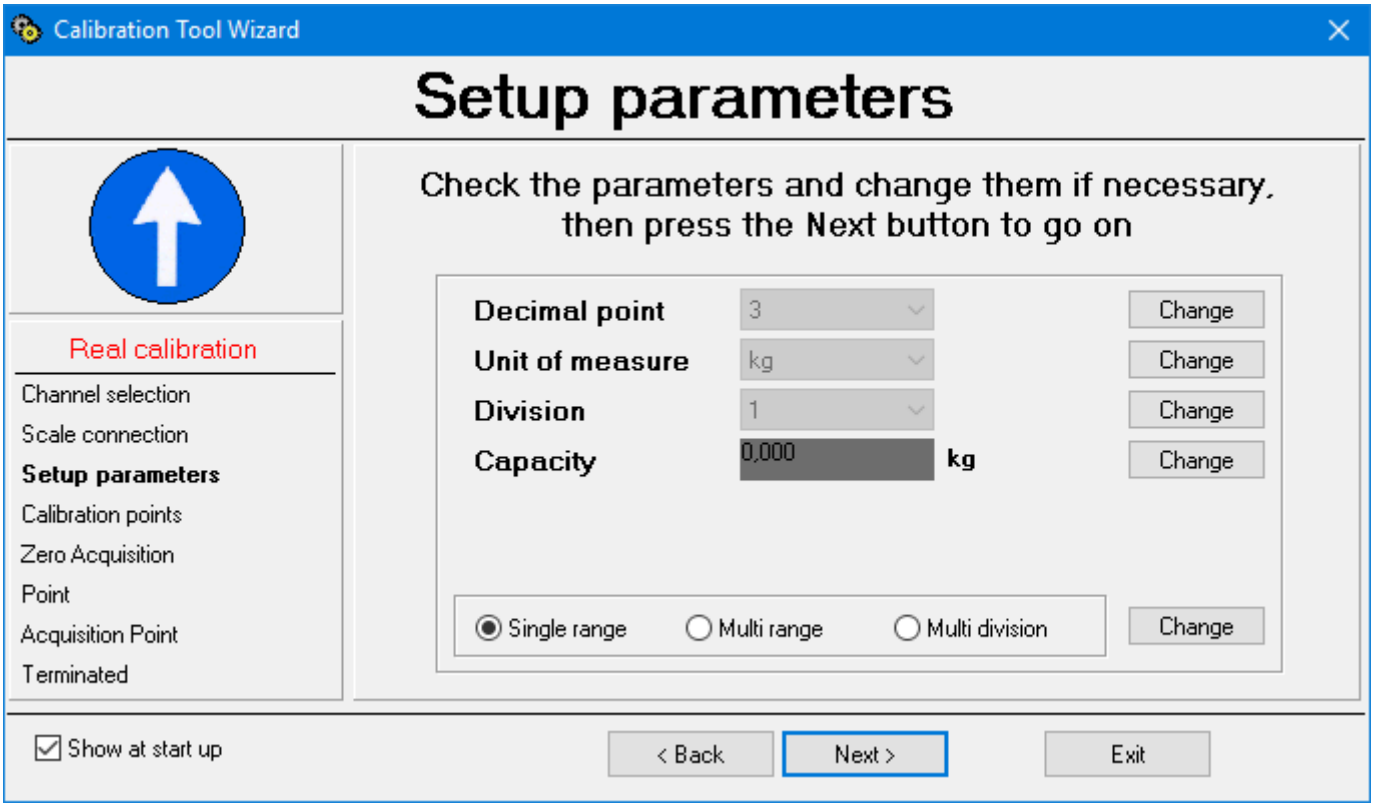
- By selecting "**Receive setup from scale**" and pressing on "**Next**" it is possible to receive the metrological and calibration parameters directly from the scale.

- By selecting "**Load setup from file**" it's possible to import the data from a ".mot" file exported previously:



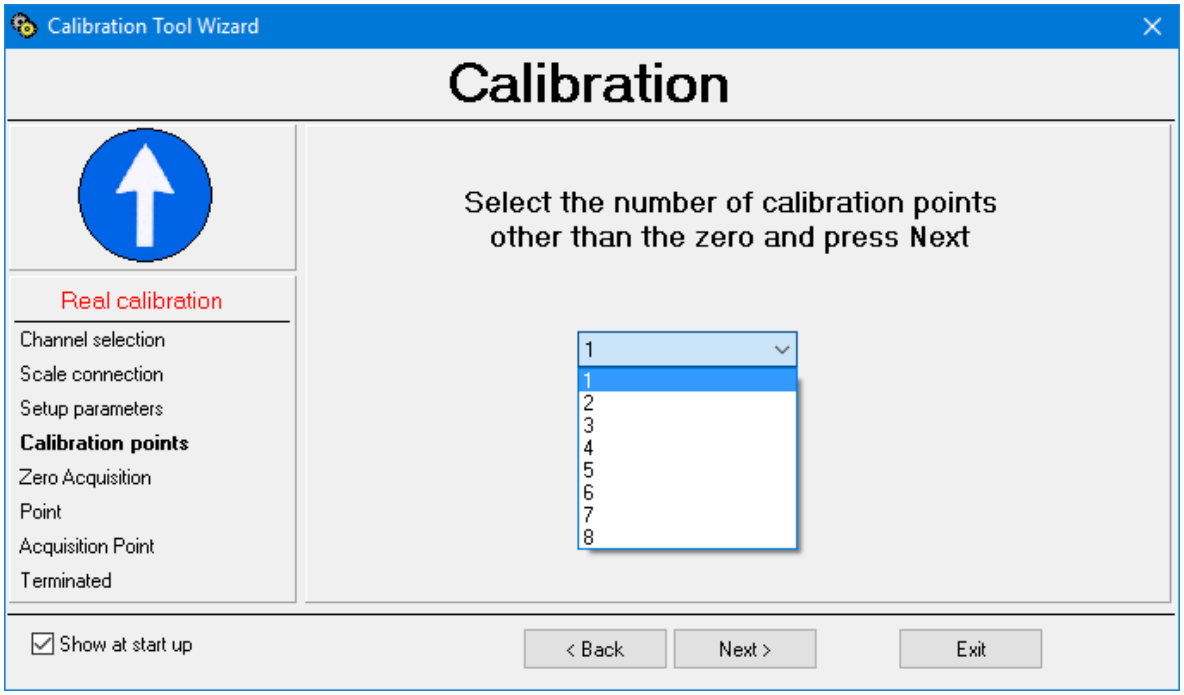
- Press on the "**…**" key to search the file in the desired directory and press on "**Next**" to continue.

- By selecting instead "**Check the parameters of the present setup**" and pressing on "**Next**" it's possible to check and eventually modify the parameters already stored on the PC:

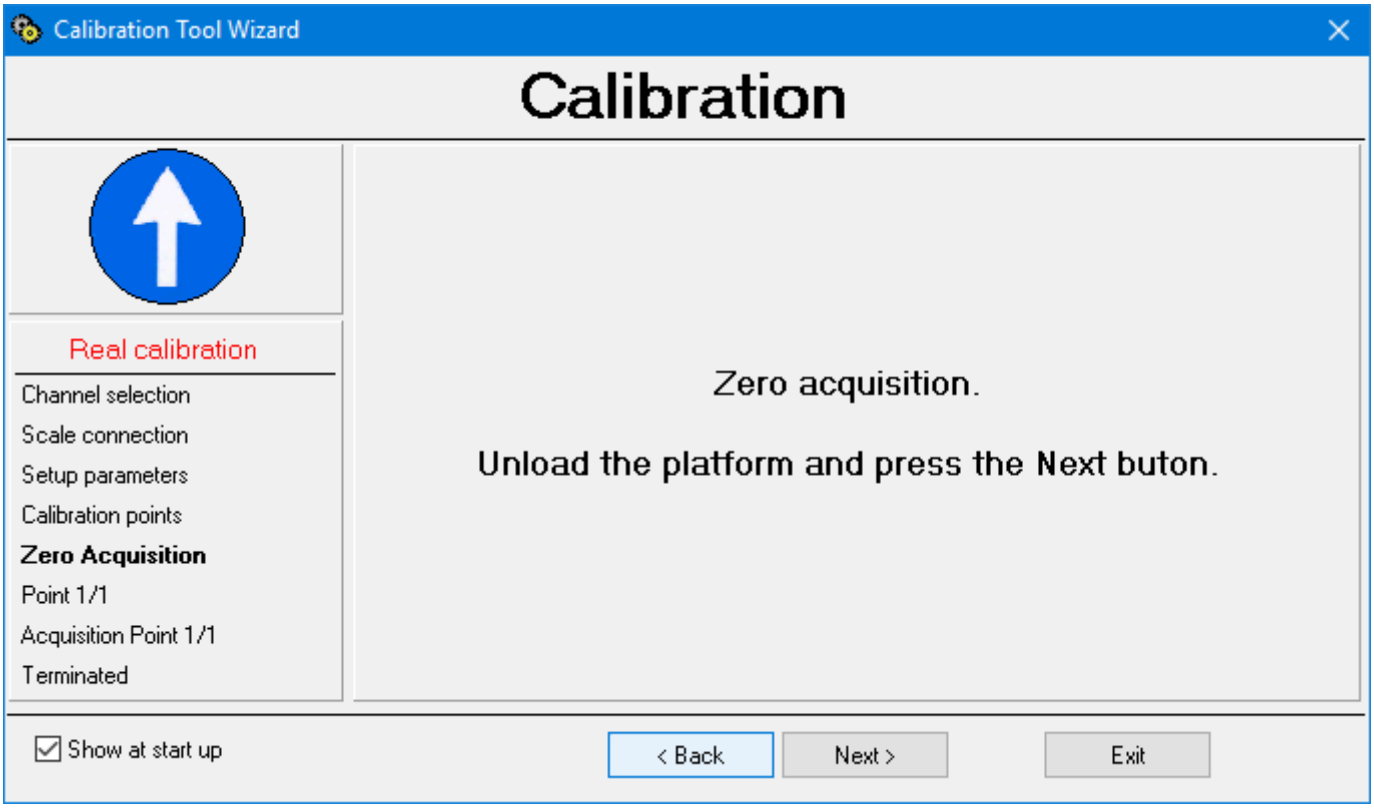


- By pressing on the "**Change**" key one modifies the relative parameter:
  Decimal point
  Unit of measure
  Division
  Capacity
  Single range
  Multi range
  Multi division

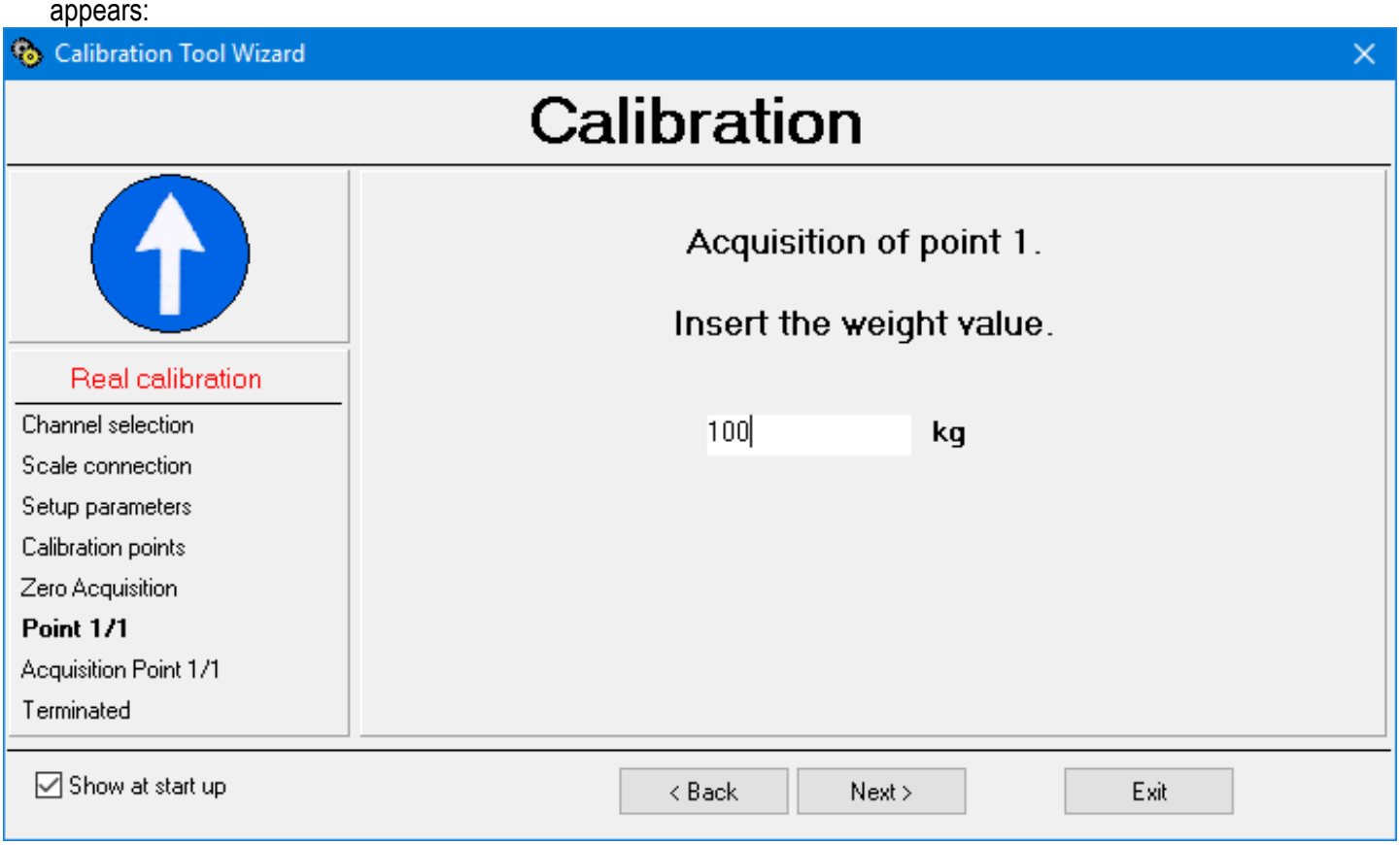
4) Press on "**Next**" to continue:



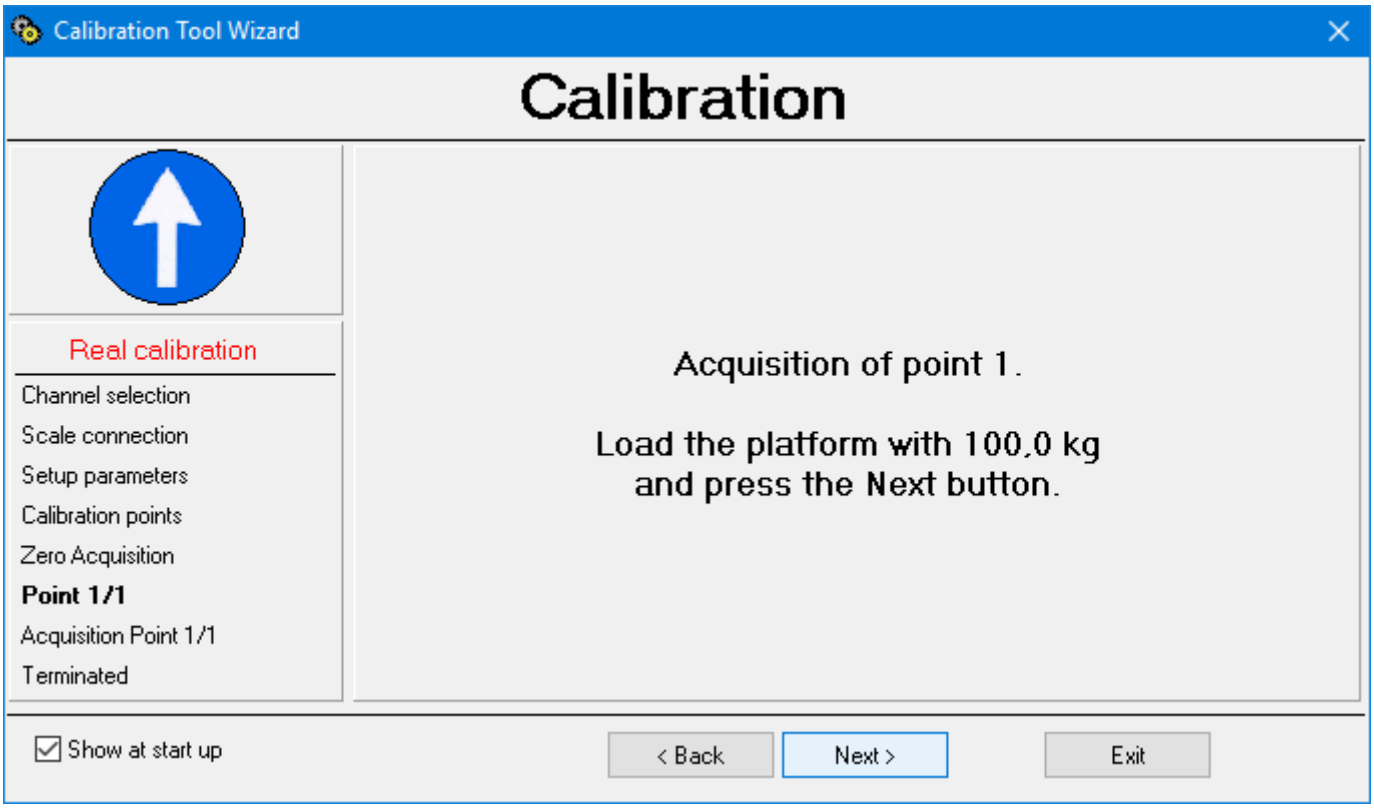
5) Set the number of calibration points (except for the scale zero) and press on "**Next**" to continue:



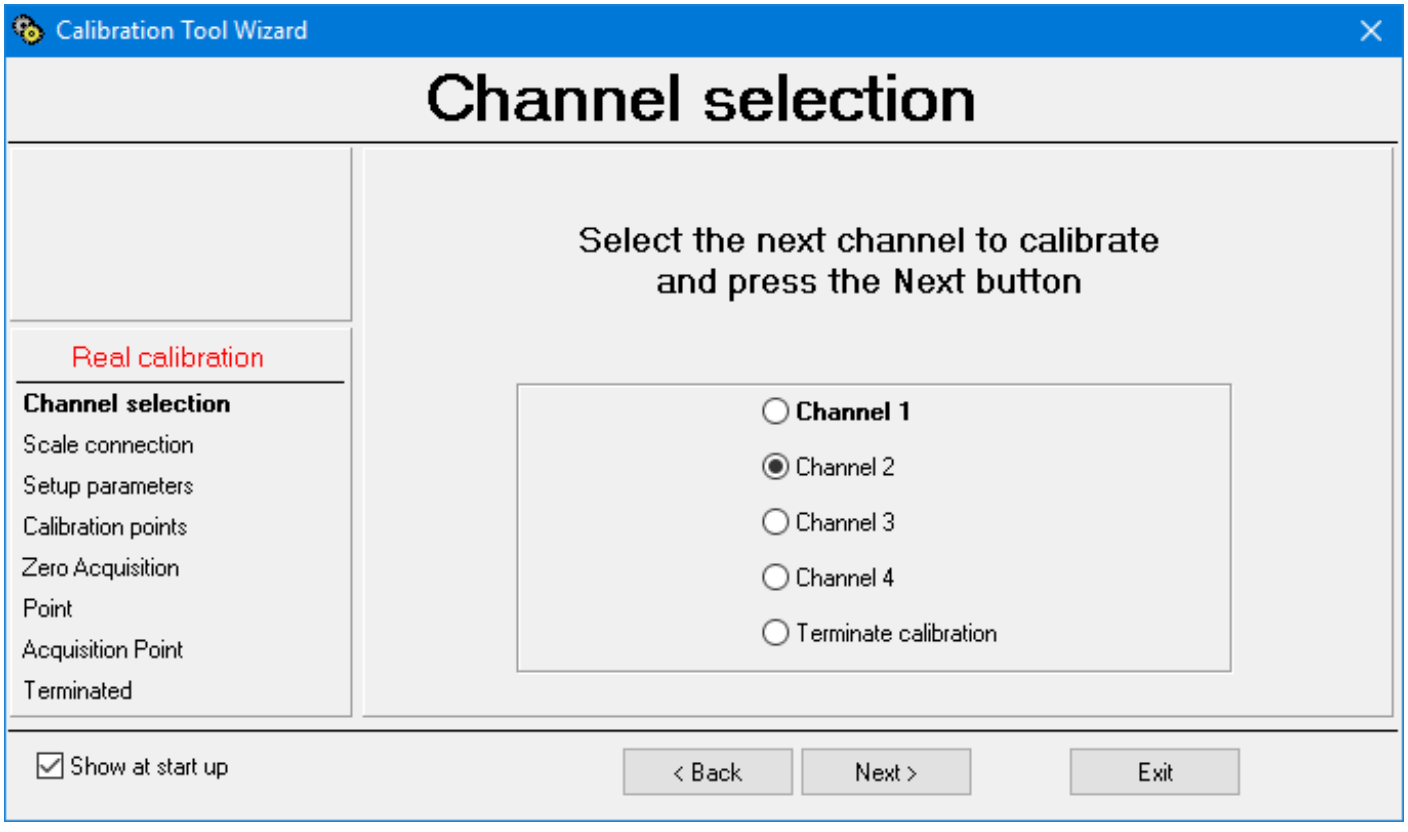
6) The programme is ready to acquire the scale zero; unload the scale and press on "**Next**". Then the following will appears:



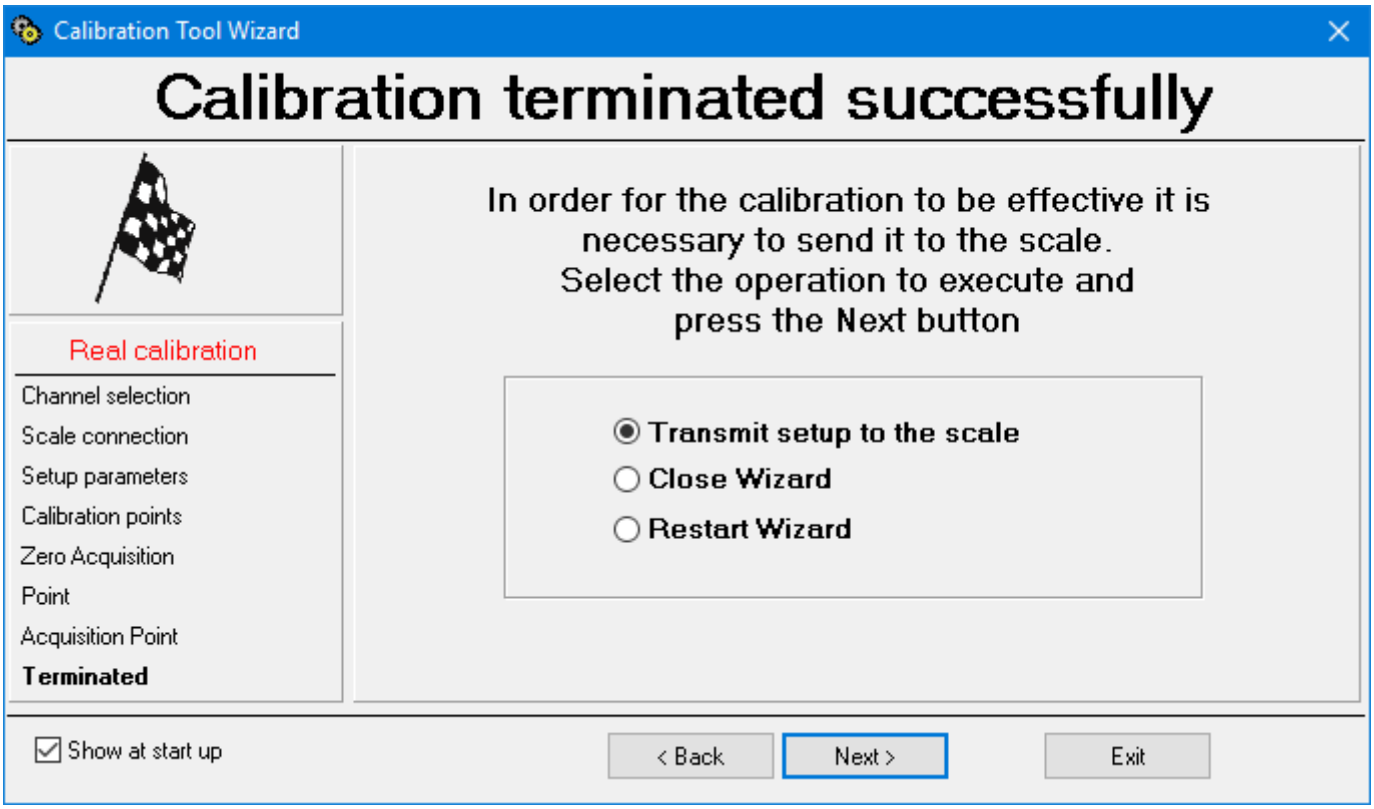
7) Enter the calibration weight value (in the example it's 2,000 kg) and press on "**Next**"; the following will appear:



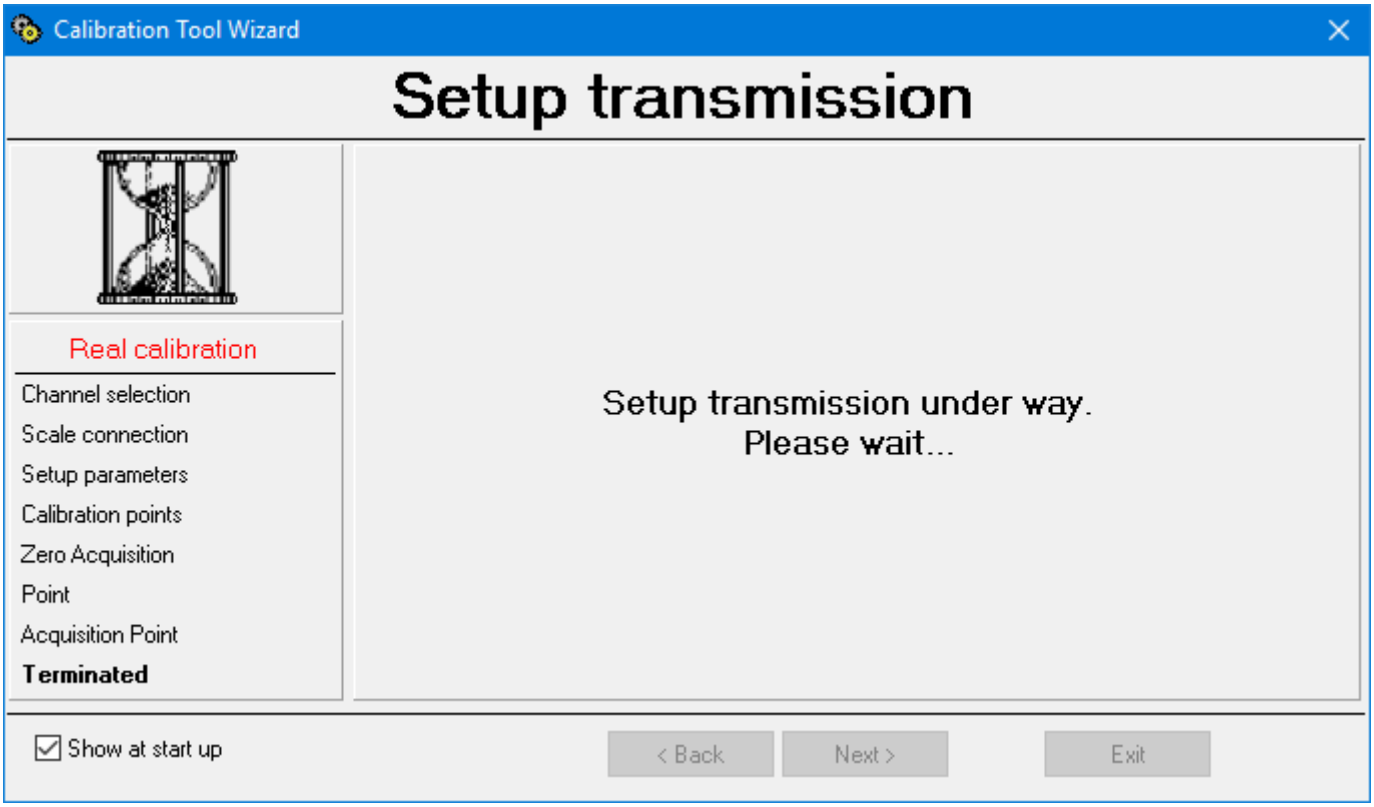
8) The programme is ready to acquire the point number 1; put on the scale the weight set previously and press on "**Next**".
9) Repeat the operation for all the set calibration points; at the end of the last point, the calibration of the first channel has been completed:



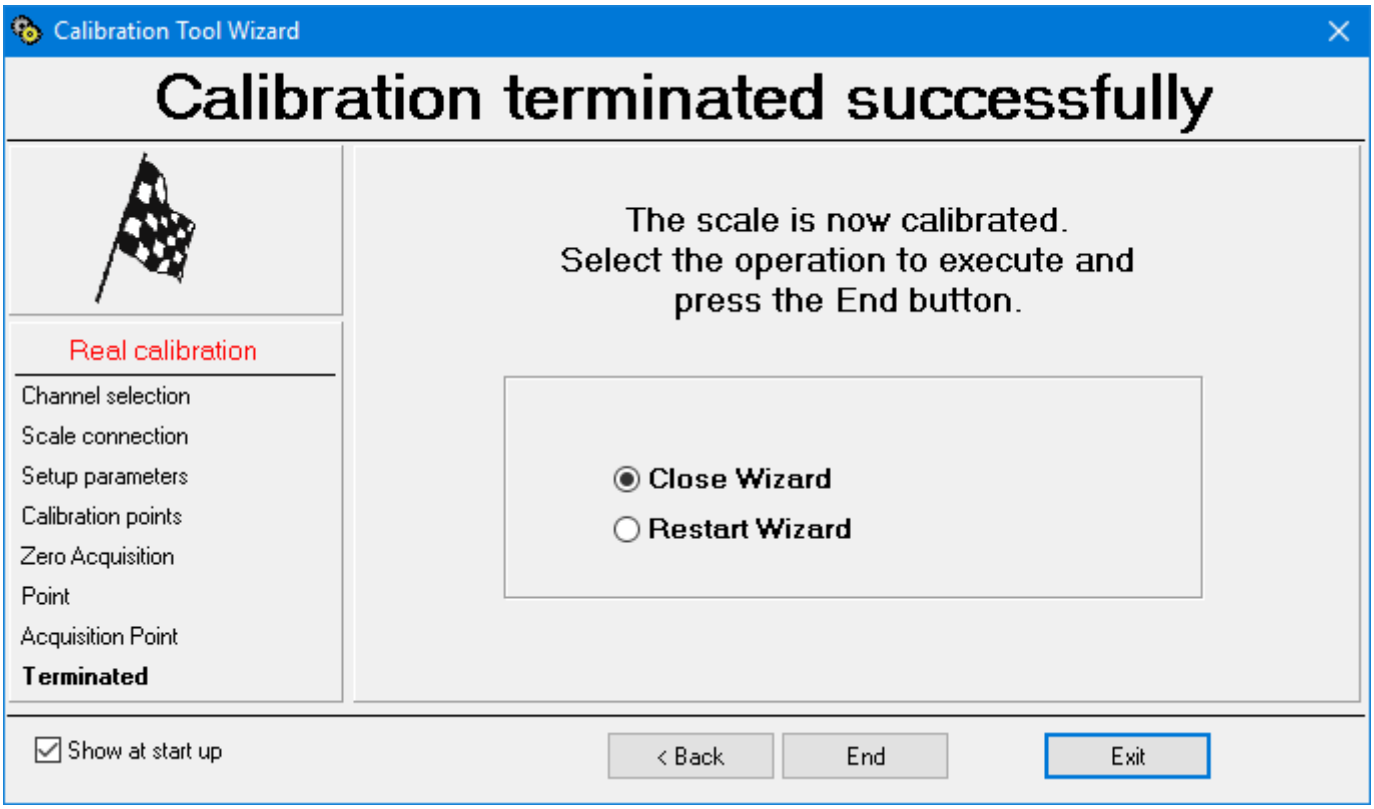
10) Repeat the operation for the desired channels and at the end of the last channel, select "Terminate calibration":



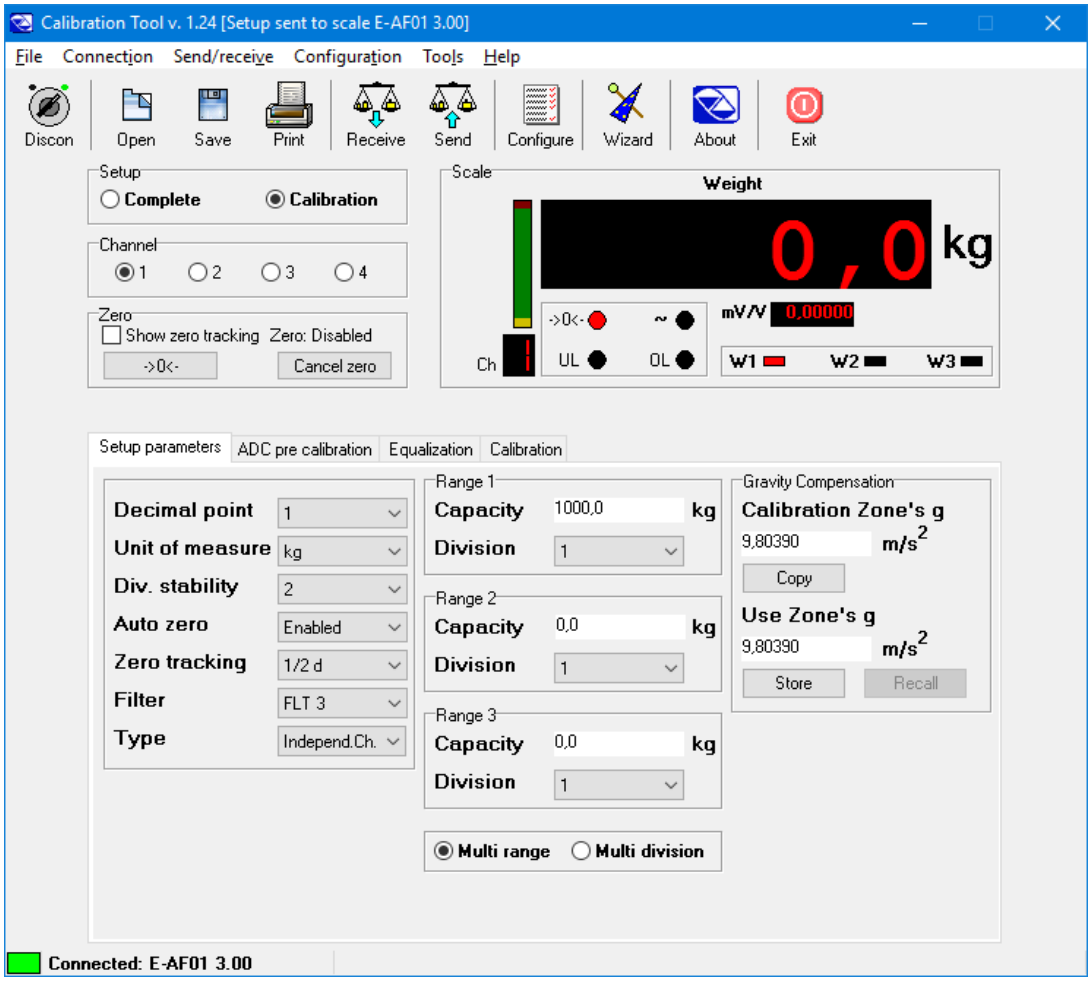
11) At this point it's possible to:
    - Transmit **only** the calibration data to the indicator ("**Transmit setup to the scale**").
    - Close the Wizard ("**Close Wizard**"): see point 12)
    - Restart from the beginning ("**Restart Wizard**").
12) Press "**Next**" to continue.
13) If one has selected "**Transmit setup to the scale**", the following appears:



Then the following appears:



14) Select whether to close the Wizard ("**Close Wizard**") or restart from the beginning ("**Restart Wizard**") and press on "**End**".
15) By closing the Wizard the complete calibration programme appears (see the "**USE WITHOUT WIZARD**" section):

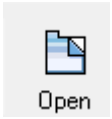


16) Press on the "**Exit**" key in the upper right to close the programme and return to "**Setup's management**".

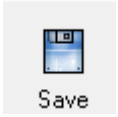
17) By pressing now the "**Save**" key in the "**Setup's management**", **one stores on PC the calibration just made. By transmitting the setup ("Send" key) the calibration will be transmitted together will the other scale parameters.**

9.4.2.1.1.2 USE WITHOUT WIZARD

Connect / Disconnect the programme

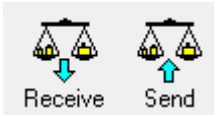


Opens an existing configuration from a ".mot" file.



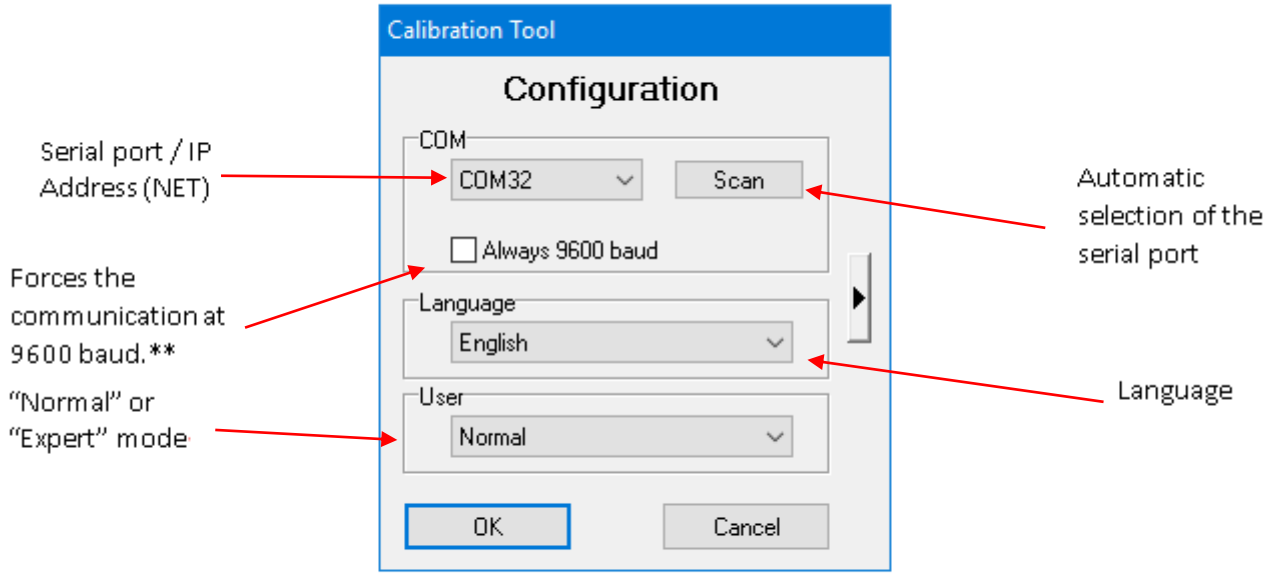
Saves the configuration in a ".mot" file.

Allows to print the configuration.



Receives / Transmits the calibration and the metrological data to the scale.

Settings of the programme:



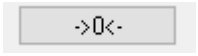
** To optimise the data transmission speed, the baud rate is instantaneously set at 115200 and then brought back at 9600; in case of communication problems (for example by using the simulated serial ports through USB) one can **force the baud rate always at 9600**.

Enable the "Wizard" guide previously described.

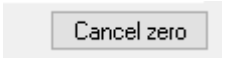
Information about the product.

Allows to exit the programme.

Allows to enable the zero tracking on the basis of the value configured in the set-up and display the cleared weight percentile in relation to the configured capacity.



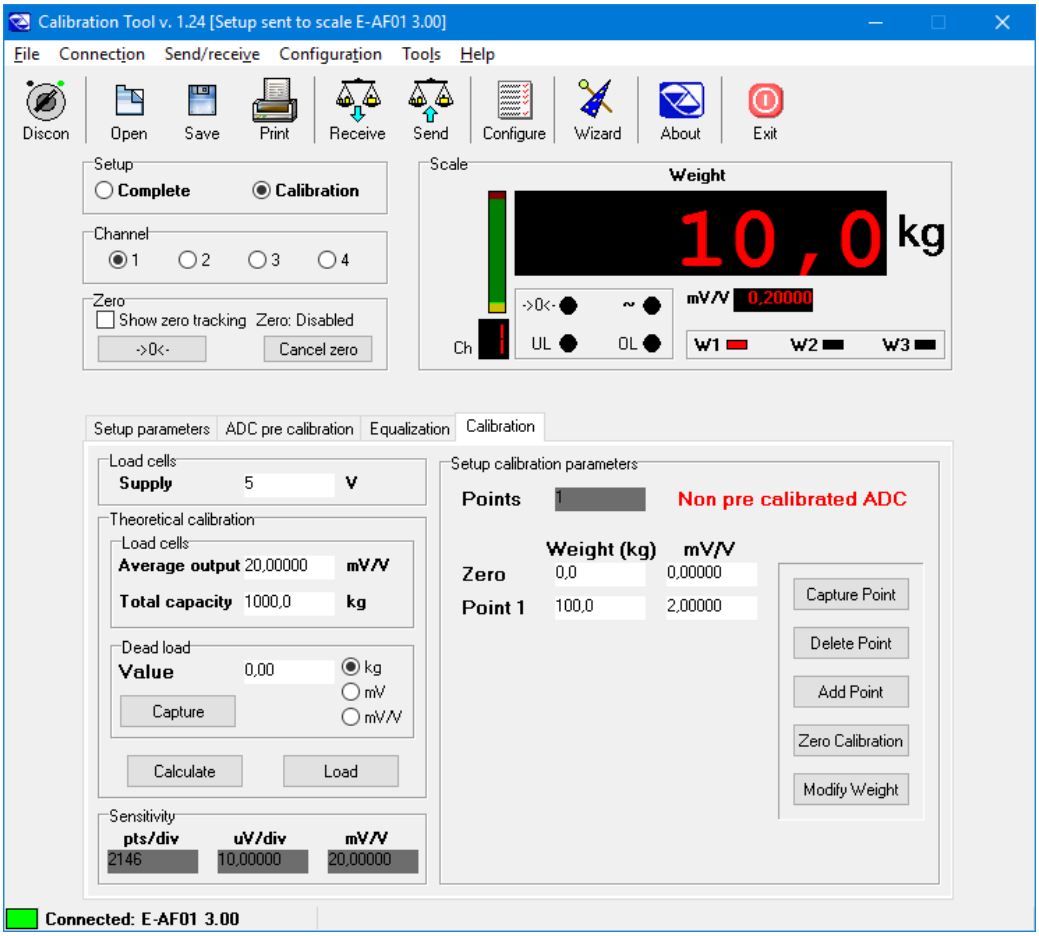
Clears the present weight if it's within +/- 2% of the capacity.



Cancels the zero manually as well as the one due to the zero tracking.

"NORMAL" MODE

Refer to the section marked in the screen below.

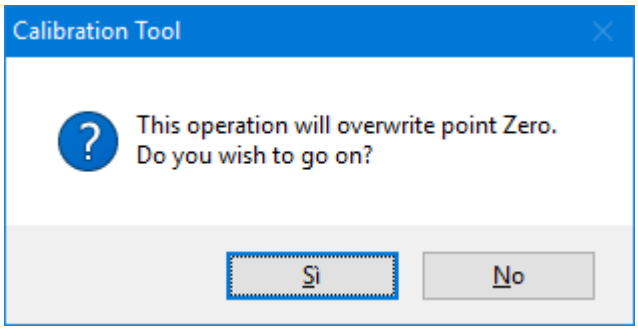


Procedure:

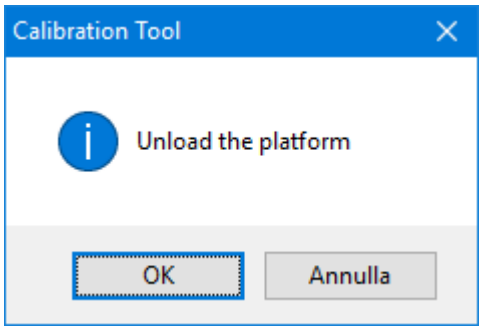
1) Select the scale to be calibrated in the "**Channel**" section: 1, 2, 3, 4.
   NOTE: if the scale is with dependent channels, always select "1".

2) Click on the white box next to "**Zero**" (acquisition of the scale zero).

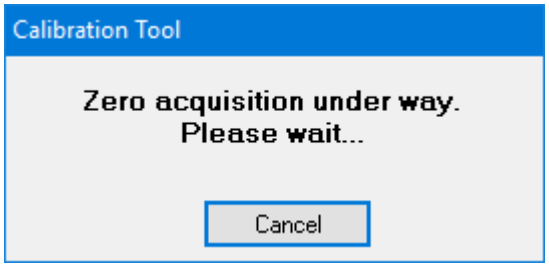
3) Click on "**Capture point**":

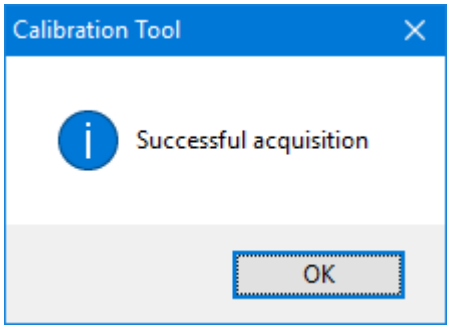


Confirm the dotted box; then the following will appear:



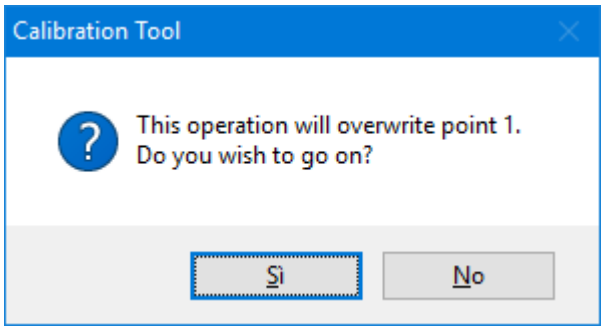
4) Unload the scale and confirm with OK; then the following screen will appear:



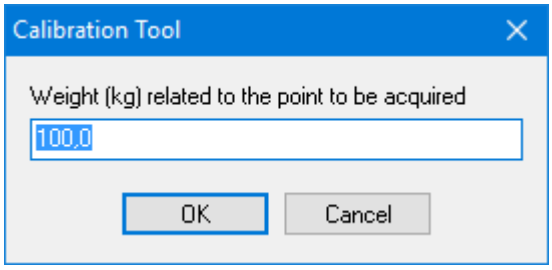


5) Click on the white box next to "**Point 1**" (first calibration point)

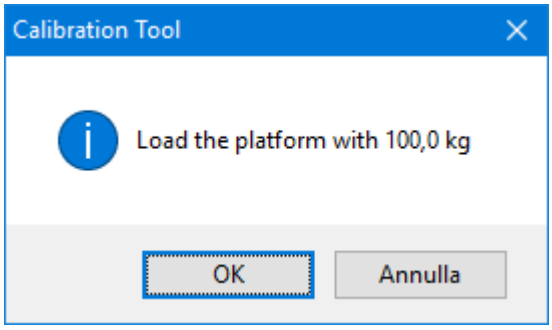
6) Click on "**Capture point**":



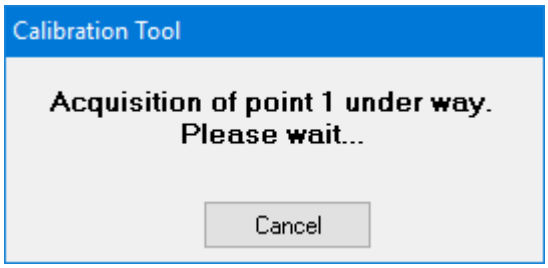
7) Confirm the dotted box; then the following will appear:

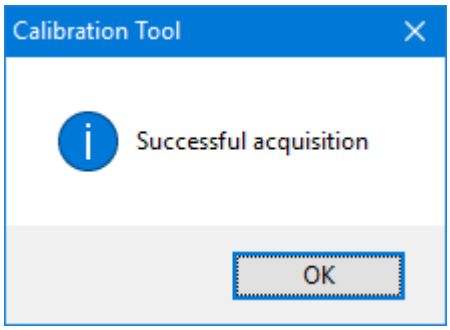


8) Enter the value of the weight be acquired and confirm the "**OK**"; the following appears:



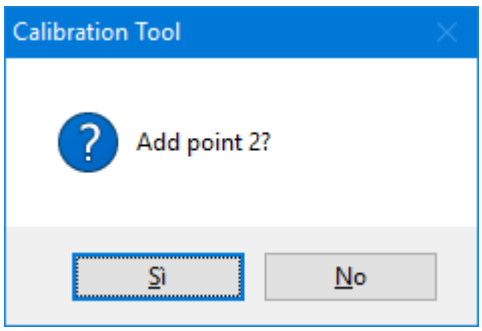
9) Load onto the scale the corresponding weight and confirm the "**OK**"; the following appears:





10) Confirm the "**OK**".

11) To add another calibration point press on "**Add Point**":



12) By confirming the window one enters the second calibration point, in the same way as the first point [see points from **6)** to **9)**].

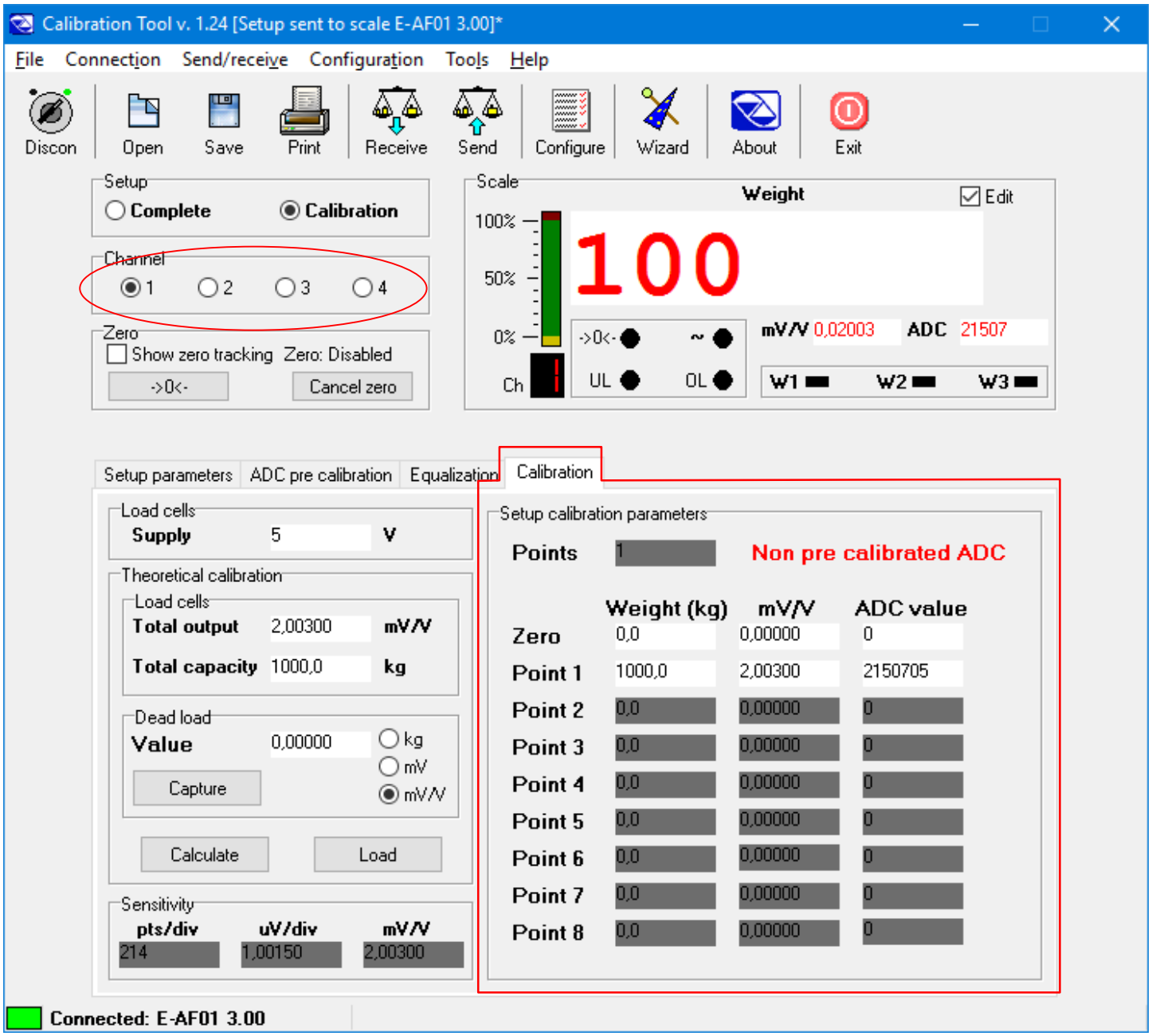
13) To transmit only the calibration and the metrological data, click on the "**Send**" key above; to transmit all the setup parameters, one should exit the calibration programme and use the "**Send**" key of the "**Setup management**" of Dinitools (see section 9.4.1.1).

NOTES

1. One can carry out up to 8 calibration points.
2. Click on "**Delete Point**" to cancel a calibration point (it isn't possible to cancel point 1).
3. Click on "**Modify weight**" to change the weight value of a point, without touching the relative mV/V.

"EXPERT" MODE

This mode allows a greater freedom to modify the calibration points; refer to the sections marked in the screen below.



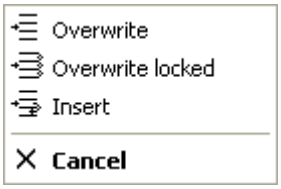
Procedure:

1) Select the scale to be calibrated in the "**Channel**" section: 1, 2, 3, 4.
   NOTE: if the scale is with dependent channels, select always "1".

2) Put on the scale the weight to be acquired (to make the zero, unload the scale): in the "**mV/V**" and "**ADC value**" fields one will view the corresponding value.

3) Point the mouse next to the screen which shows the weight:

4) By keeping the left key of the mouse clicked, drag it until it's next to the point to be acquired: by releasing the key, the following window will appear:



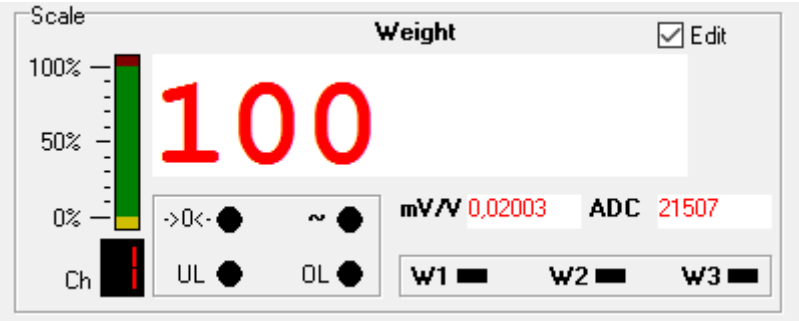
- By clicking on "**Overwrite**", the mV/V values and the converter points **are overwritten without changing the other points**.
- By clicking on "**Overwrite locked**", the mV/V values and the converter points **are overwritten without proportionally changing the other points**.
- By clicking on "**Insert**", the mV/V values and the converter points are entered in a new point in the position previous to the selected one.
- By clicking on "**Cancel**", the operation is cancelled.

5) By clicking on the "**Weight**" white box next to the desired point, it will be possible to enter the weight value; furthermore by clicking on the "**mV/V**" or "**ADC value**" box, it is possible to modify the millivolt or converter points value.

6) To enter a point, click on the right key of the mouse on the calibration point and select "**Insert point**" (it will be inserted in the previous position); to cancel a point select "**Delete point**".

7) To transmit only the calibration and the metrological data, click on the "**Send**" key above; to transmit all the setup parameters, one should exit the calibration programme and use the "**Send**" key of the "**Setup management**" of the Dinitools (see section 8.2.4).

NOTE: by selecting the **"Edit"** box it's possible to type from the PC keyboard any weight value and see the corresponding mV/V value (and the converter points), taking into consideration the present calibration as a reference; by unselecting the box one can return to the standard functioning.

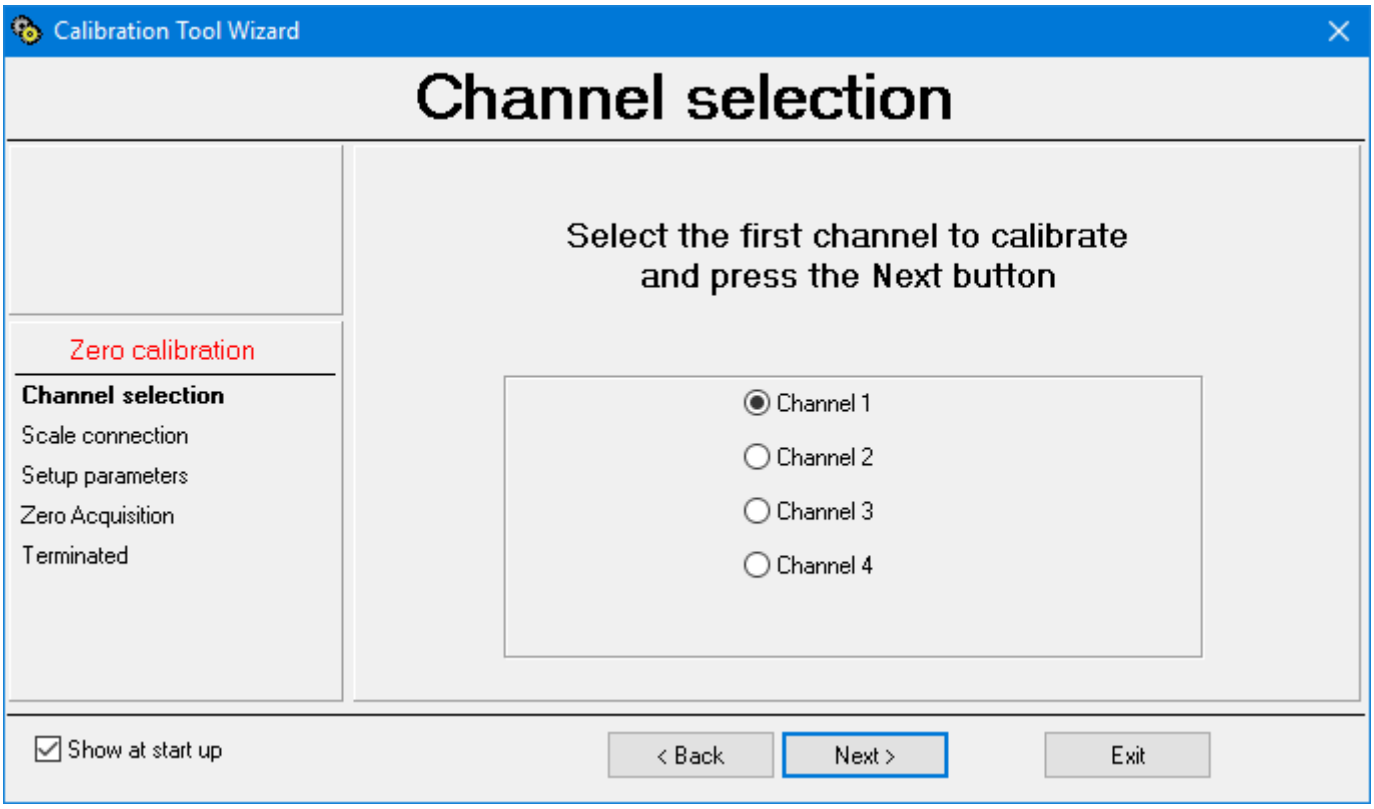


9.4.2.1.2 "ZERO CALIBRATION"

The zero calibration allows to carry out a new zero point without completely recalibrating the scale (the other points are proportionally altered); it's therefore necessary that the scale is already calibrated.

9.4.2.1.2.1 USE WITH WIZARD

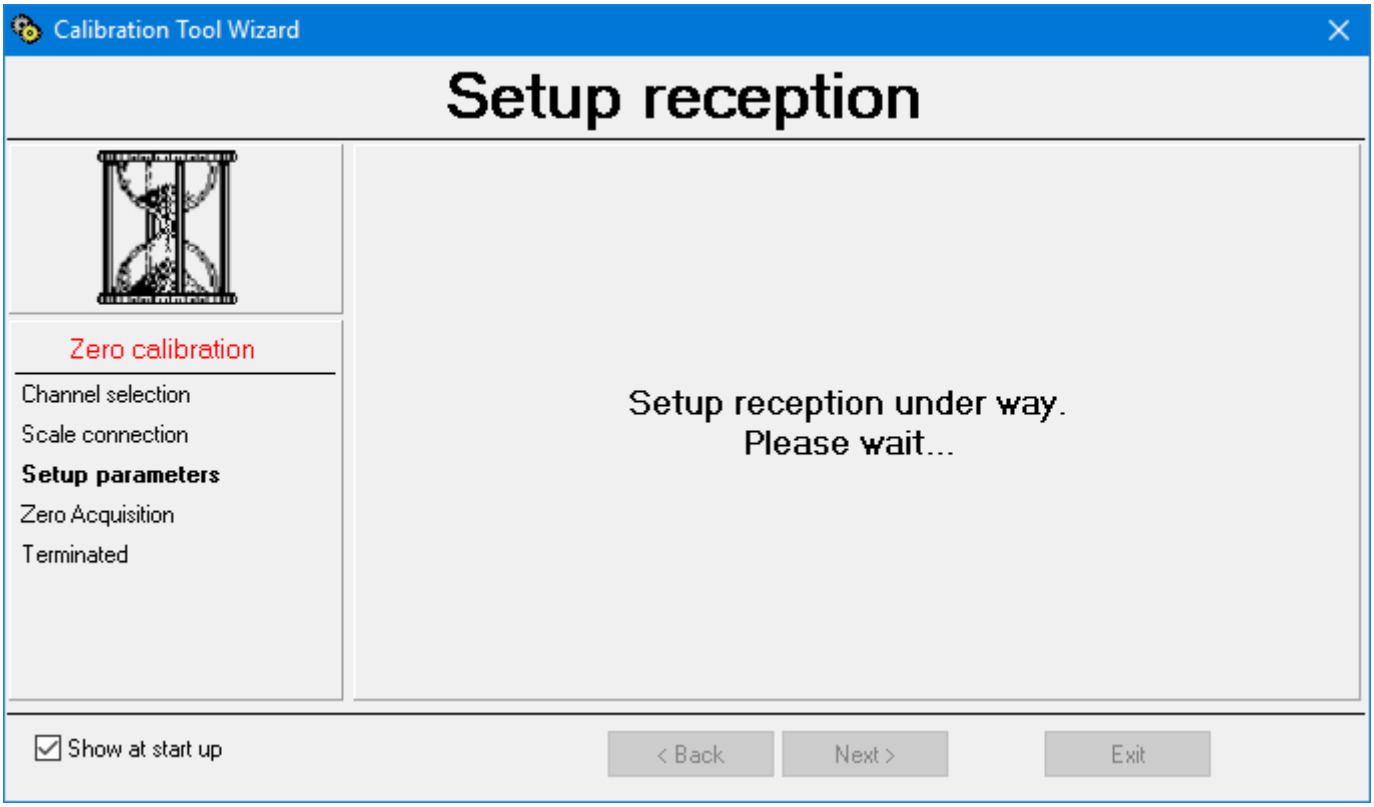
1) By selecting "**Zero Calibration**" and press on "**Next**", the following appears:



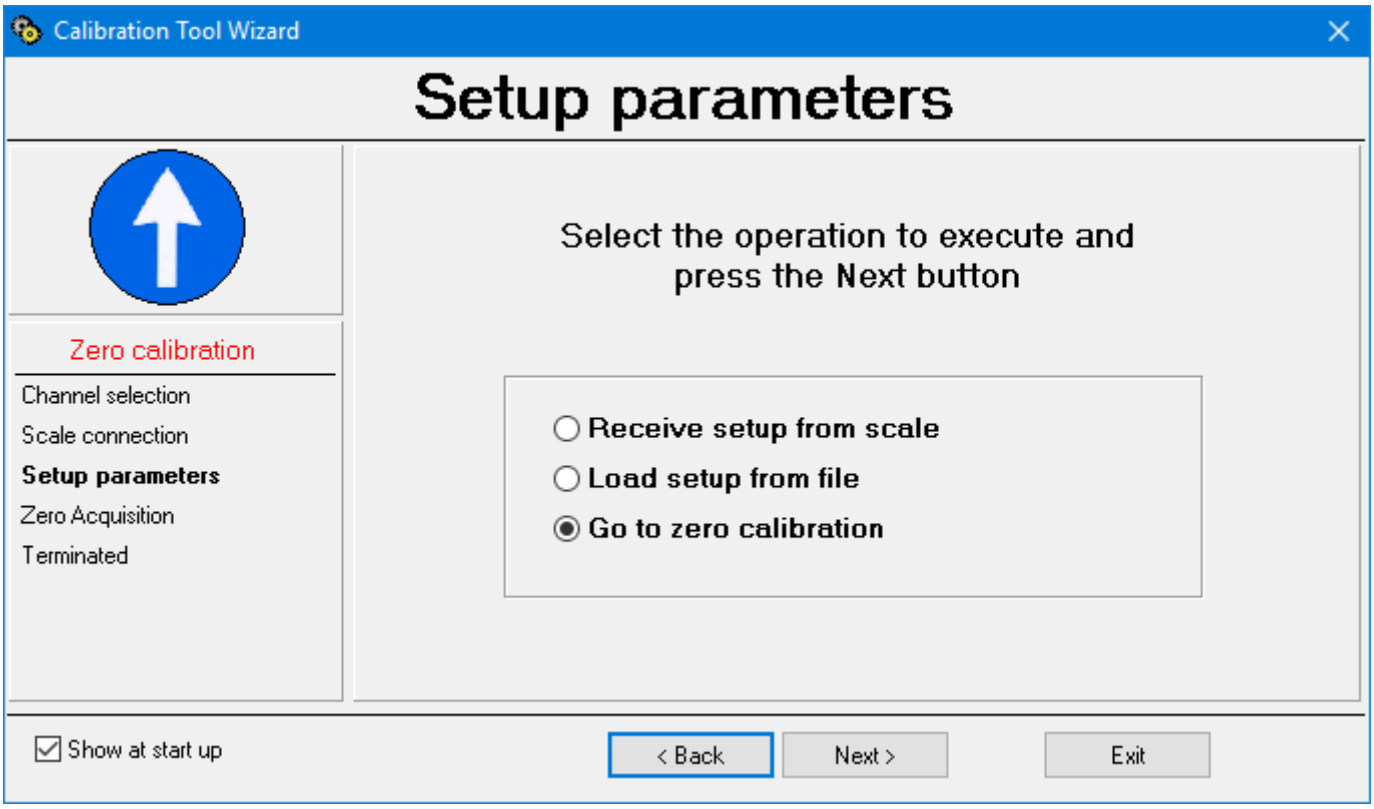
2) Select the first channel to be calibrated.

NOTE: if the scale is with dependent channels, select always "Channel 1".

3) By pressing on "Next", the following appears:



Then the following appears:

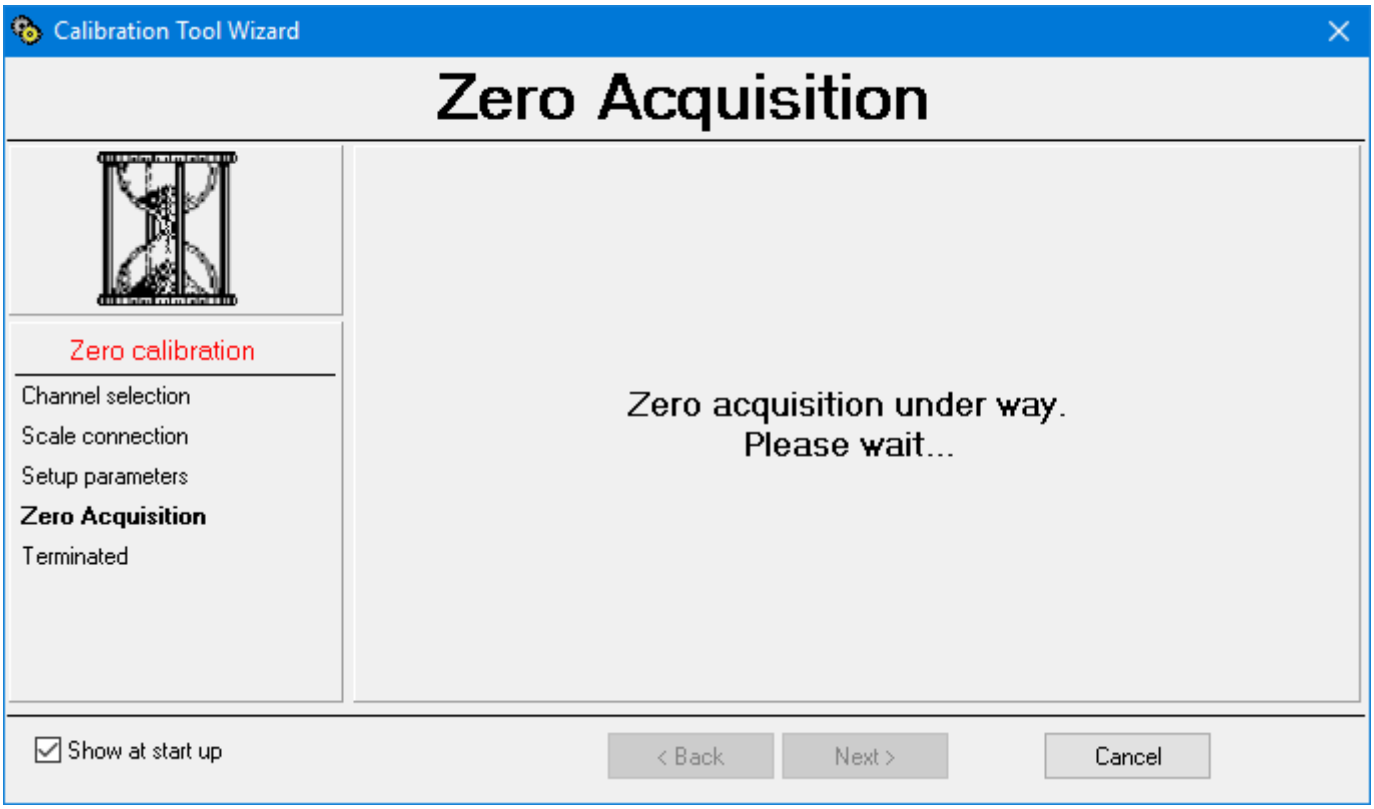


4) By selecting "**Receive setup from scale**" and pressing on "**Next**" it's possible to receive the metrological and calibration parameters directly from the scale.

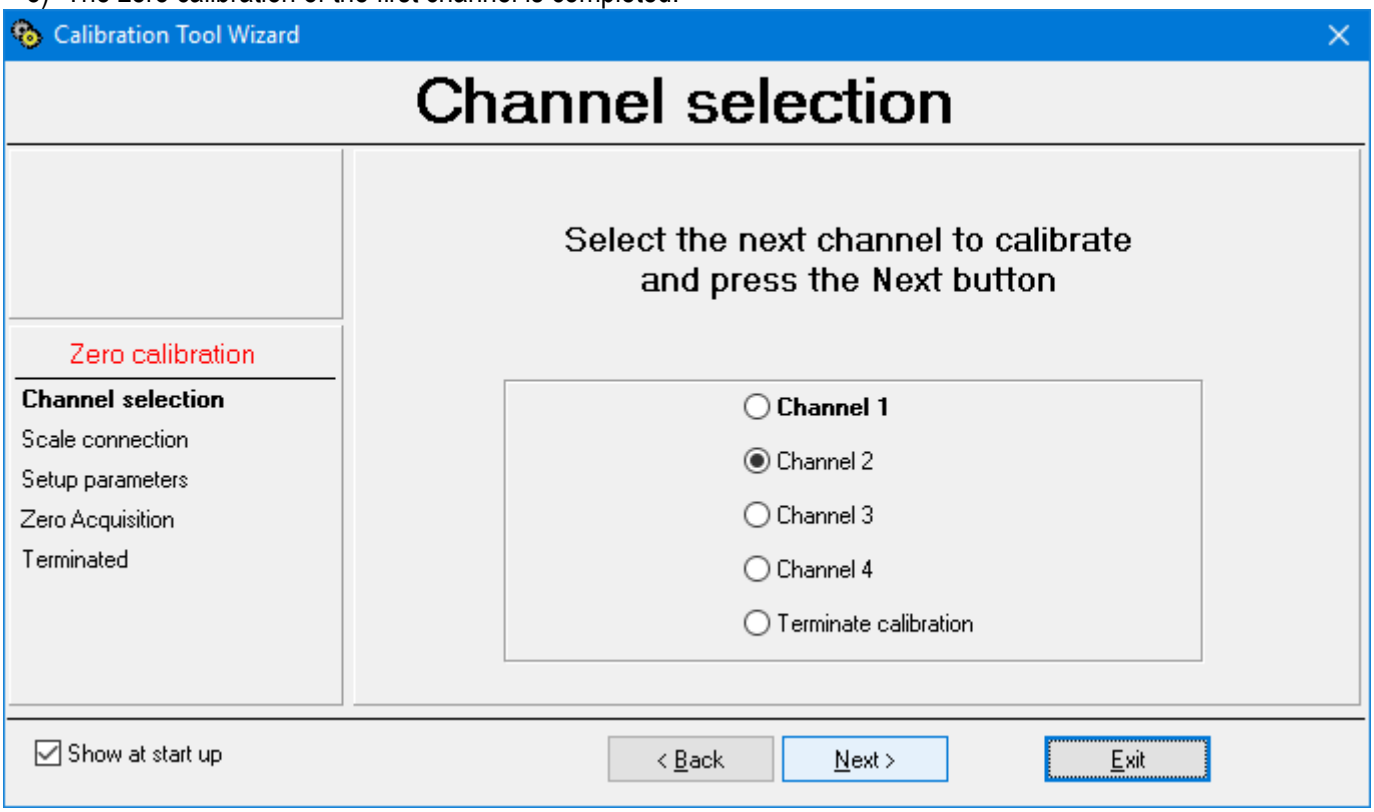
5) By selecting "**Load setup from file**" it's possible to import the data from a previously exported "**.mot**" file (see point 3 of the section **9.4.2.1.1 "Calibration with sample weights**", "**USE WITH WIZARD"**).

6) By selecting "**Go to zero calibration**" and pressing on "**Next**", one proceeds with the zero calibration:

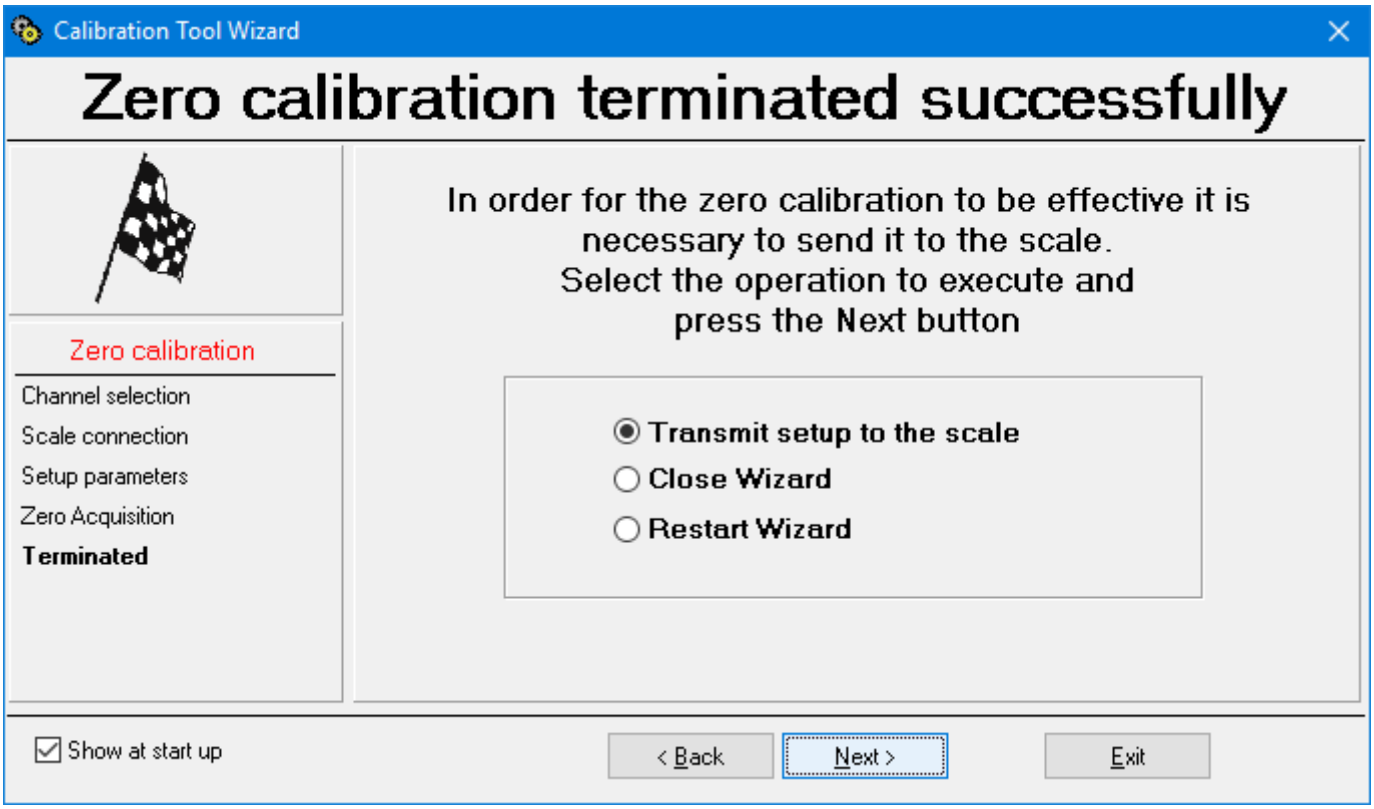
7) Unload the scale and press on "**Next**"; the following appears:



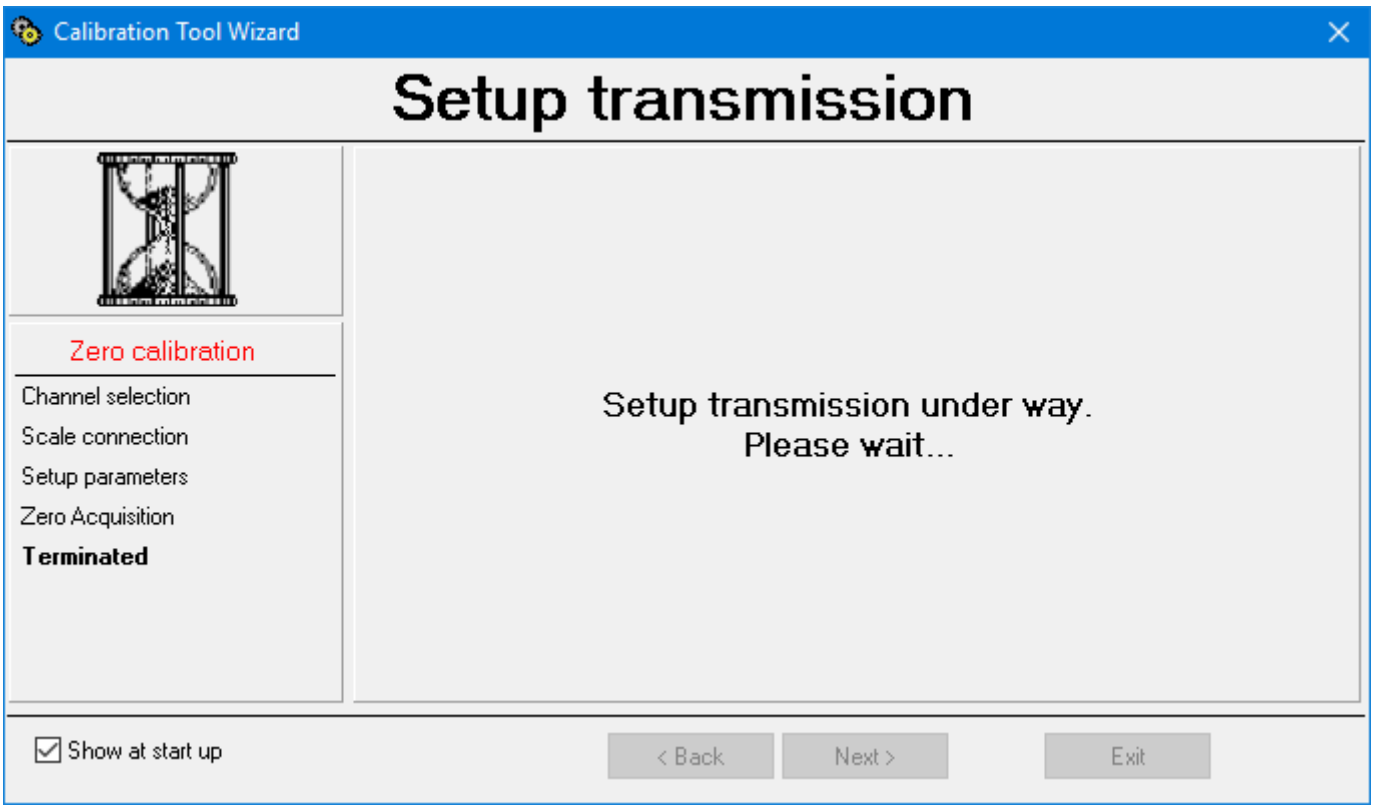
8) The zero calibration of the first channel is completed:



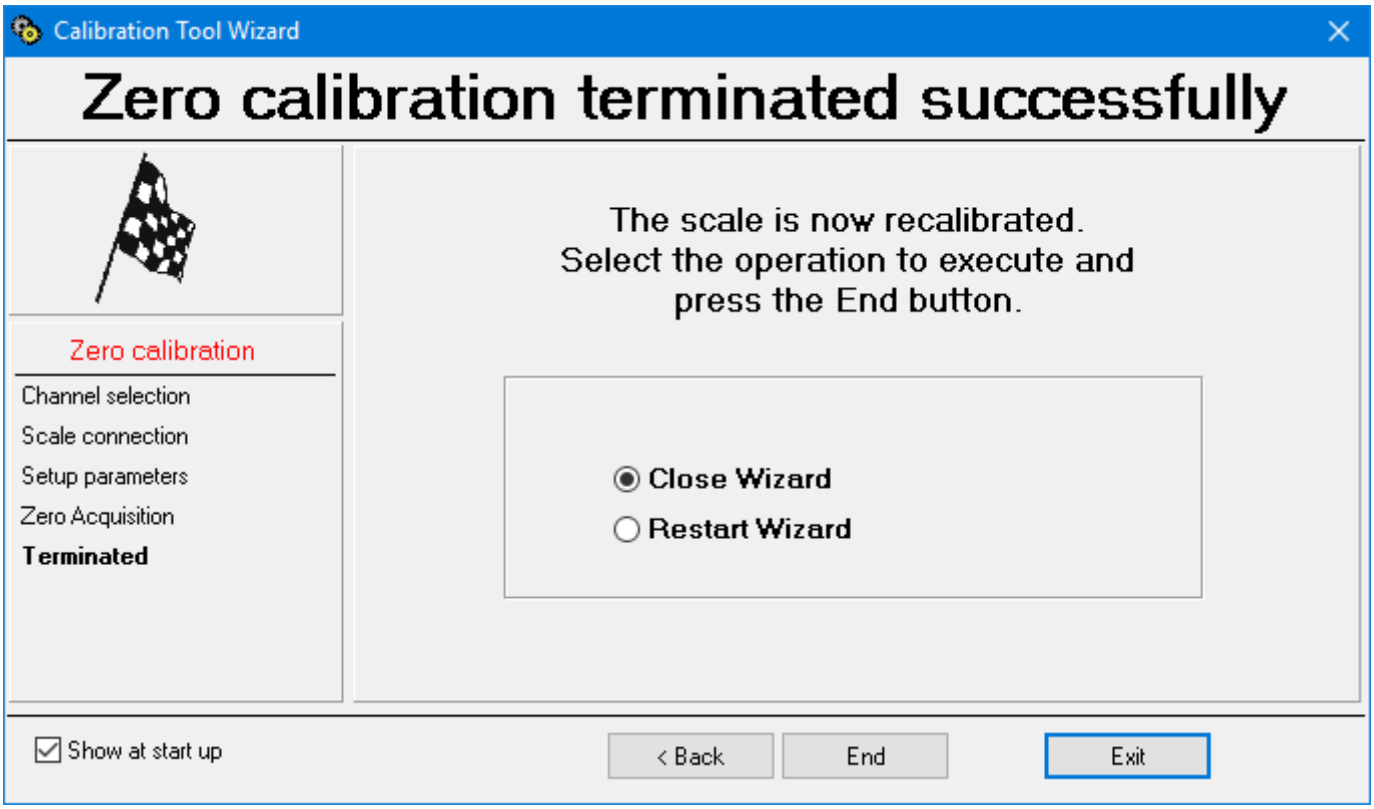
9) Repeat the operation for the desired channels; at the end of the last channel, select “End calibration":



10) At this point it’s possible to:
    - Transmit **only** the calibration data to the indicator ("**Transmit setup to the scale**").
    - Close the Wizard ("**Close Wizard**").
    - Restart from the beginning ("**Restart Wizard**").
11) Press "**Next**" to continue.
12) If one has selected "**Transmit setup to the scale**":



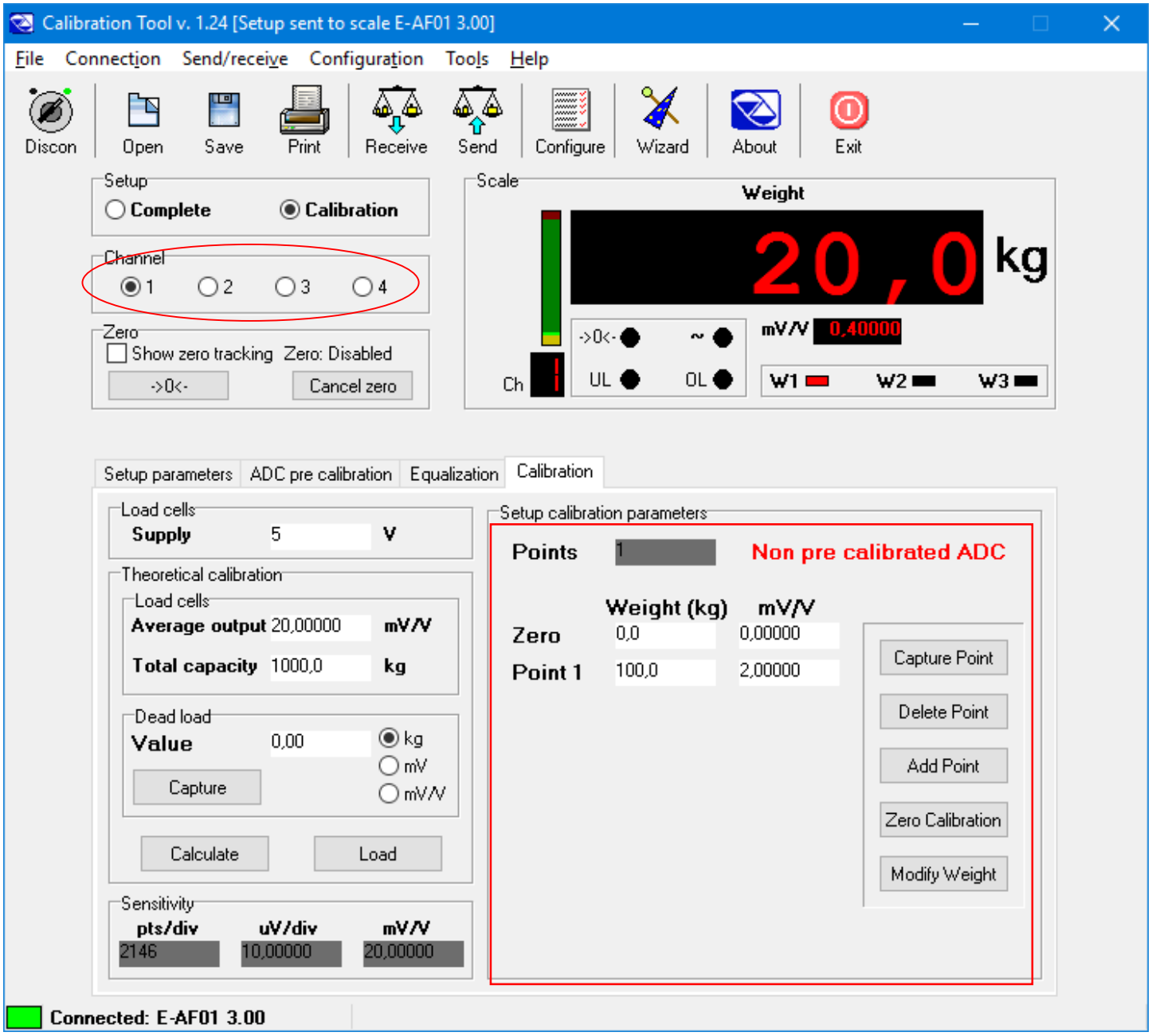
Then the following appears:



13) See from point **16)** of the section **9.4.2.1.1** "**Calibration with sample weights**", "**USE WITH WIZARD**".

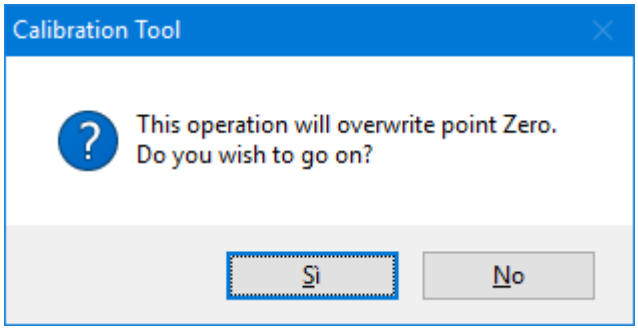
9.4.2.1.2.2 USE WITHOUT WIZARD

"NORMAL" MODE



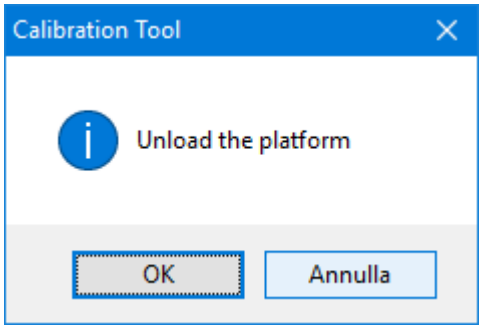
Procedure:

1) Press on the "**Zero calibration**" key; the following window will appear:

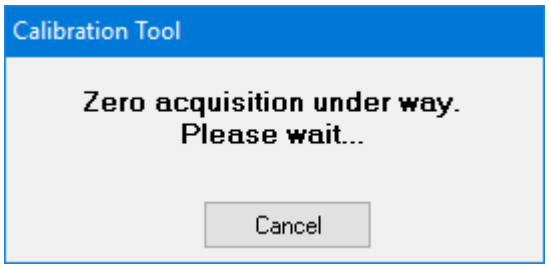


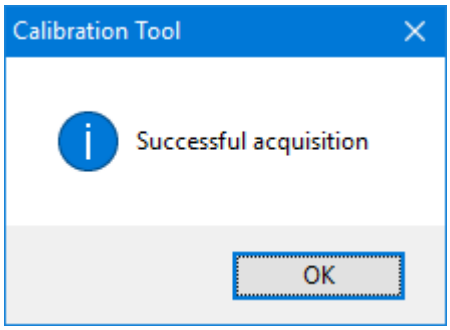
Confirm the window to proceed.

2) Unload the scale and confirm the following window:



3) After a few instants the new zero point is acquired:





4) By confirming with **OK** one returns in the programme.

5) To only transmit the calibration and the metrological data, click on the "**Send**" key above; to transmit all the parameters of the setup, one should exit the calibration programme and use the "**Send**" key of the "**Setup management**" of Dinitools (see section 9.4.1.1).

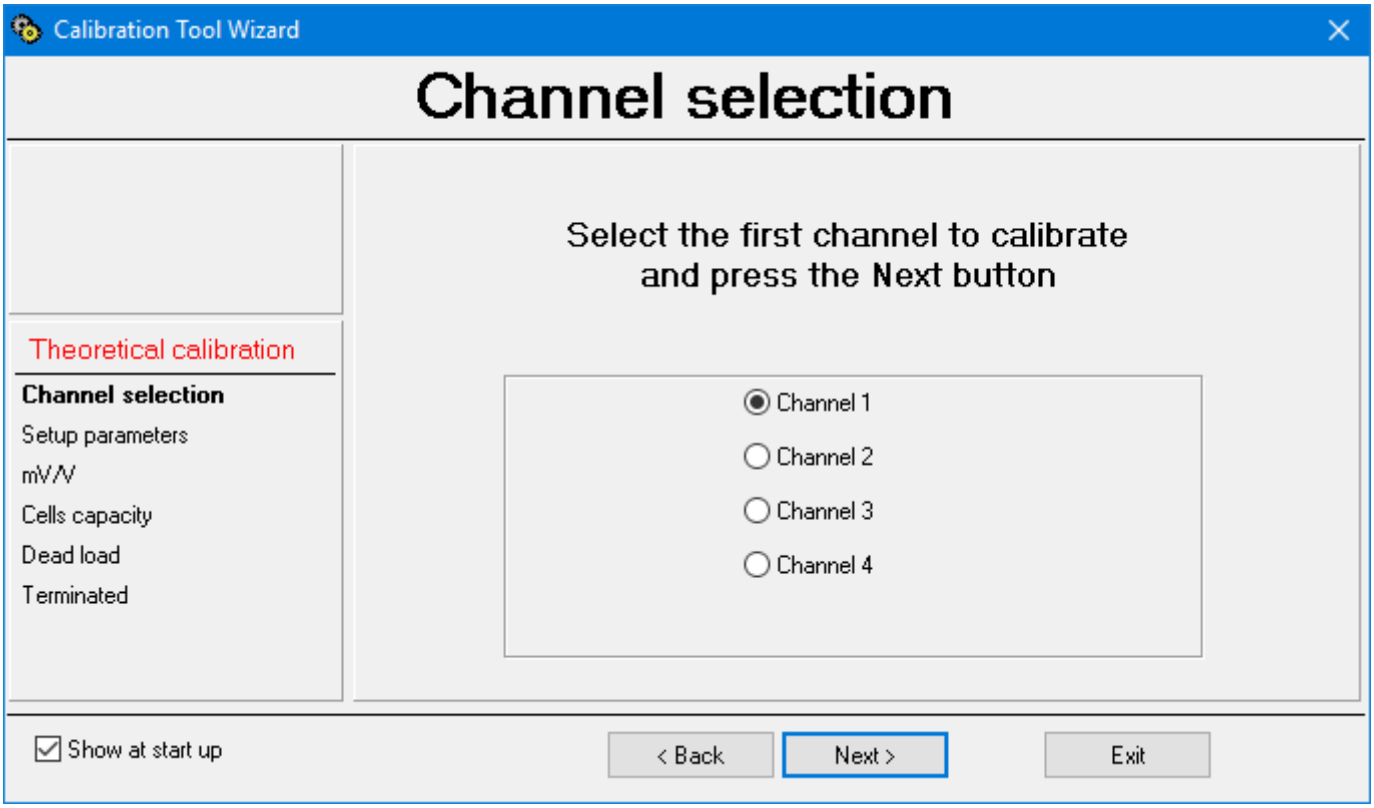
9.4.2.1.3 "THEORETICAL CALIBRATION"

The theoretical calibration allows to calibrate the scale without the use of sample weights and is useful when **it's impossible to put these weights on the weighing system** (for example in the silos); by entering the system data in the programme (excitation of the load cells, mV/(V value, total capacity of the load cells), the programme calculates in relation to the set capacity/division. Consequently the accuracy of the calibration depends on the correctness and accuracy of the entered data.

NOTE: Please take note that isn't possible to obtain the same accuracy of the calibration with the sample weights.

9.4.2.1.3.1 USE WITH WIZARD

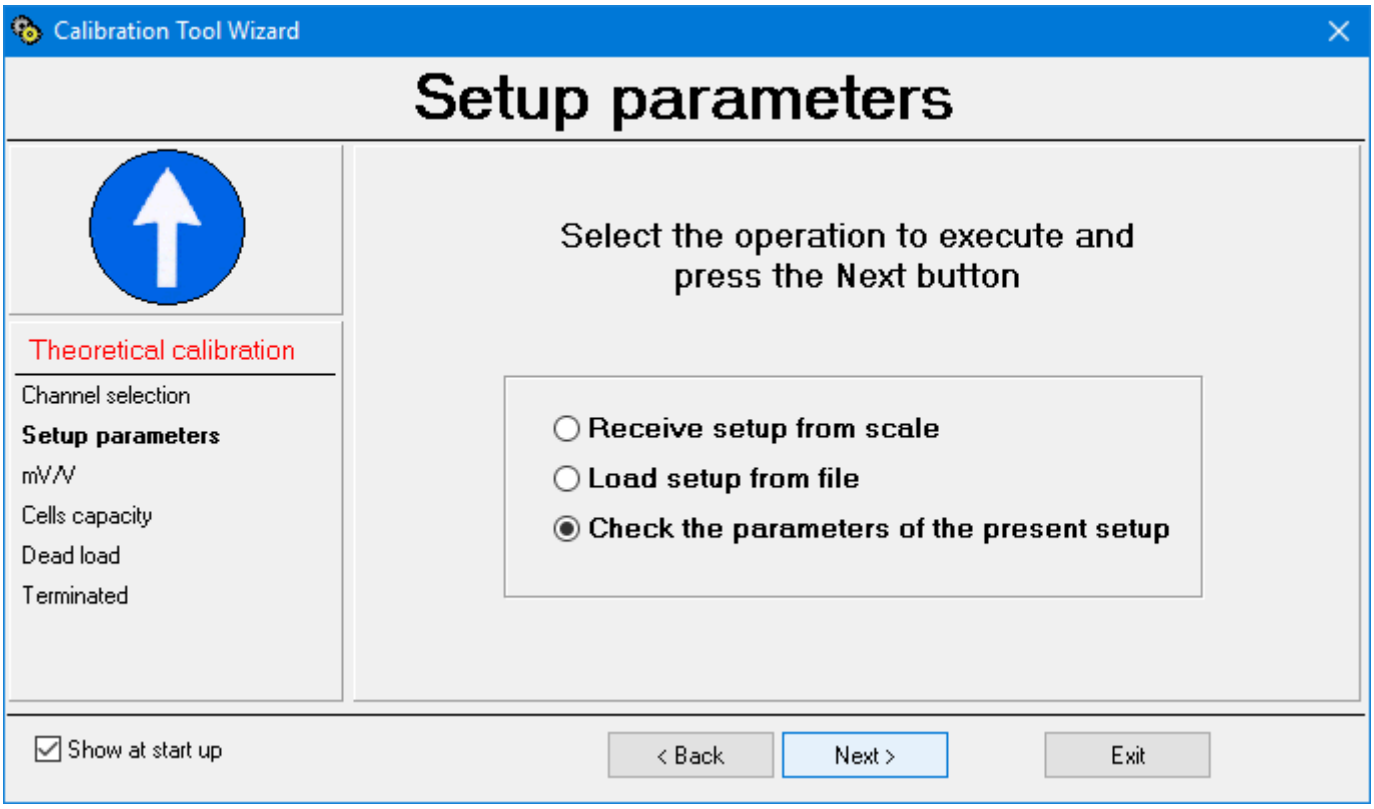
1) Select "**Theoretical Calibration**" and press on "**Next**"; the following appears:



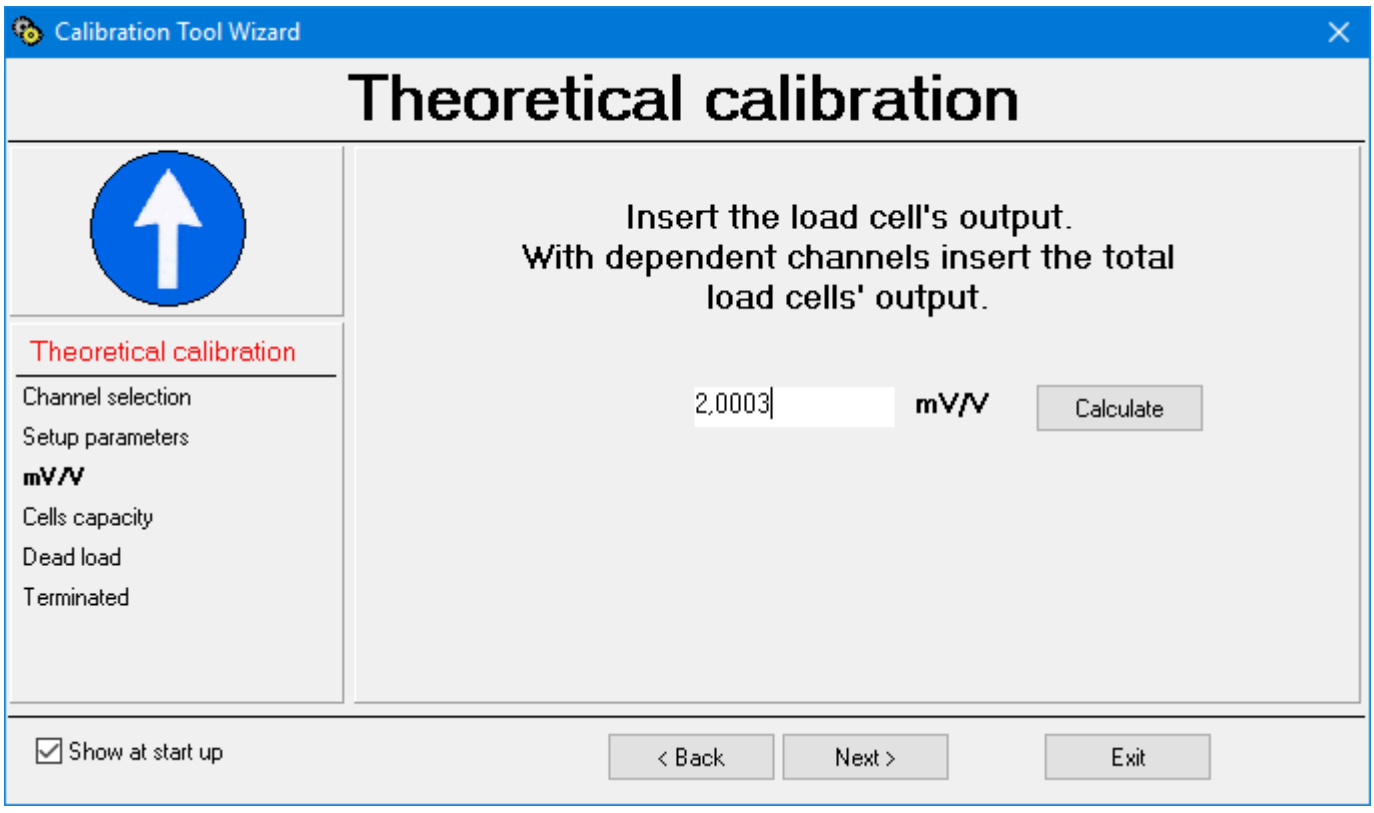
2) Select the first channel to be calibrated.

NOTE: if the scale is with dependent channels, select always "Channel 1".

3) By pressing on "Next", the following appears

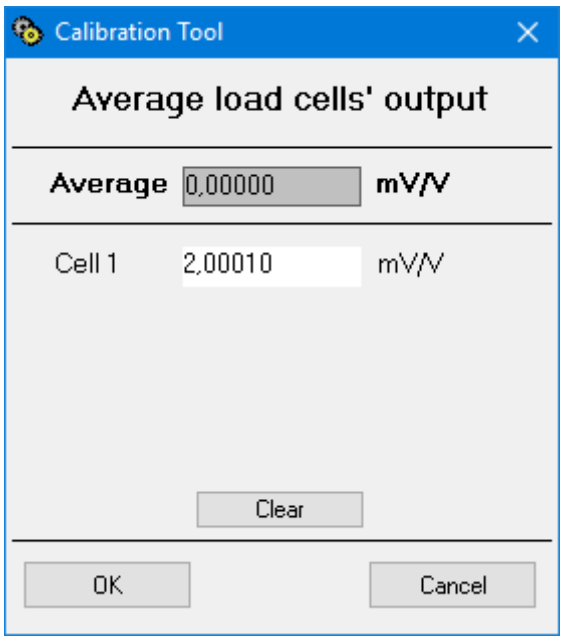


4) By selecting "**Receive setup from scale**" and pressing on "**Next**" it's possible to receive the metrological and calibration parameters directly from the scale.
5) By selecting "**Load setup from file**" it's possible to import the data from a previously exported "**.mot**" file (see point **3)** of the section **9.4.2.1.1** "**Calibration with the sample weights",** "**USE WITH WIZARD**").
6) By selecting "**Check the parameters of the present setup**" and pressing on "**Next**" it's possible to check and eventually modify the parameters already stored on the PC (see points 5 - 6 of the section **9.4.2.1.1** "**Calibration with the sample weights",** "**USE WITH WIZARD**")**.**Press on "**Next**" to continue:

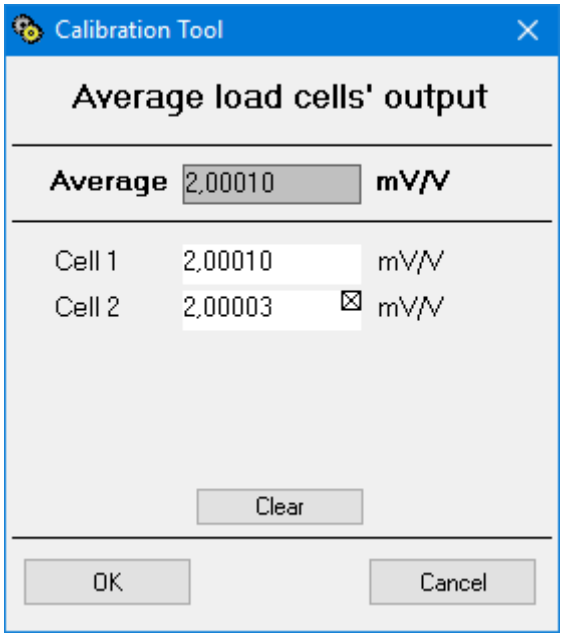


7) With **Independent channels** application, enter the mV/V value of the load cell; with various load cells **equalised through the external junction box,** enter **the average** of the signals.
With a **Dependent channels** application, enter the sum of the mV/V of the connected load cells.

By pressing on "**Calculate**" it's possible to make the sum from PC:

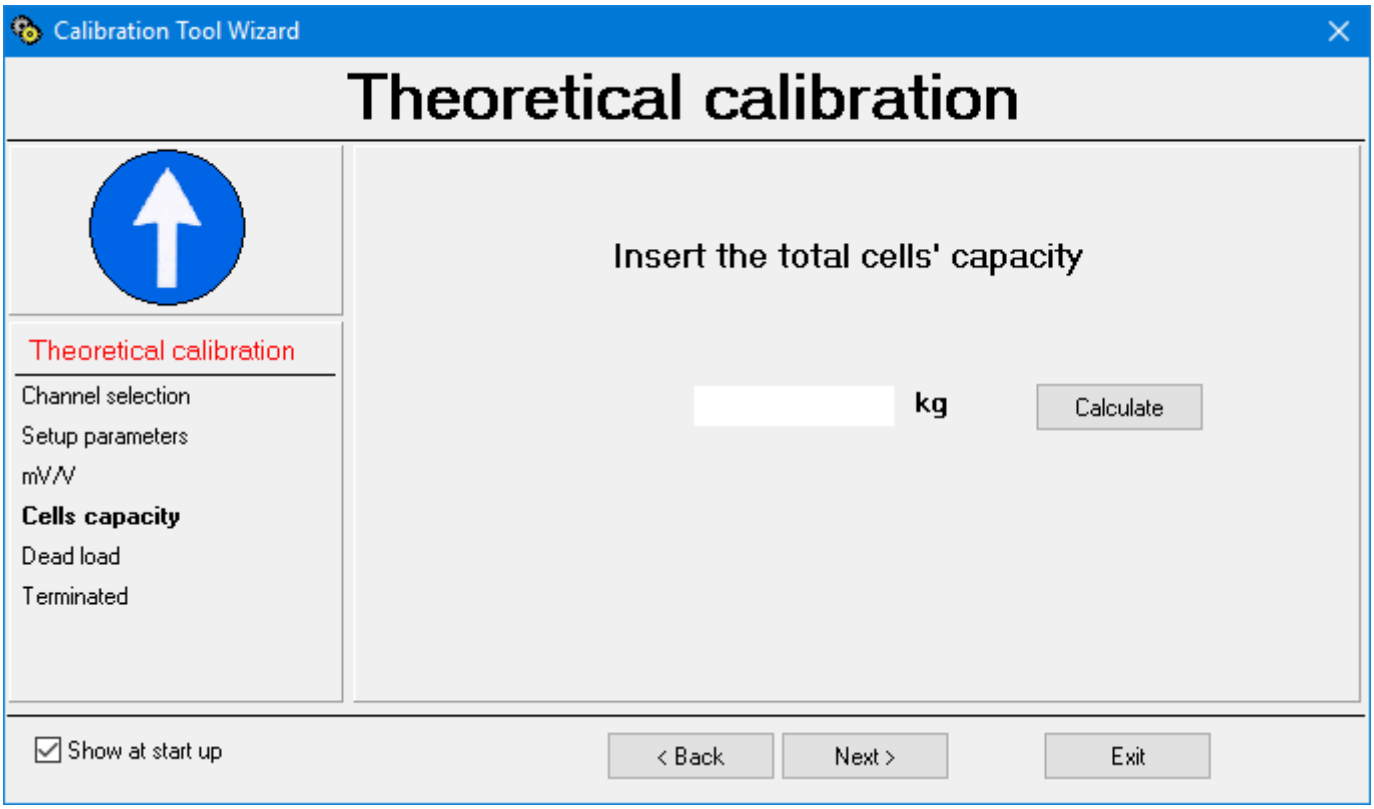


Enter the mV/V value in the "**Cell 1**" field and press **ENTER** on the PC keyboard to enter the value of the second load cell:



Continue in the same way for the other connected channels (with the x of the field one cancels).

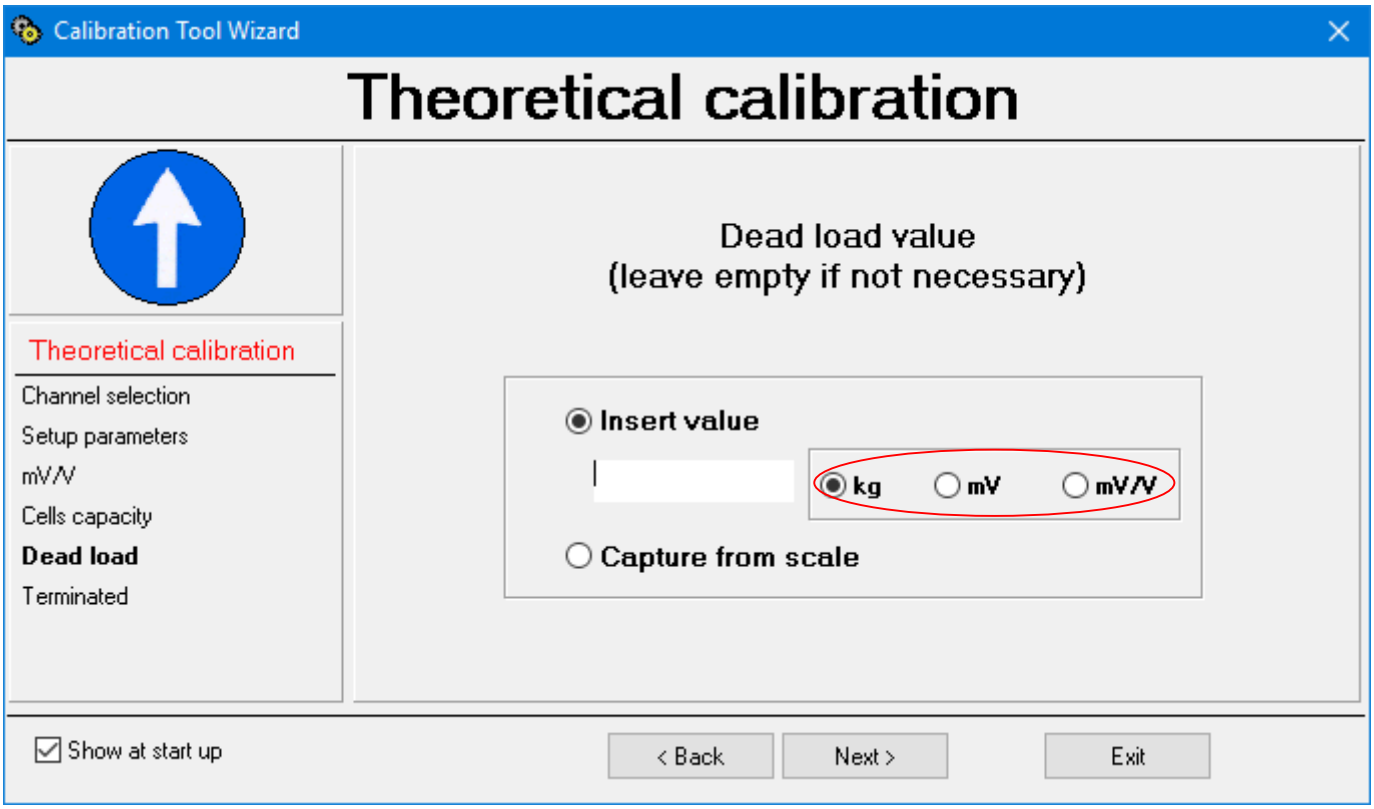
By confirming with **OK**, the total value in the field will appear.



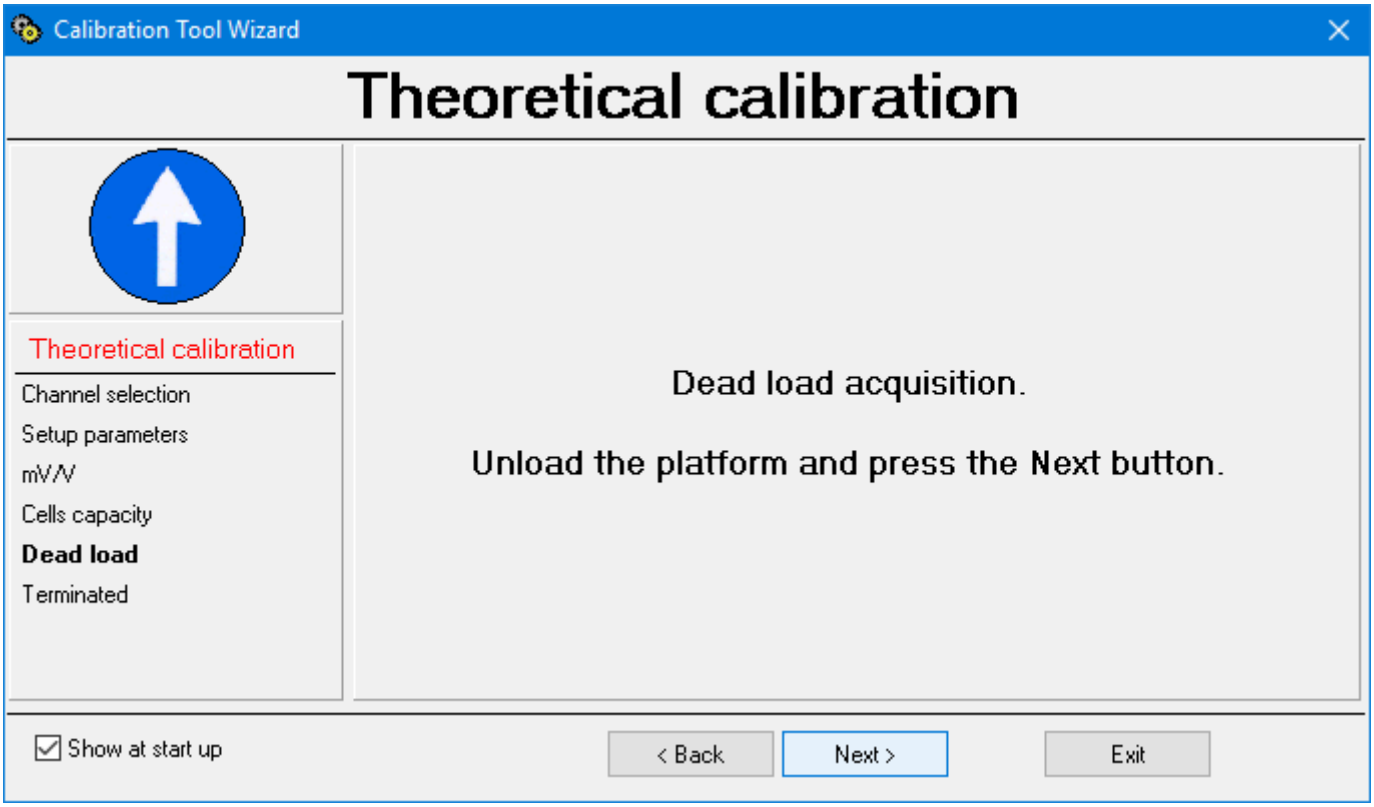
8) with an **Independent channels** application, enter the load cell capacity; with various load cells **equalised through the external junction box,** enter **the total capacity** (for example, if one has 4 cells of 2000 kg each one should enter "8000").

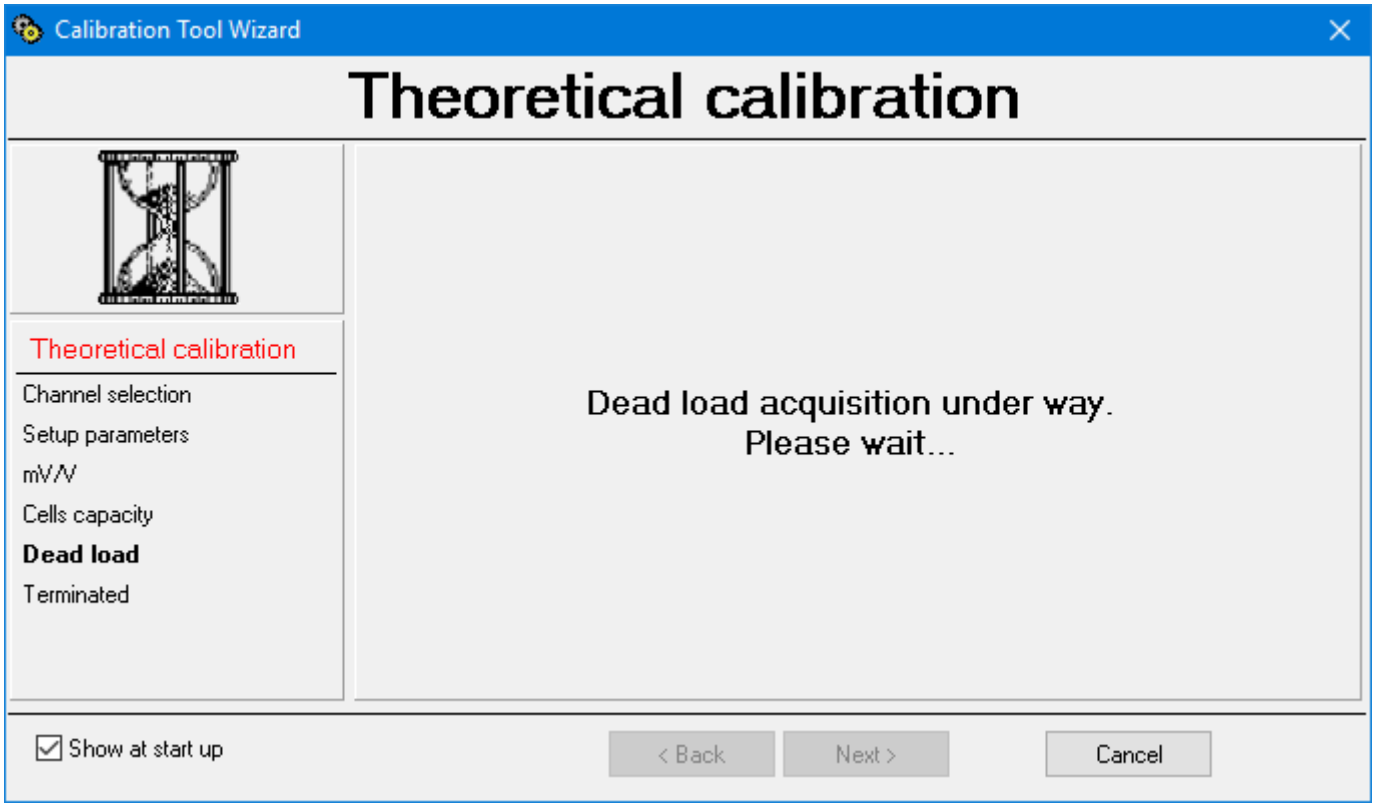
   With a **Dependent channels** application, enter the sum of the capacities of the connected load cells.

By pressing on "**Calculate**" it's possible to sum from PC (see the previous point).

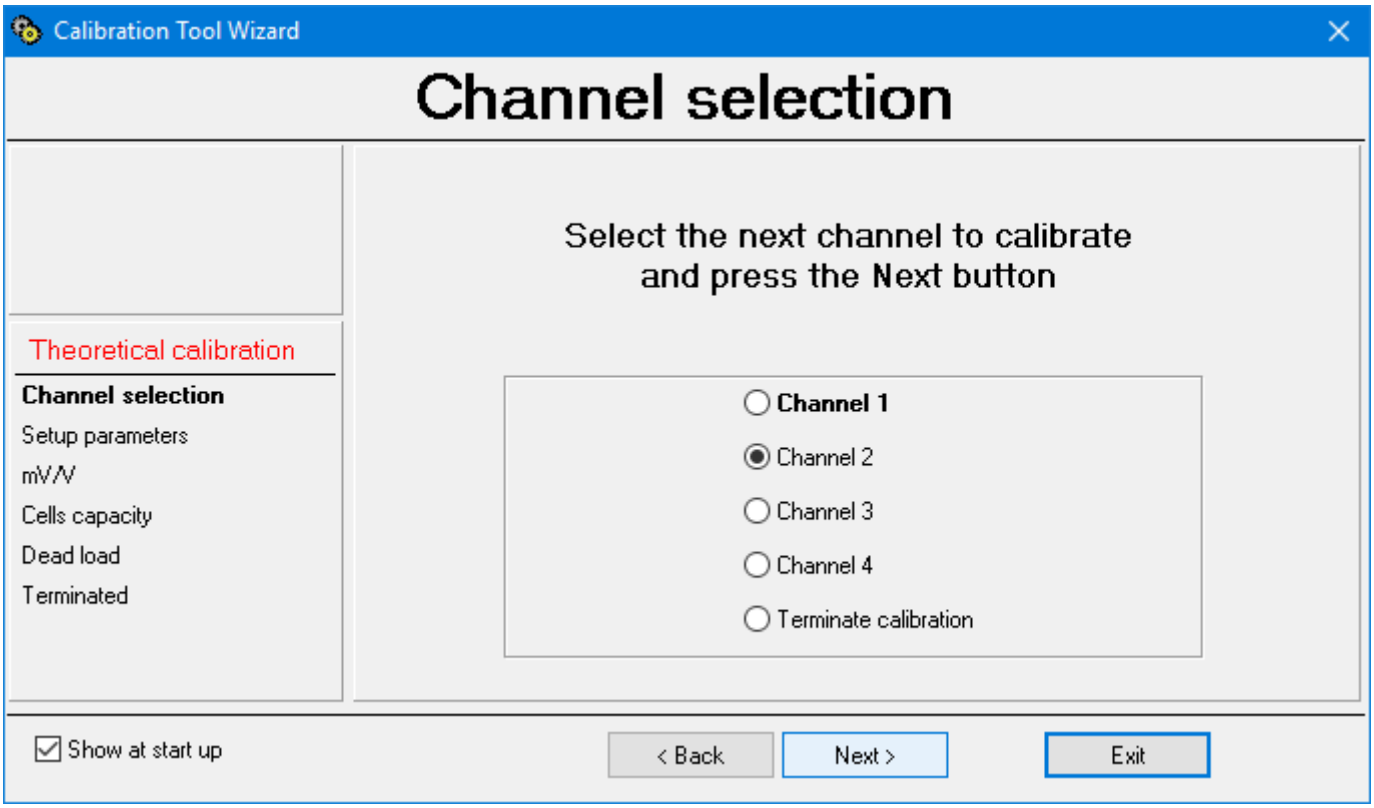


9) Acquisition of the scale zero:
   - By selecting "**Insert Value**" it's possible to manually enter the corresponding value, in kg, in mV or in mV/V (depending on the selection highlighted in the drawing).
   - By selecting "**Capture from scale**" one receives the value from the scale:

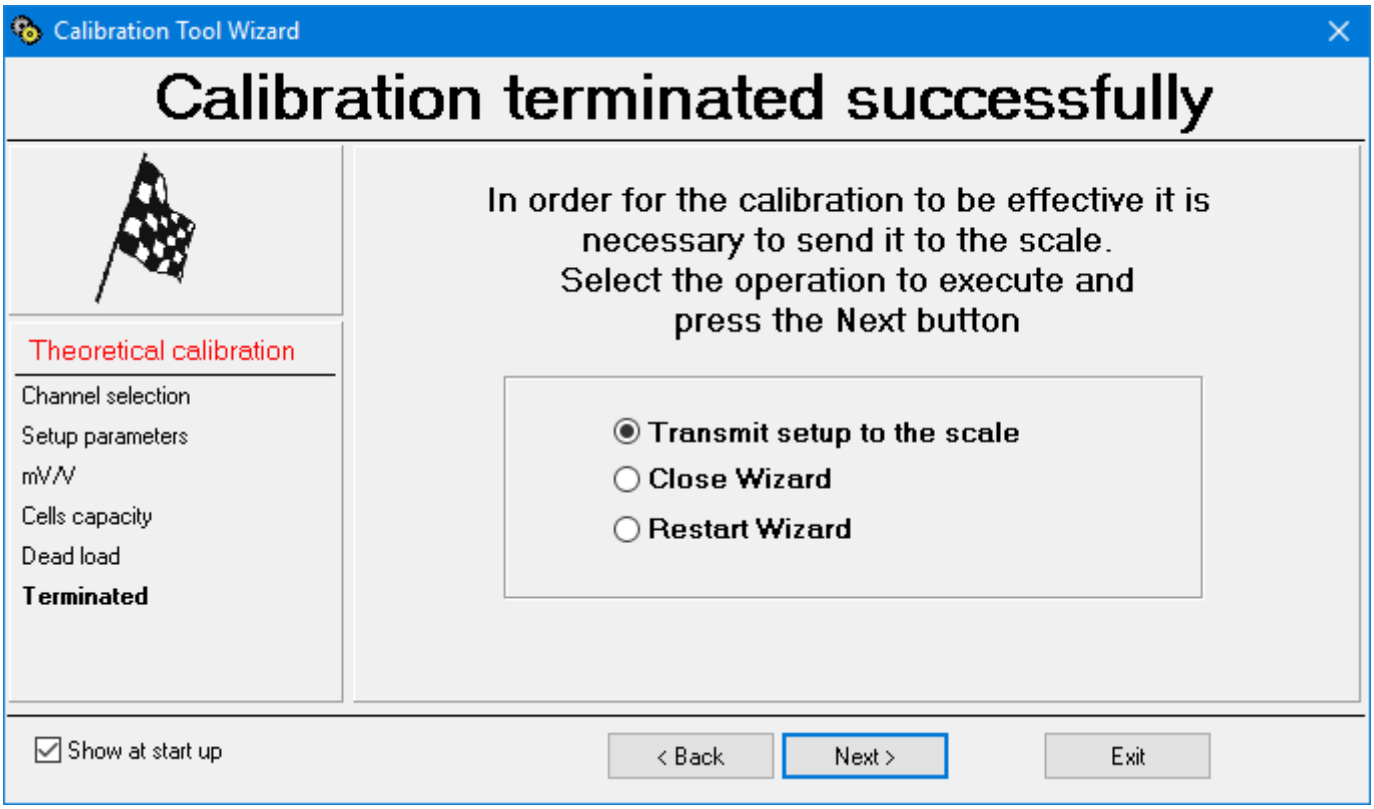




10) The theoretical calibration of the first channel is completed:

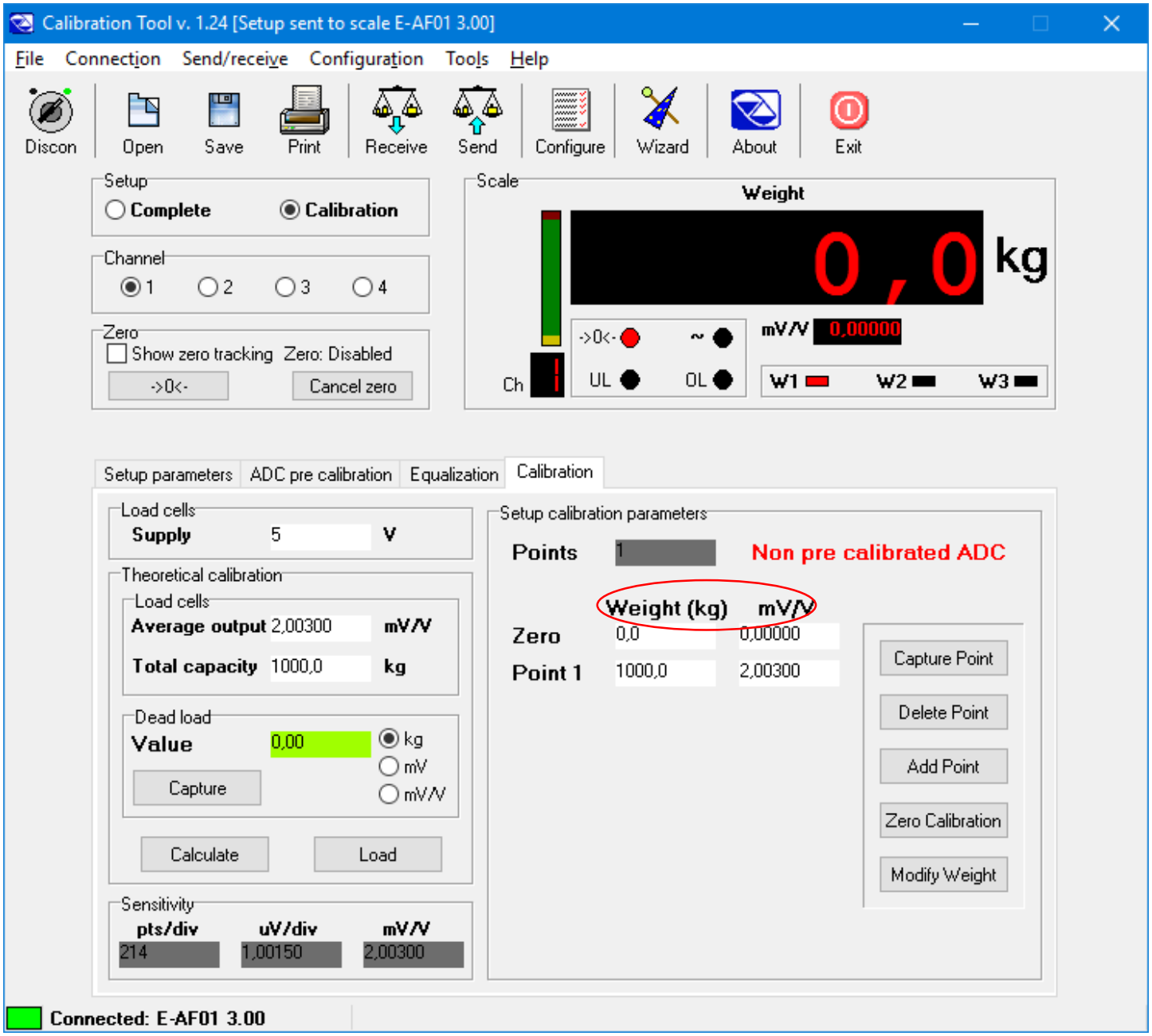


11) Repeat the operation for the desired channels; at the end of the last channel, select "End calibration":



12) See the points from **13)** to **16)** of section **9.4.2.1.1** "**Calibration with sample weights**" "**USE WITH WIZARD**".

13) By closing the Wizard the complete calibration programme will appear (see section "**USE WITHOUT WIZARD**"):



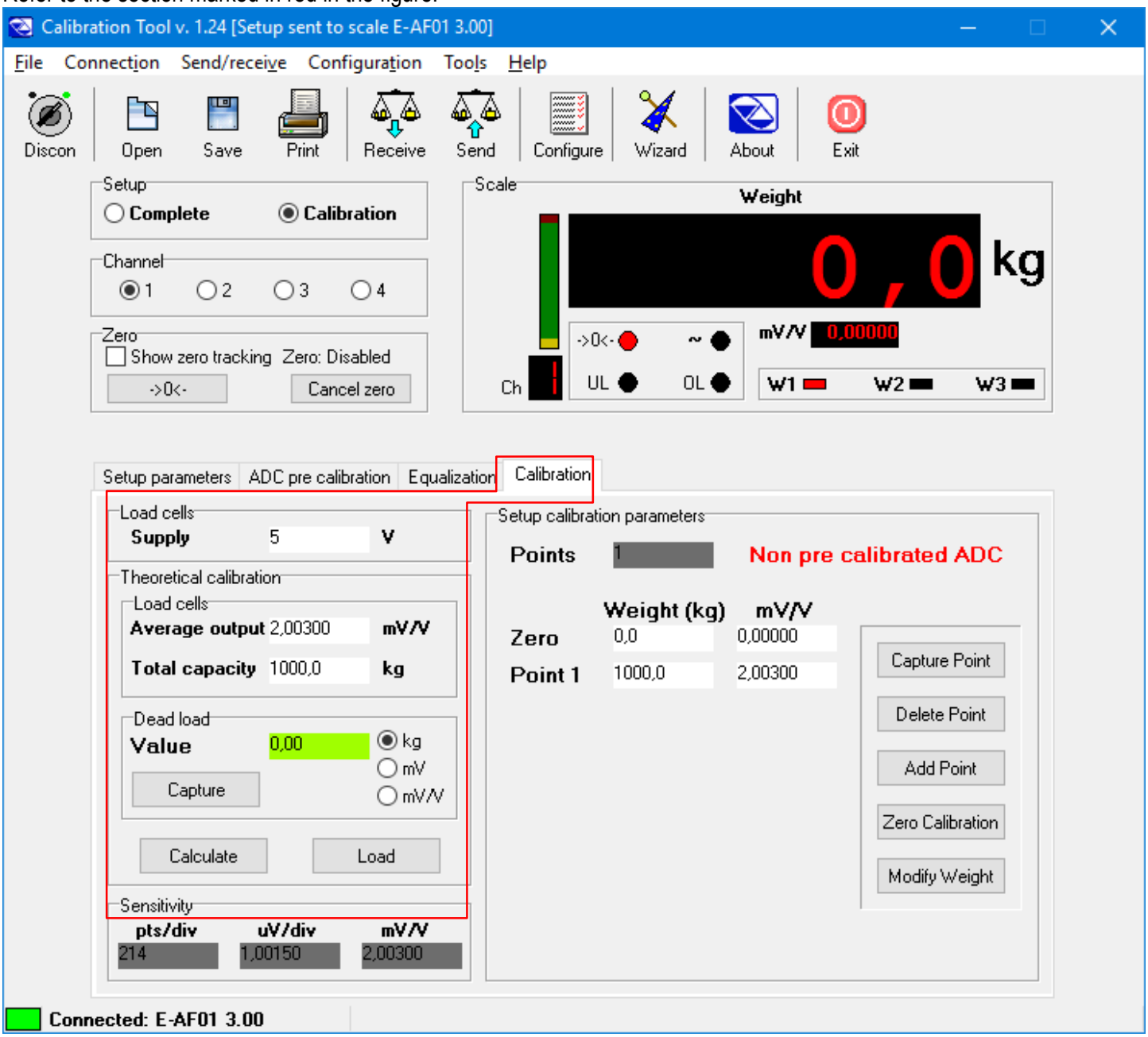
As one may note in the screenshot, the first calibration point is set equal to the scale capacity.

14) Press on the "**Exit**" key in the upper right to close the programme and return to the Setup management.

15) By pressing now the "**Save**" key in the Setup management, **one also stores on PC the calibration just made. Therefore, by carrying out a transmission from the setup ("Send" key) the calibration together with all the other scale parameters will be transmitted.**

9.4.2.1.3.2 USE WITHOUT WIZARD

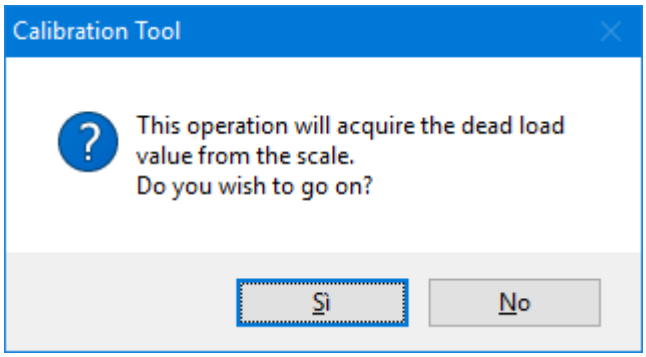
Refer to the section marked in red in the figure.

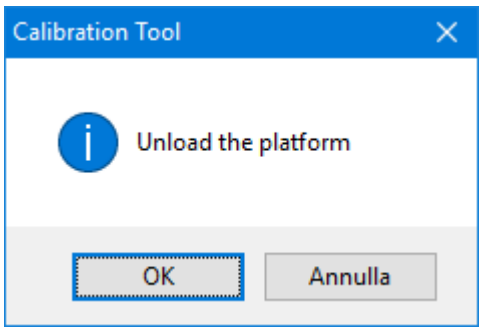


Procedure:

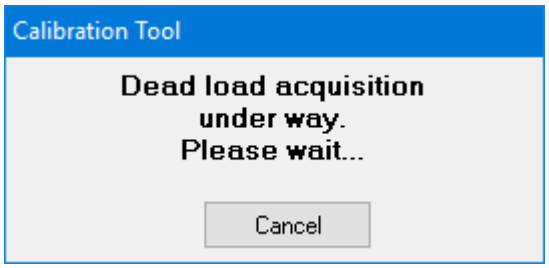
1) Select the scale to be calibrated in the "**Channel**" section: 1, 2, 3, 4.
   NOTE: if the scale is with dependent channels, always select "1".
2) "**Supply**" field: make sure that there is "5" (Volt excitation of the load cells).
3) "**Total output**" field: with **Independent channels** application, enter the mV/V value of the load cell; with various load cells **equalised through the external junction box,** enter **the average** of the signals.
   With a **Dependent channels** application, enter the sum of the mV/V of the connected load cells.
4) "**Total capacity**" field: with an **Independent channels** application, enter the load cell capacity; with various load cells **equalised through the external junction box,** enter **the total capacity** (for example, if one has 4 cells of 2000 kg each one should enter "8000").
   With a **Dependent channels** application, enter the sum of the capacities of the connected load cells.
5) Acquisition of the scale zero:
   - The "**Value**" field allows to manually enter the corresponding value, in kg, in mV or in mV/V (depending on whether "**kg**", "**mV**", "**mV/V**" is selected).

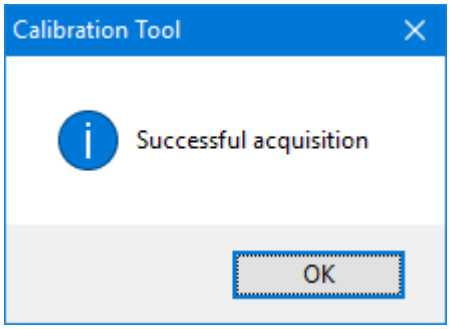
- By pressing instead on "**Capture**" one receives the value from the scale:



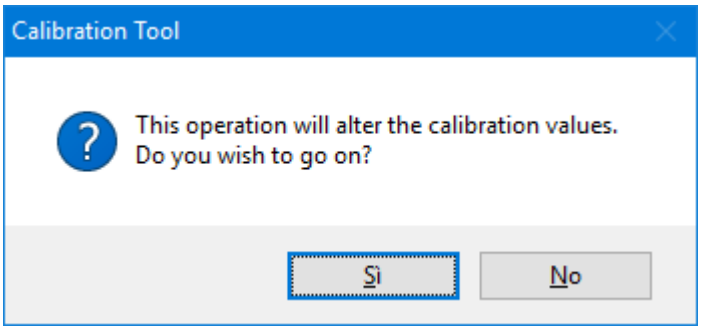


6) Unload the scale and confirm the window; the following will appear:

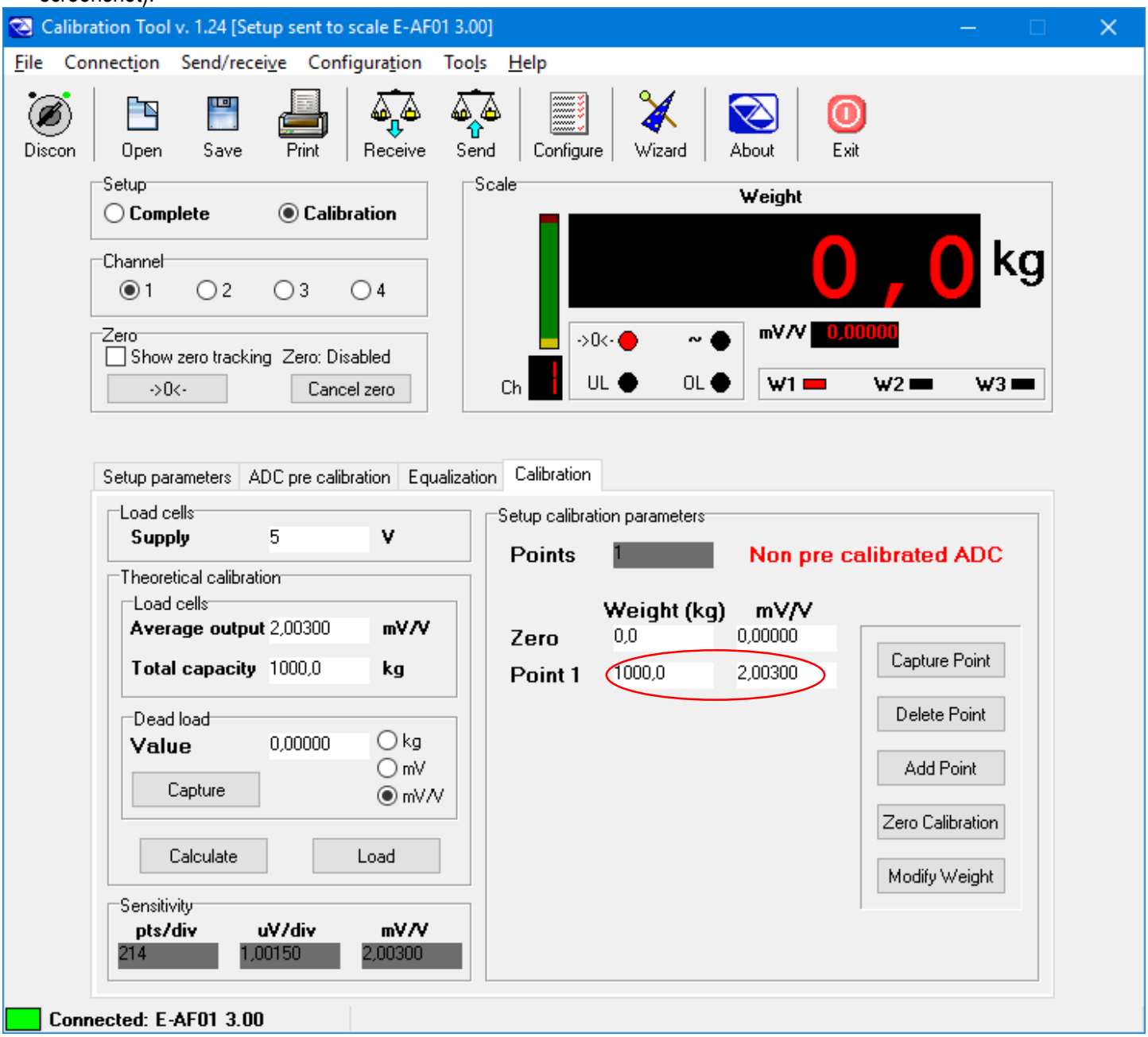




7) Press on "**Calculate**"; the following will appear:



By confirming the window, a calibration point equal to the scale capacity will be entered (marked in the screenshot):



8) To transmit only the calibration and metrological data, click on the "**Send**" key above; to transmit all the setup parameters, one should exit the calibration programme and use the "**Send**" key of the "**Setup Management**" of Dinitools (see section 9.4.1.1).

9.4.2.1.4 PRECALIBRATION OF THE INDICATOR ("ADC PRE-CALIBRATION")

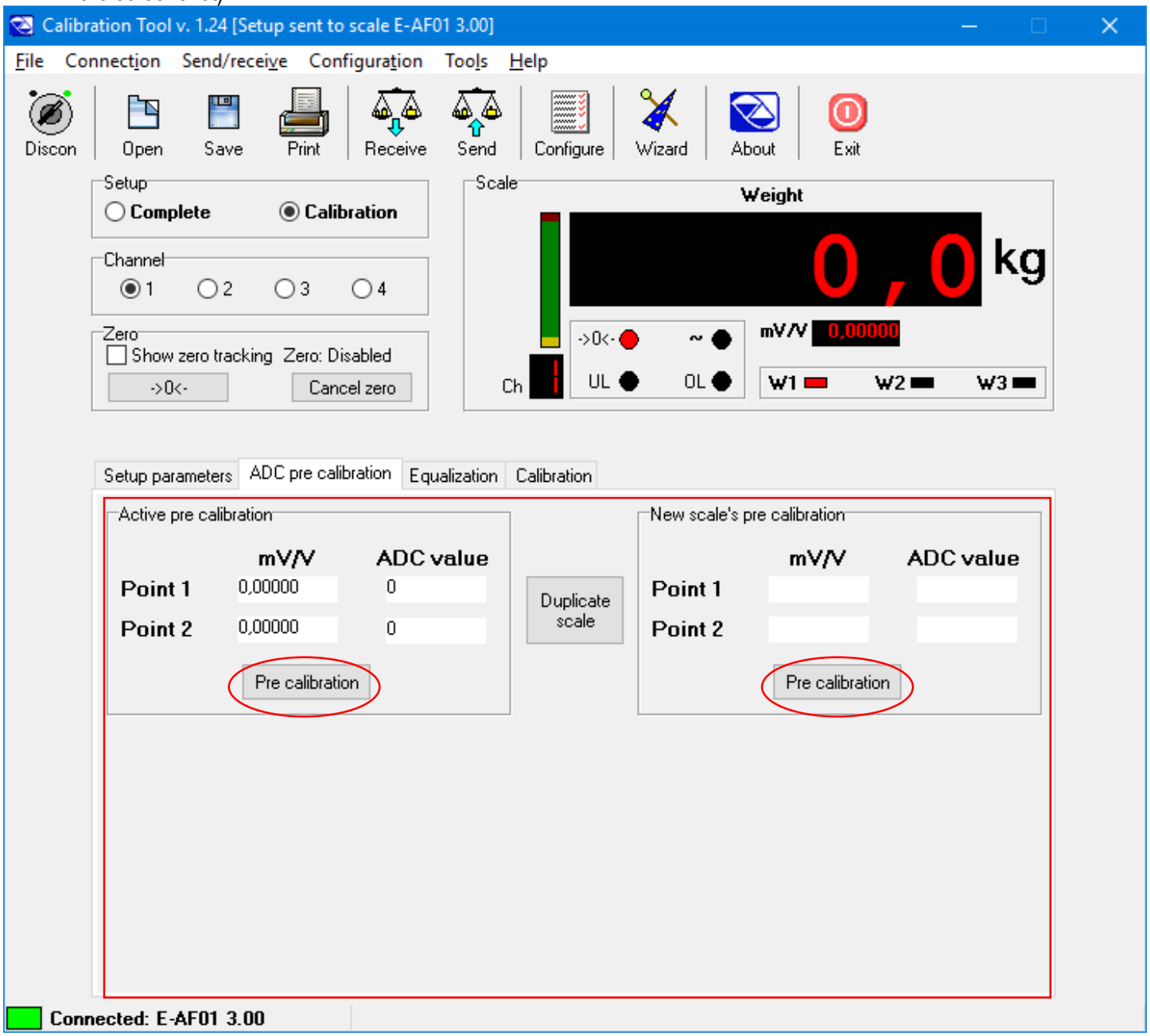
The precalibration allows to **"clone" an indicator** copying the calibration onto another one (with the same firmware version) without obtaining weighing errors; this is useful, for example, if one needs to substitute the board of an indicator in an existing system, with the need to maintain the same configuration and calibration.

NOTES

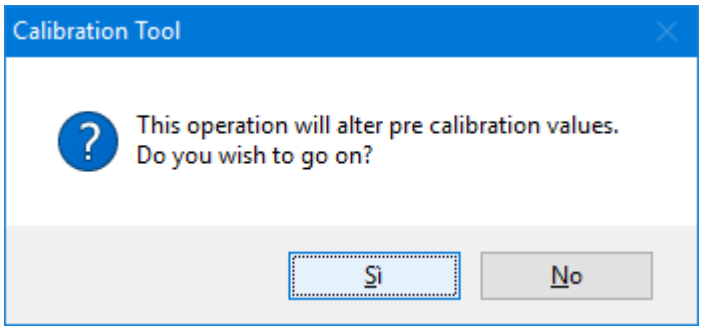
- It's advisable to carry out the precalibration **before installing the indicator "to be cloned"** (an eventual damage of the board would not allow this operation).
- It's necessary that the indicator to be "cloned" has already been calibrated.

Procedure:

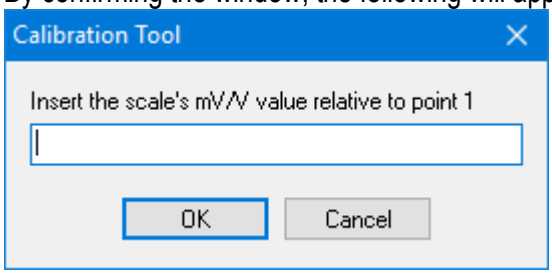
1) Connect a cell simulator to channel 1 of the indicator to be "cloned".
2) Open the calibration programme without the Wizard mode and select the "**ADC pre calibration**" section (marked in the screenshot):



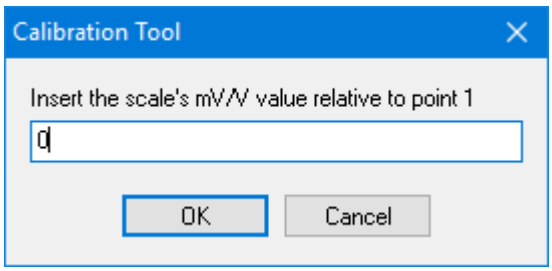
3) Press on the "**Pre calibration**" key on the **left**; the following appears:



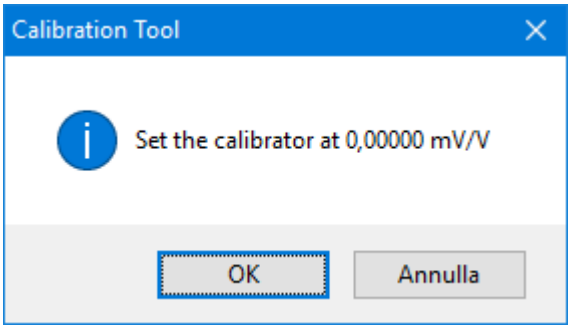
By confirming the window, the following will appear**:**



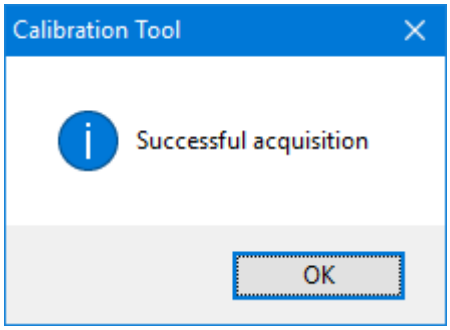
4) Enter a mV/V value for the first reference point, for example "1":



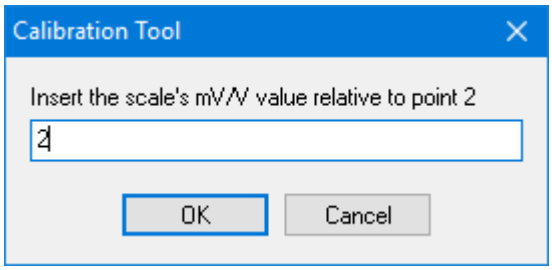
5) Confirm with **OK**; the following will appear:



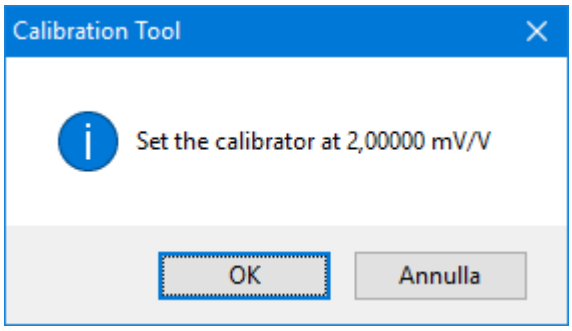
6) Set the cell simulator next to the mV/V entered previously and confirm with **OK**.
7) After a few instants the successful acquisition message will appear:



8) It's now possible to enter a mV/V value for the second reference point, for example "2":

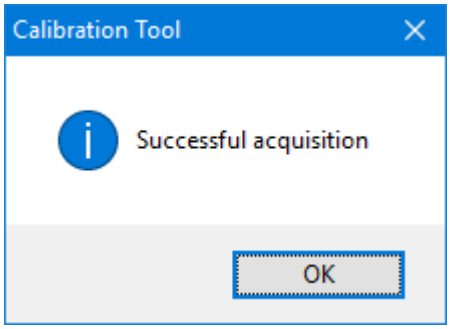


9) Confirm with **OK**; then the following will appear:

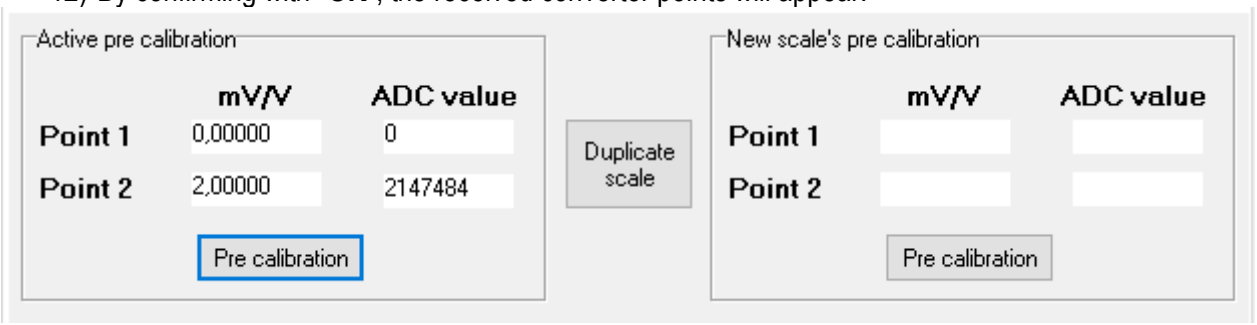


10) Set the cell simulator next to the mV/V entered previously and confirm with **OK**.

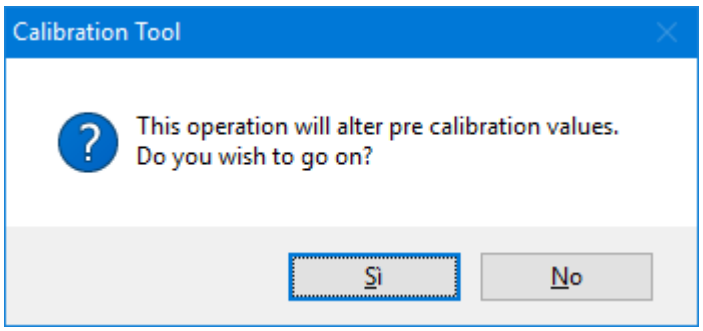
11) After a few instants the successful acquisition message will appear:



12) By confirming with "**OK**", the received converter points will appear:

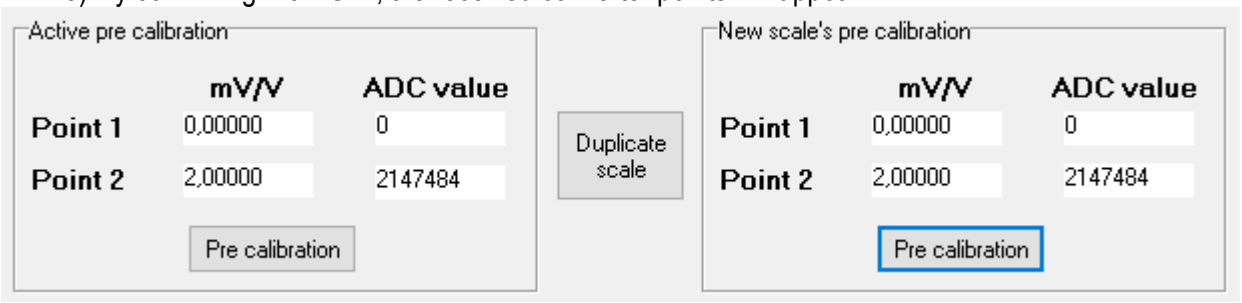


13) Transmit the precalibration to the indicator.
14) Disconnect from the PC the indicator to be "cloned" and connect the "clone".
15) Connect a cell simulator to channel 1 of the "clone" indicator.
16) Press on the "**Pre calibration**" key on the **right**; the following will appear:



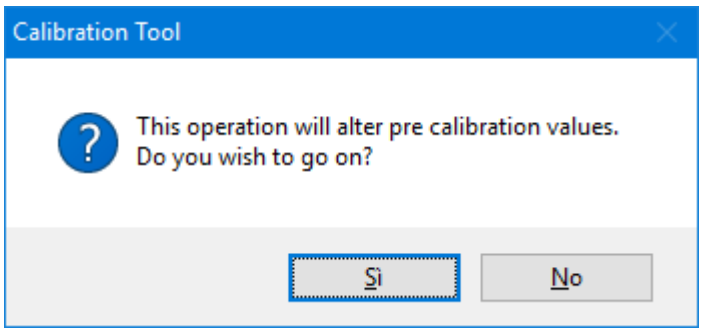
17) Repeat the operations from point **4)** to point **11)**.

18) By confirming with "**OK**", the received converter points will appear:

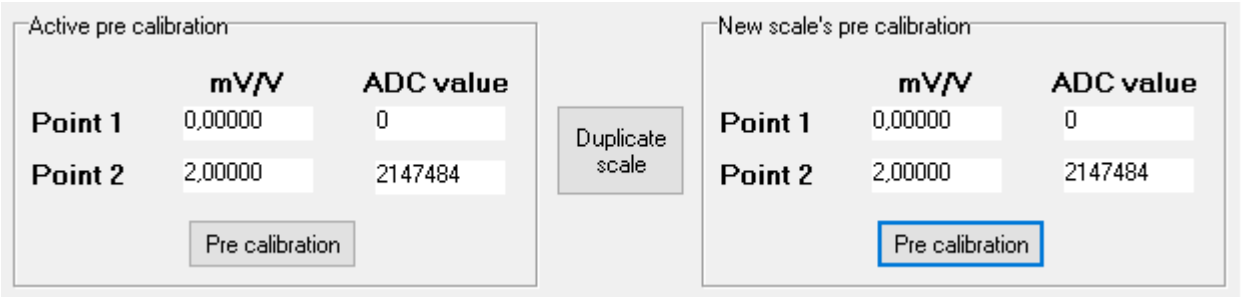


19) As one may note, the converter points of the new indicator are slightly different in respect to the indicator to be "cloned" (this is due to the nature of the ADC converters, which are always "different"); therefore if one transmits the calibration of the indicator to be "cloned" to the new indicator, it may be possible to have an error of various divisions.

20) Press on the "Duplicate scale" key; the following will appear:



21) By confirming the window, the converter points of the new indicator are made the same as those of the "cloned" indicator:



22) To transmit only the calibration and the metrological data, click on the "**Send**" key above; to transmit all the setup parameters, one should exit the calibration programme and use the "**Send**" key of the "**Setup management**" of Dinitools (see section 9.4.1.1).

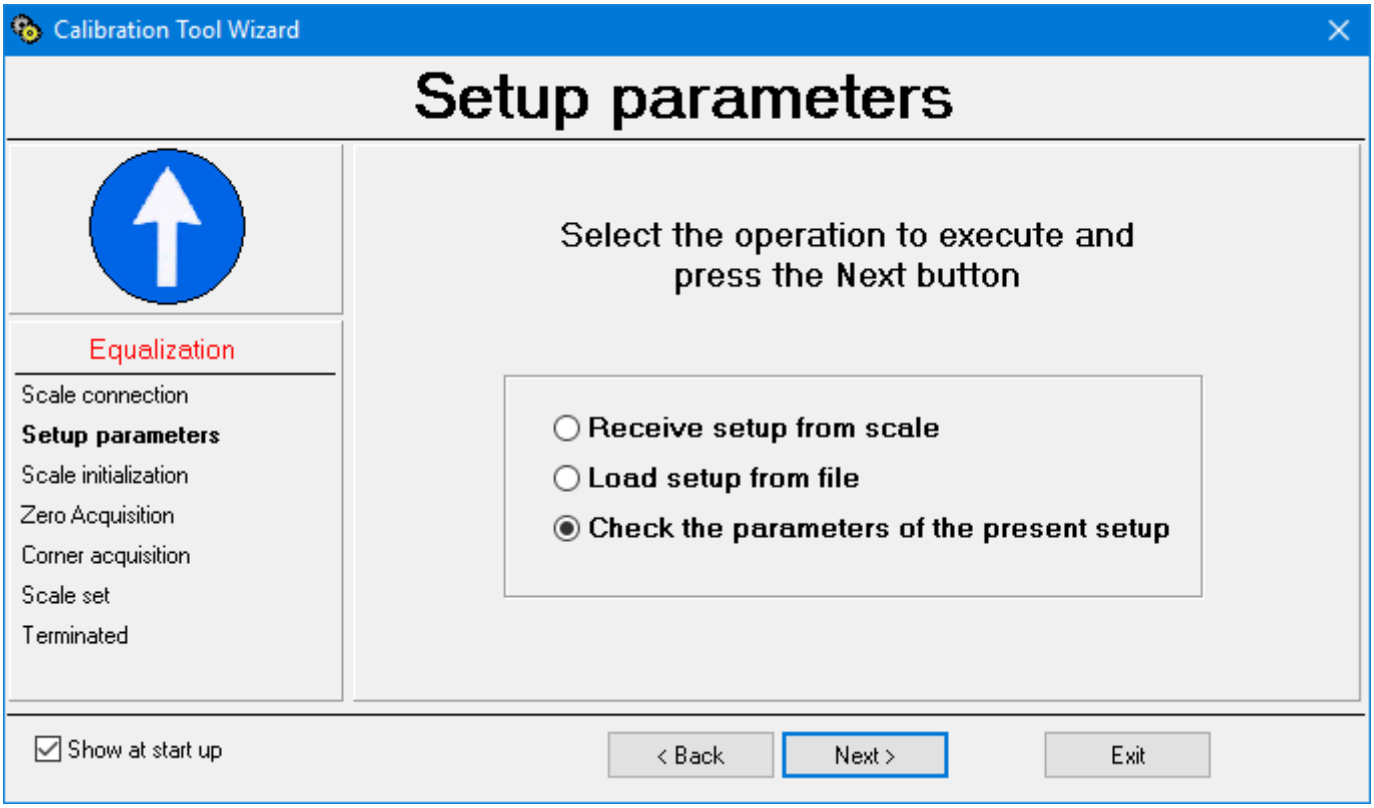
23) The new indicator will in this way be the exact copy of the "cloned" indicator.

9.4.2.1.5 EQUALIZATION OF THE CHANNELS ("EQUALIZATION")

Premise: this procedure is to be followed before the calibration, if one needs to calibrate a scale with various cells (up to 4) and if one wants to equalize these directly from the indicator without using external junction boxes.
In this case one should connect each cell to one of the channels on the board.
Note: it is always better to carry out the ***equalisation procedure***, but it isn't compulsory (in some applications, it can not be done).

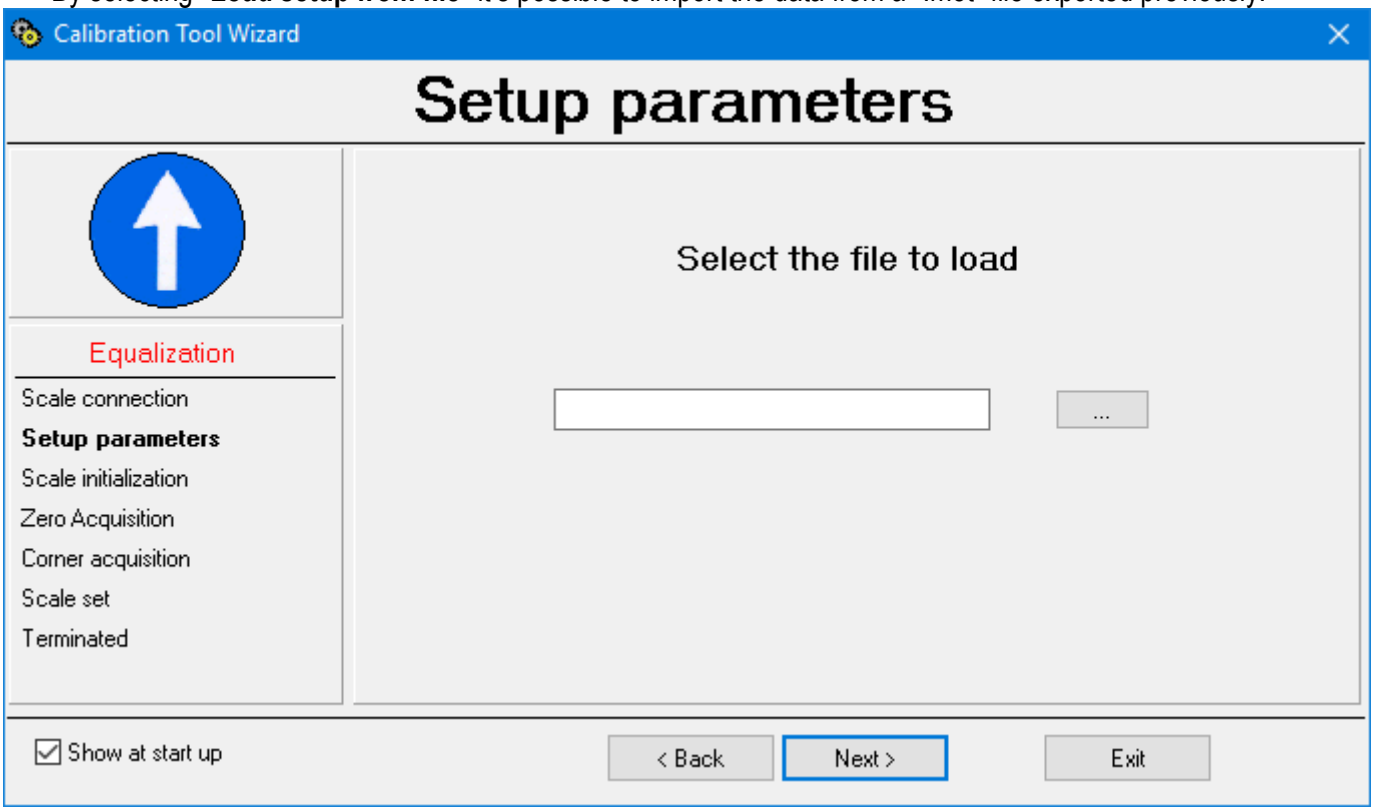
9.4.2.1.5.1 USE WITH THE WIZARD

1) Select "**Equalization**" and press on "**Next**"; the following appears:



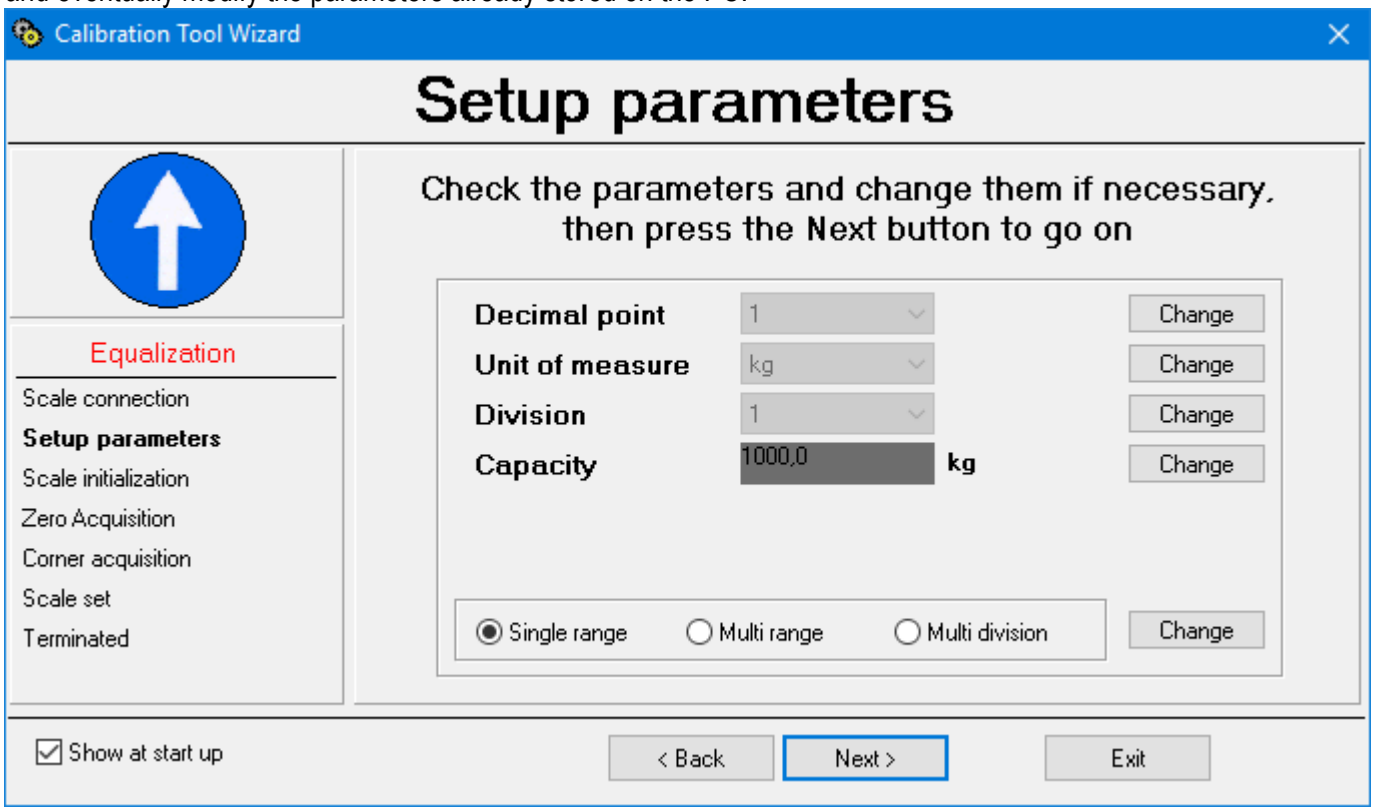
- By selecting "**Receive setup from scale**" and pressing on "**Next**" it is possible to receive the metrological and calibration parameters directly from the scale.

- By selecting "**Load setup from file**" it's possible to import the data from a ".mot" file exported previously:



- Press on the "**…**" key to search the file in the desired directory and press on "**Next**" to continue.

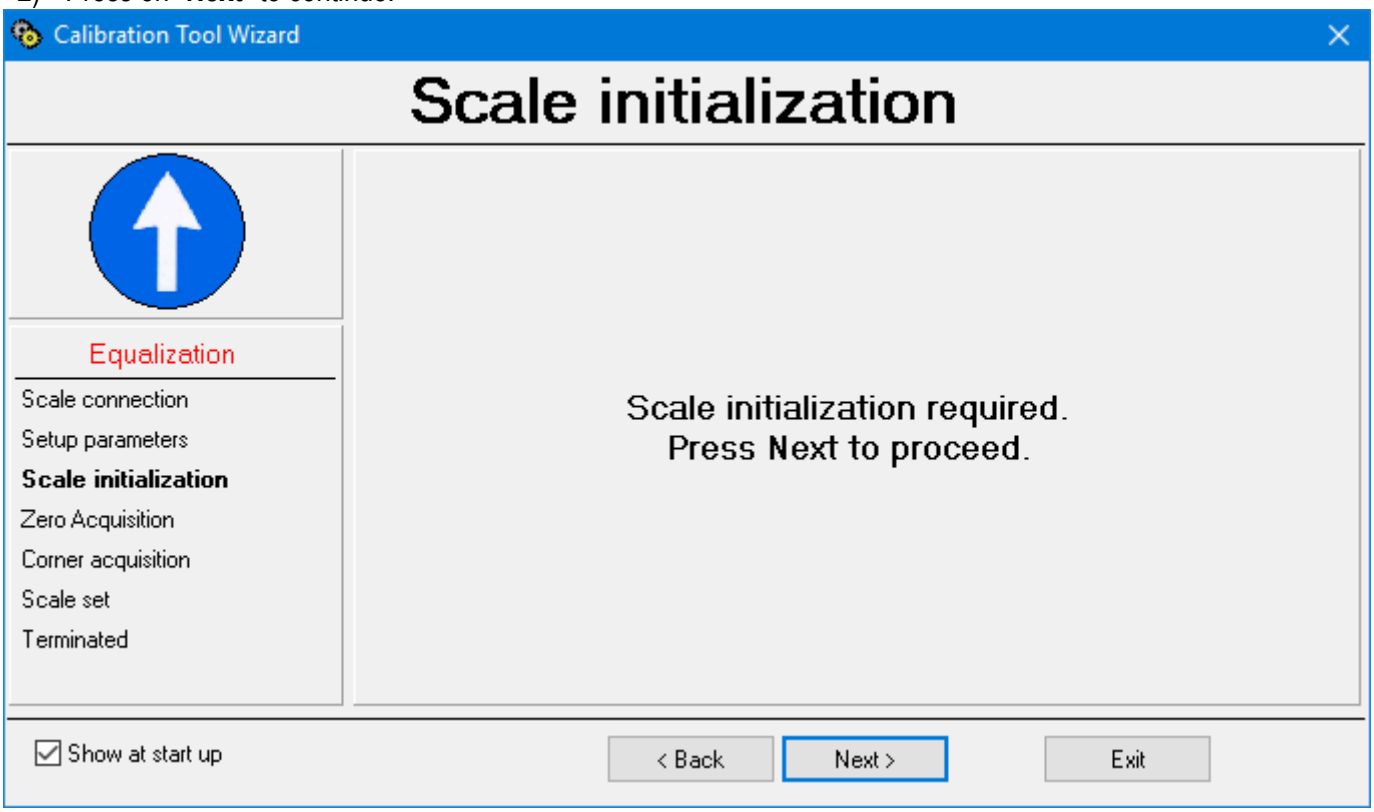
- By selecting instead "**Check the parameters of the present setup**" and pressing on "**Next**" it's possible to check and eventually modify the parameters already stored on the PC:



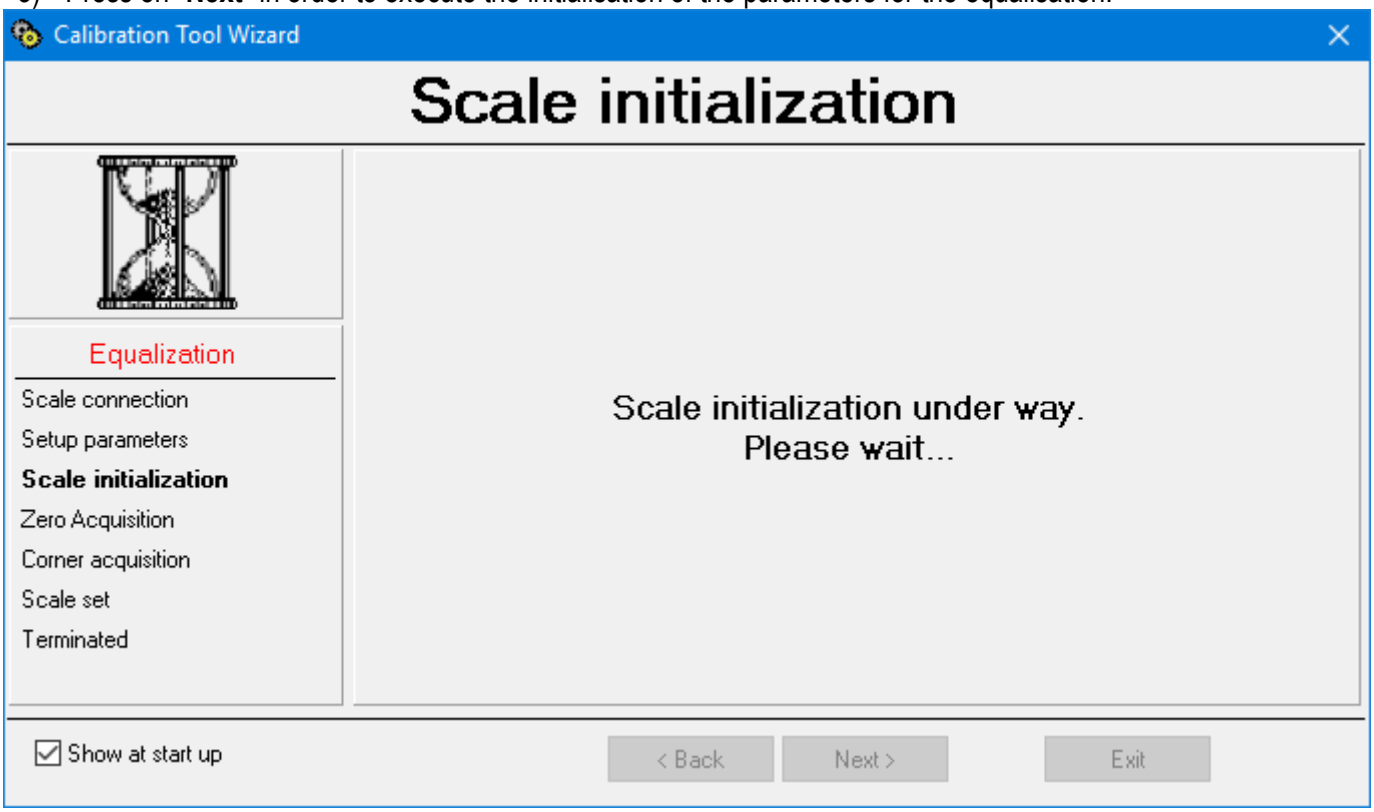
- By pressing on the "**Change**" key one modifies the relative parameter:
  Decimal point [Decimal point]
  Unit of measure [Unit of measure]
  Division [Minimum division]
  Capacity [Capacity]
  Single range [Single range scale]
  Multi range [Multi range scale]
  Multi division [Multi division scale]

  See point **1)** of section **9.4.2.1.1 Calibration with sample weights** "**USE WITH WIZARD**".

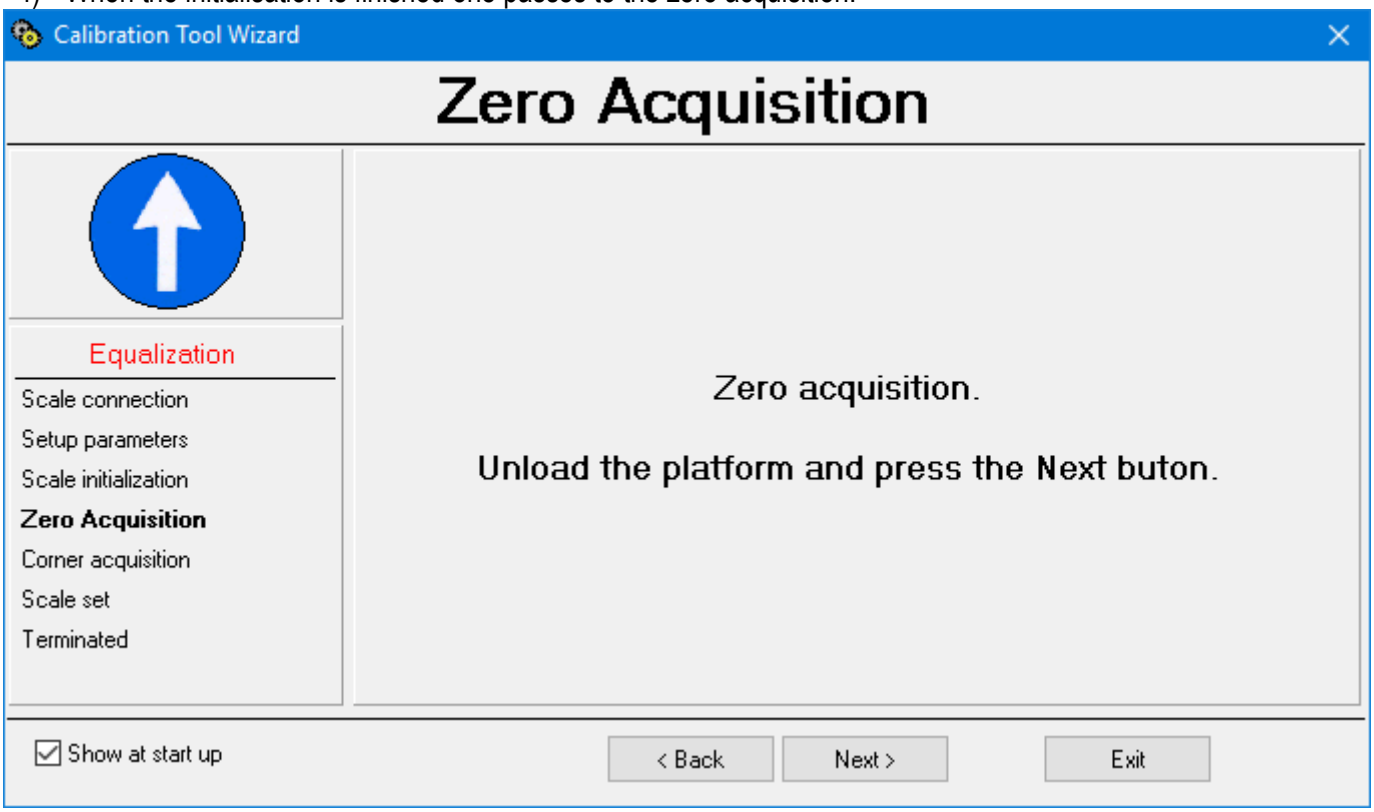
2) Press on "**Next**" to continue:



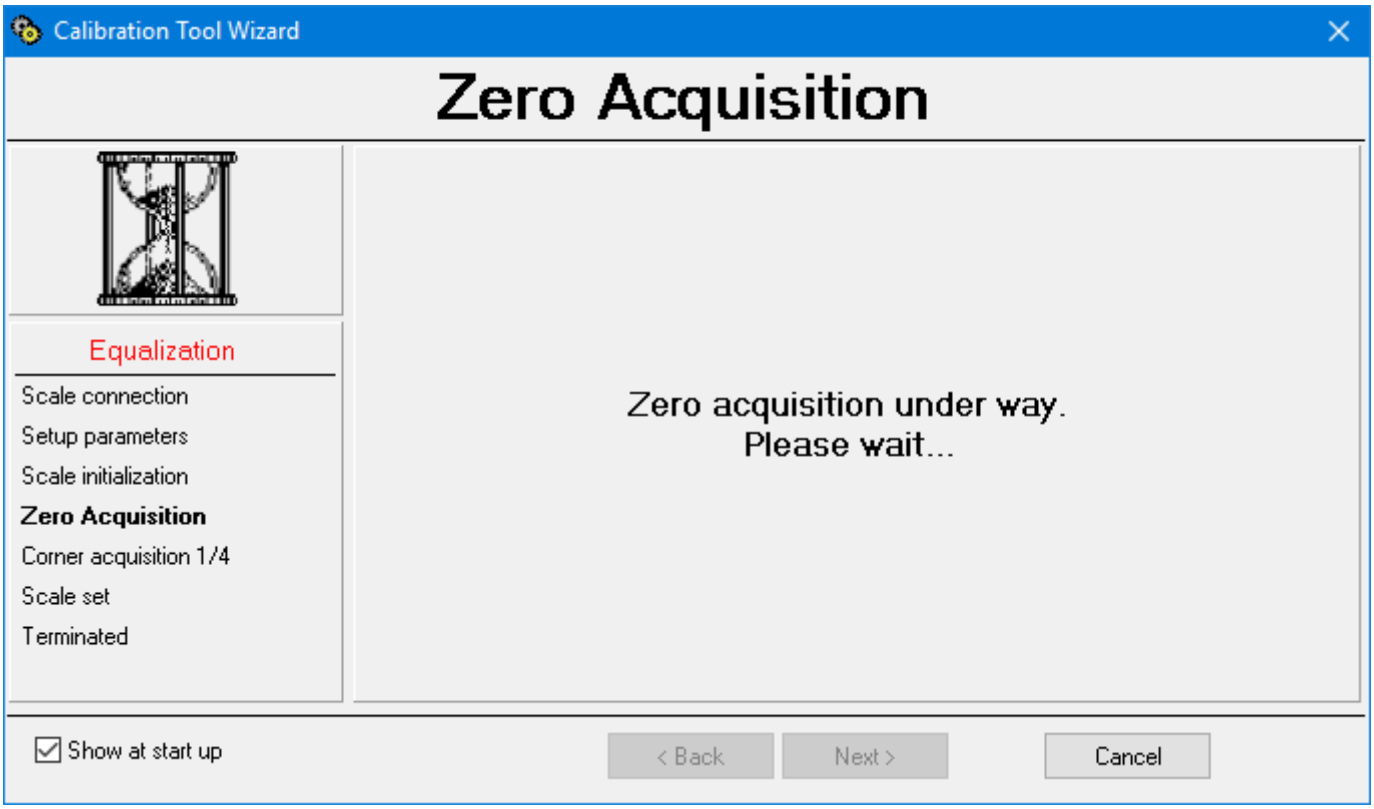
3) Press on "**Next**" in order to execute the initialisation of the parameters for the equalisation:



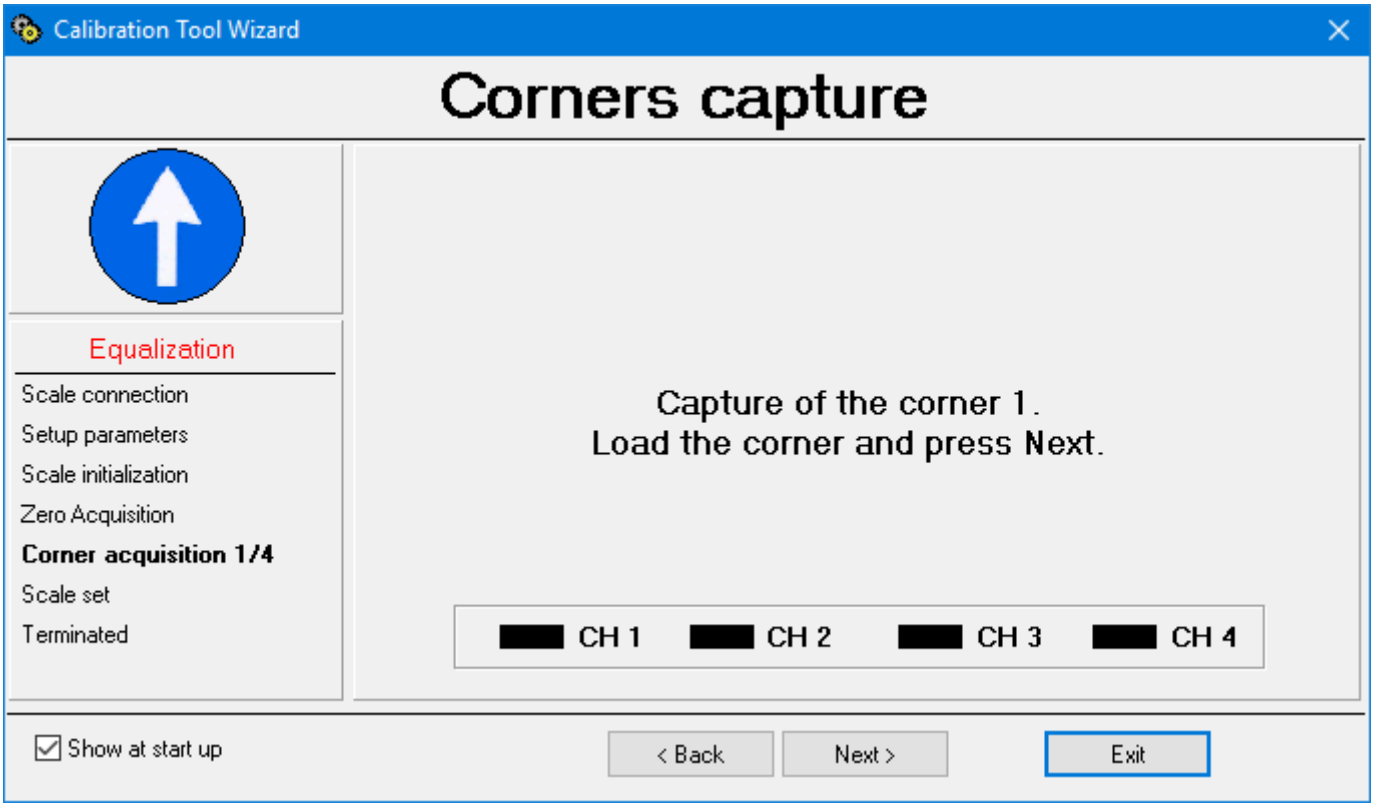
4) When the initialisation is finished one passes to the zero acquisition:



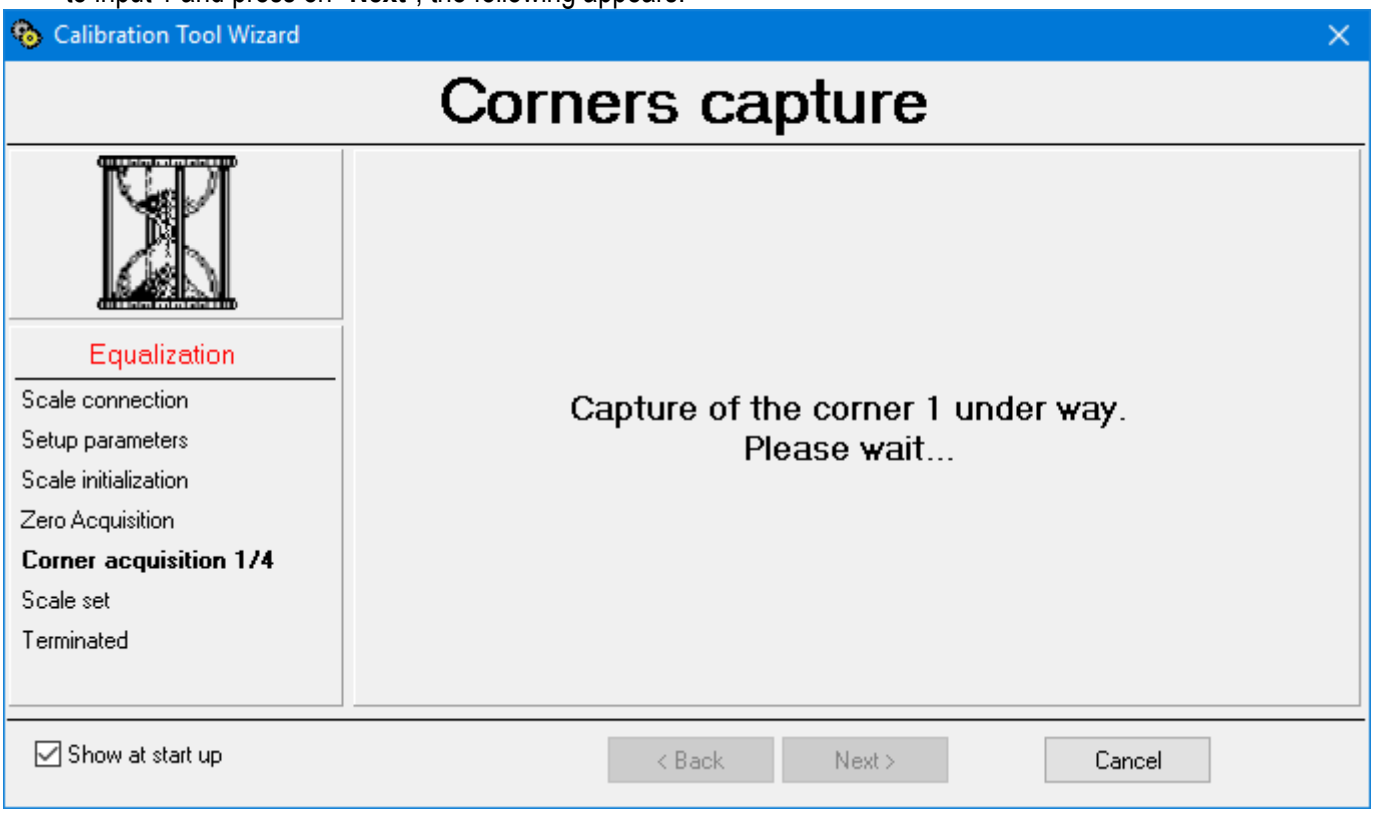
5) The programme is ready to acquire the scale zero; unload the scale and press on "**Next**"; the following will appear:



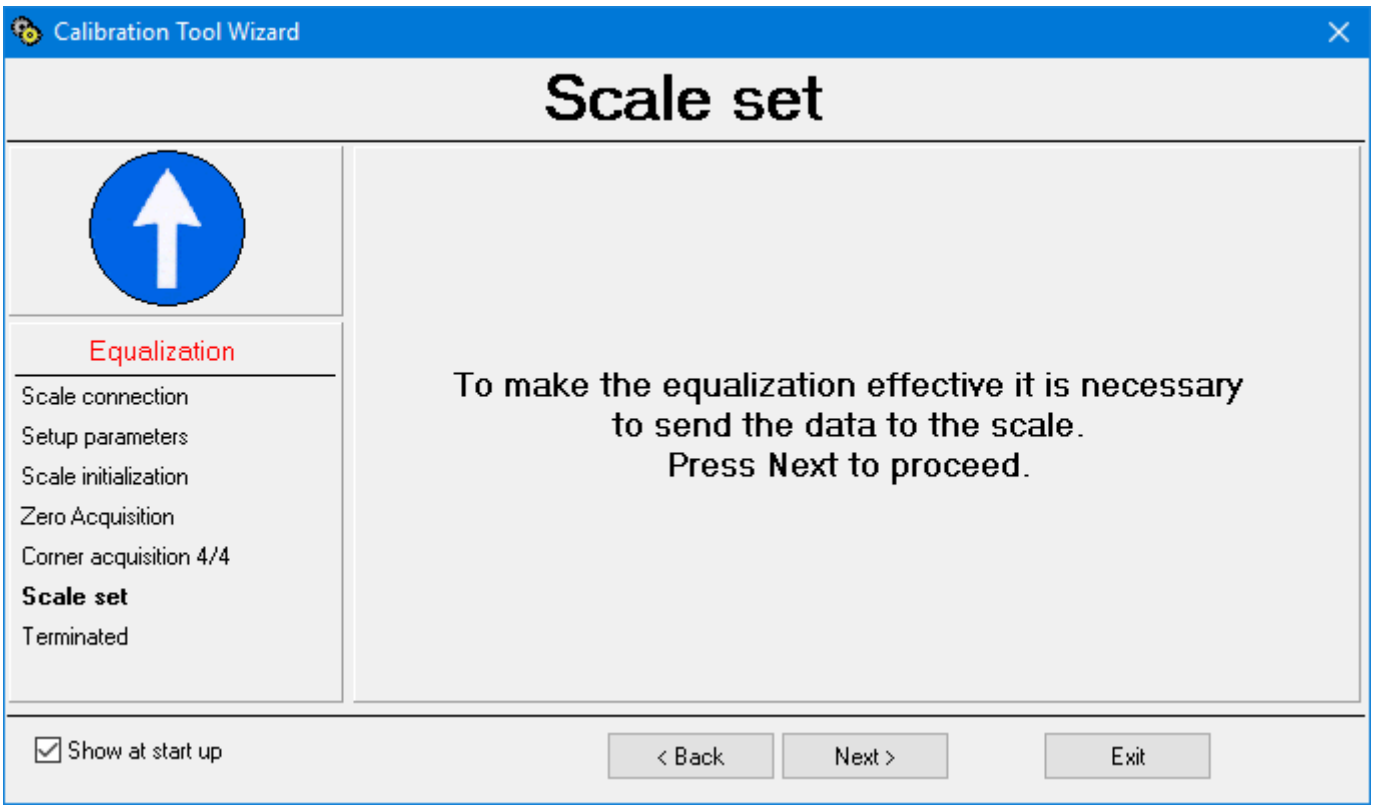
then appears:



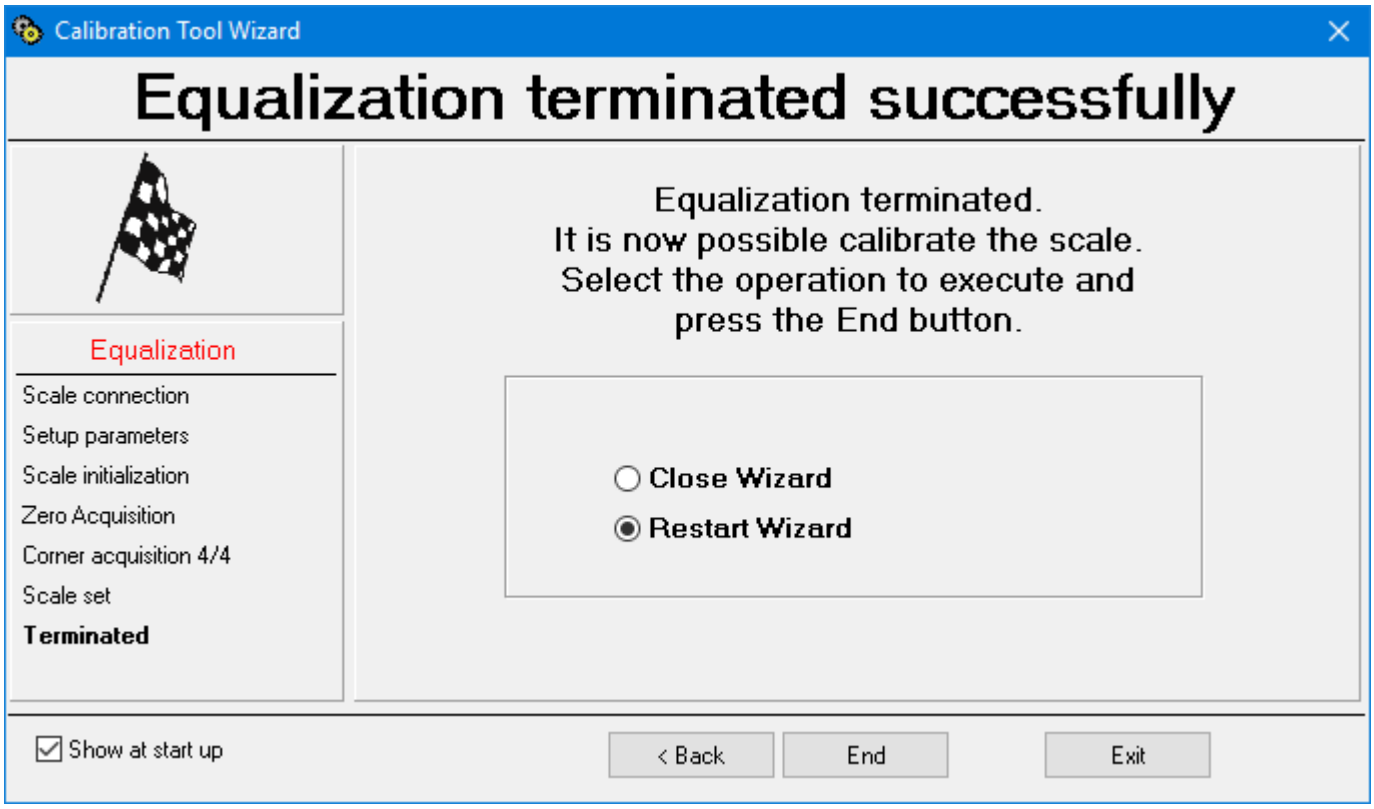
6) The programme is ready to acquire the weight on the first channel; position a calibration weight on the cell connected to input 1 and press on "**Next**"; the following appears:



7) Repeat the operation for all the set channels by putting the same calibration weight used on the cell connected to input 1; at the end of the last channel the equalisation is completed and it's possible to transmit **only** the equalisation data to the indicator.



8) Press "**Next**" to continue.

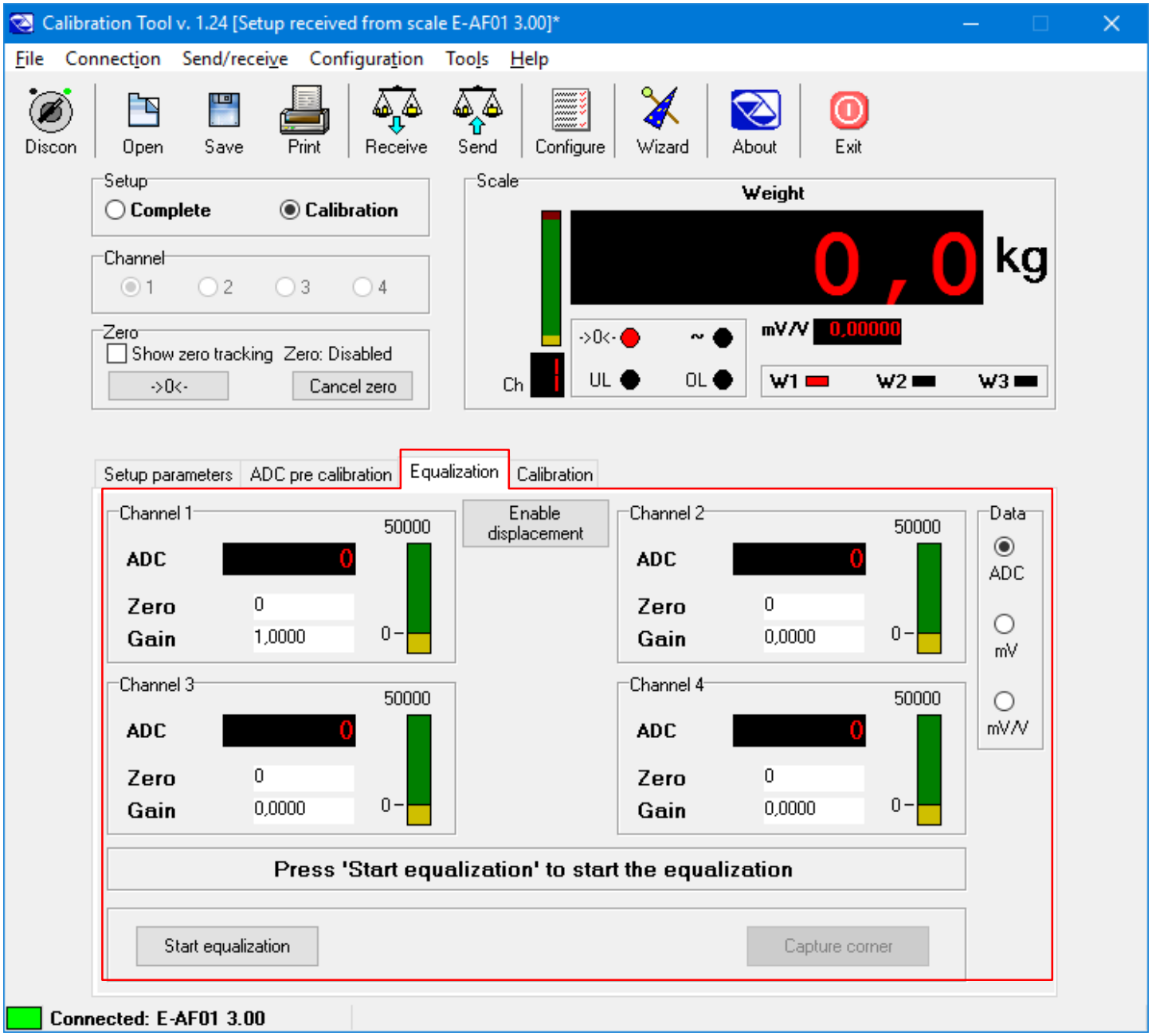


9) Select whether to close the Wizard ("**Close Wizard**") or restart from the beginning ("**Restart Wizard**") and press on "**End**".
10) By closing the Wizard the complete calibration programme appears (see the "**USE WITHOUT WIZARD**" section):
11) Press on the "**Exit**" key in the upper right to close the programme and return to "**Setup management**".
12) By pressing now the "**Save**" key in the "**Setup management**", **one stores on PC the equalisation just made. By transmitting the setup ("Send" key) the calibration will be transmitted together will the other scale parameters.**

9.4.2.1.5.2 USE WITHOUT WIZARD

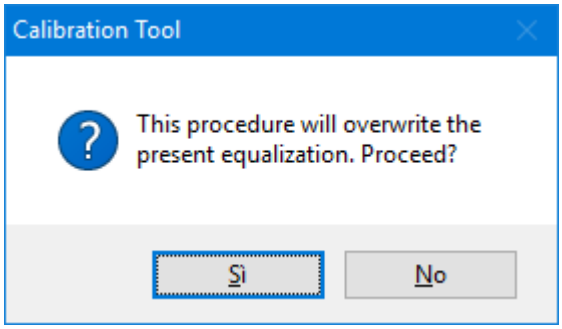
"NORMAL" MODE

Refer to the section marked in the screen below.

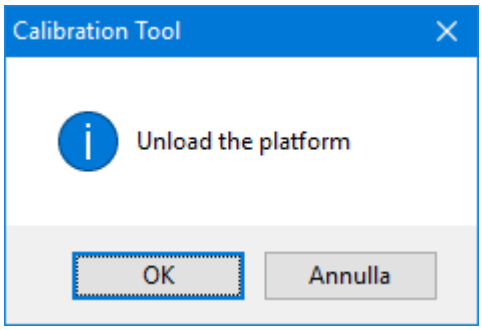


Procedure:

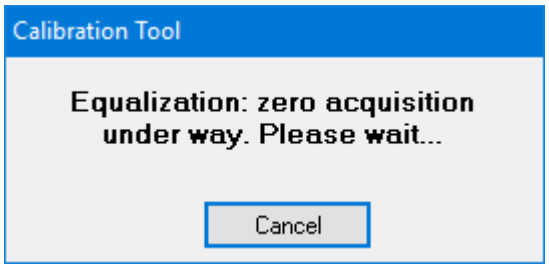
1) Click on "**Start equalization**":

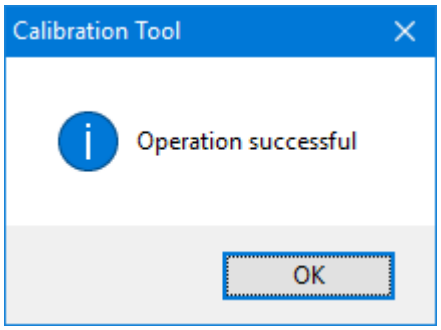


Confirm the dotted box; then the following will appear:

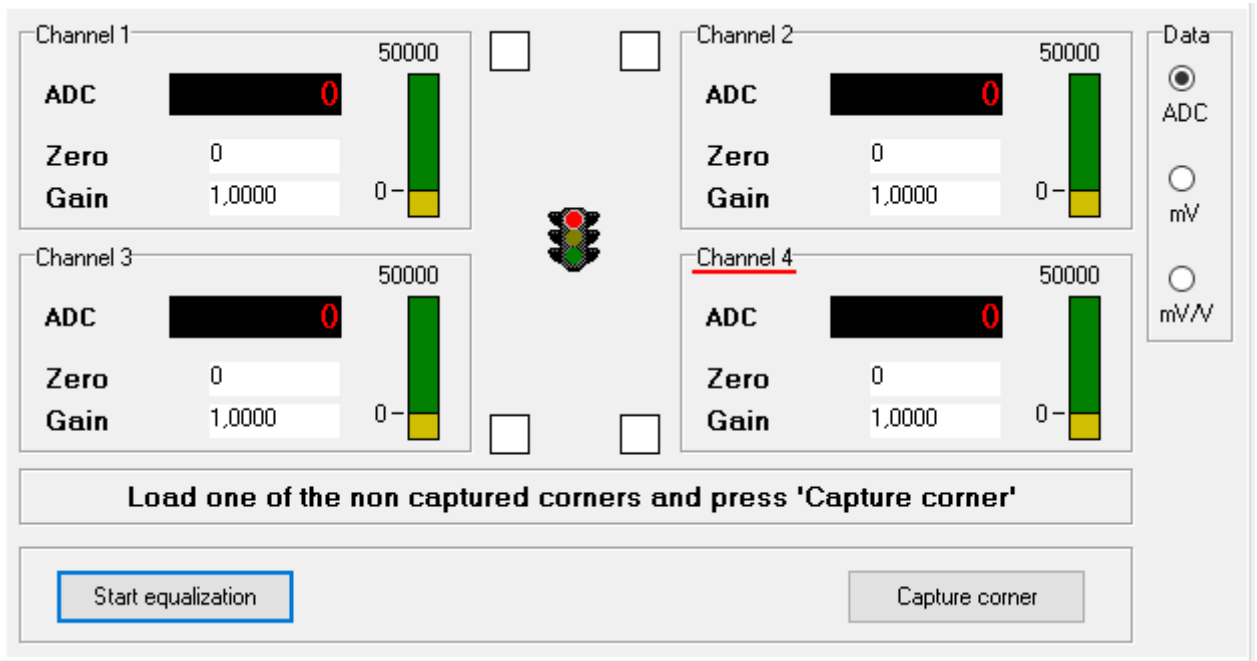


2) Unload all the cells connected to the configured channels and confirm with OK; then the following screen will appear:

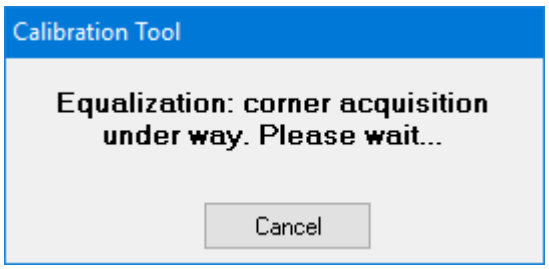


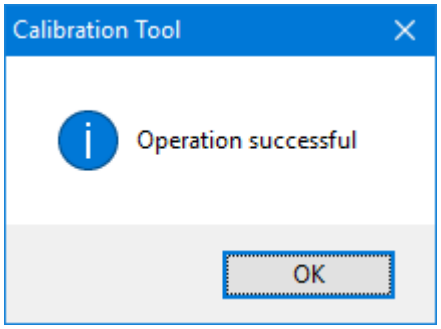


3) Click on OK:

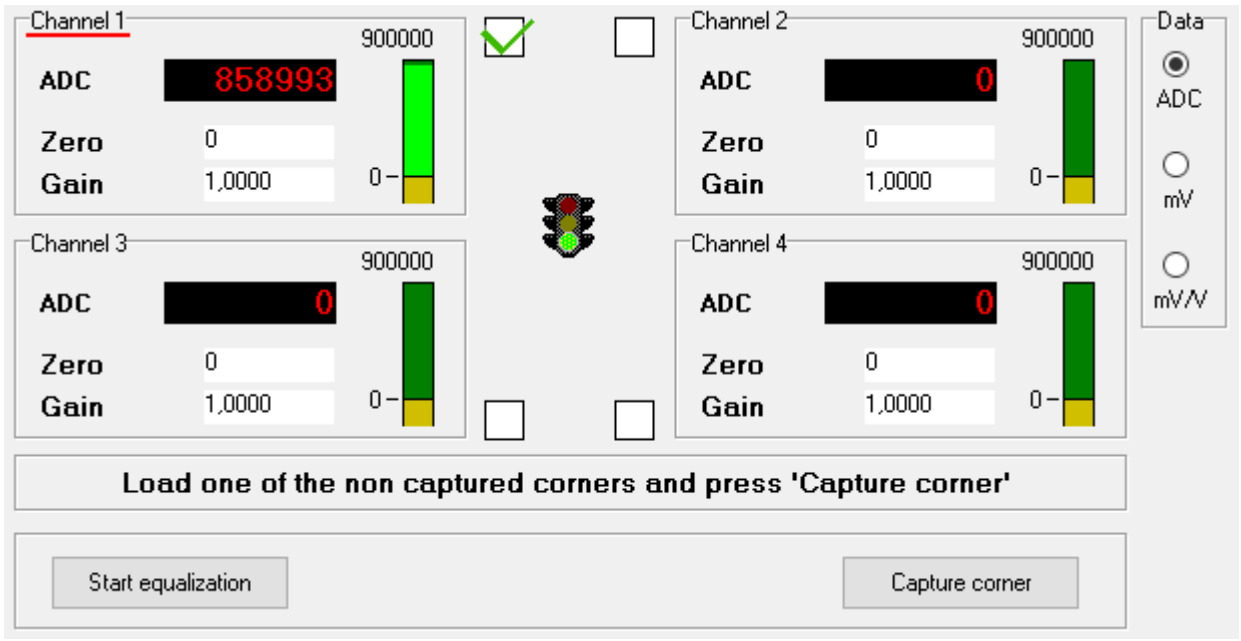


4) The programme is ready to acquire the weight on the first channel; position a calibration weight on the cell connected to input 1 and press on "**Capture corner**"; the following appears:

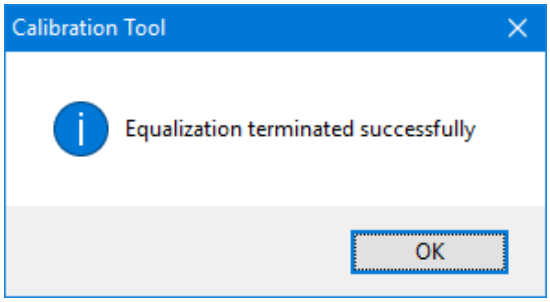




5) Confirm the "**OK**".



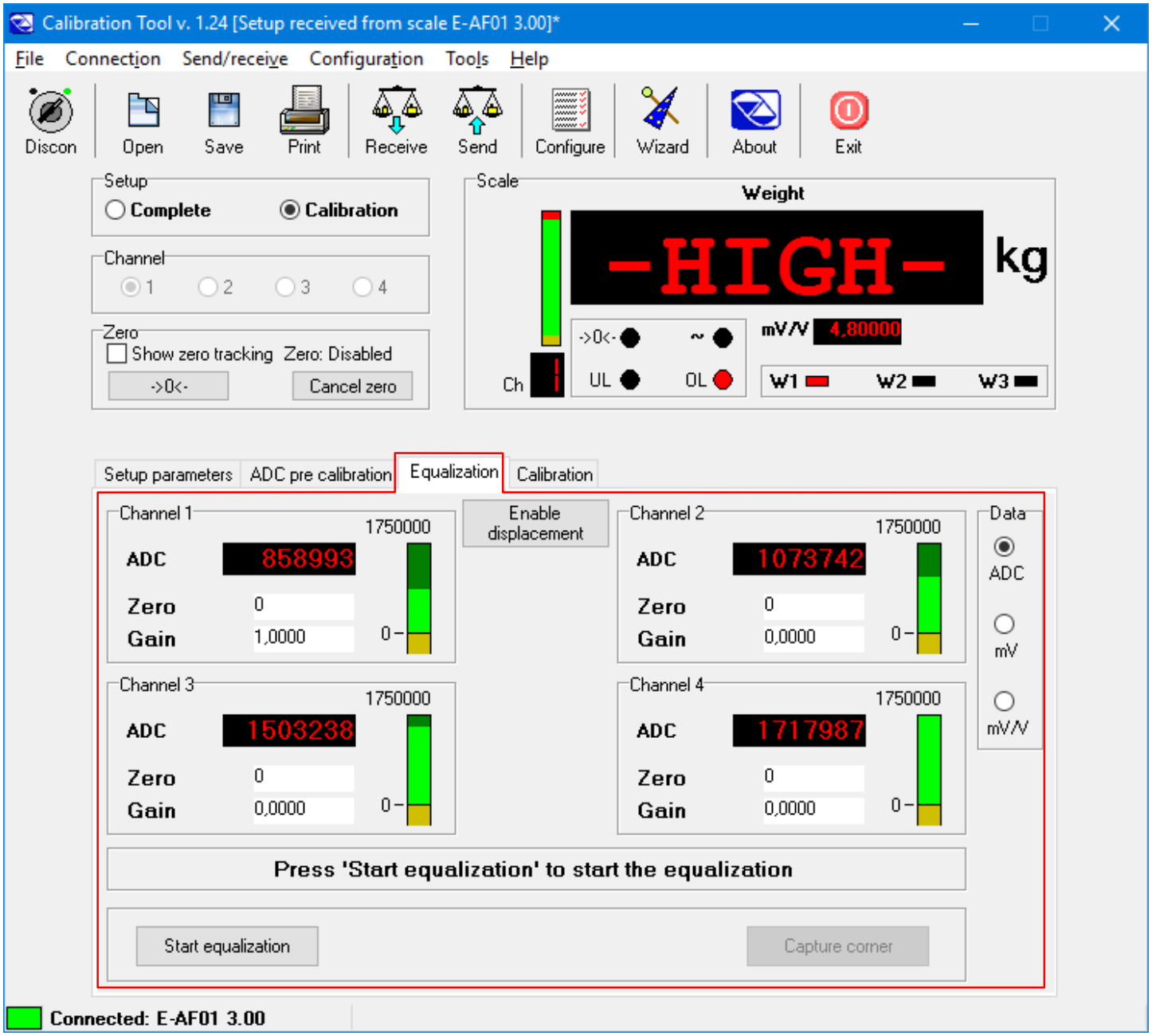
6) Repeat the operation for all the set channels by putting the same calibration weight on the cell connected to input 1; at the end of the last channel the equalisation is completed and the following appears:



7) To transmit only the equalisation and the metrological data, click on the "**Send**" key above; to transmit all the setup parameters, one should exit the calibration programme and use the "**Send**" key of the "**Setup management**" of Dinitools (see section 9.4.1.1).

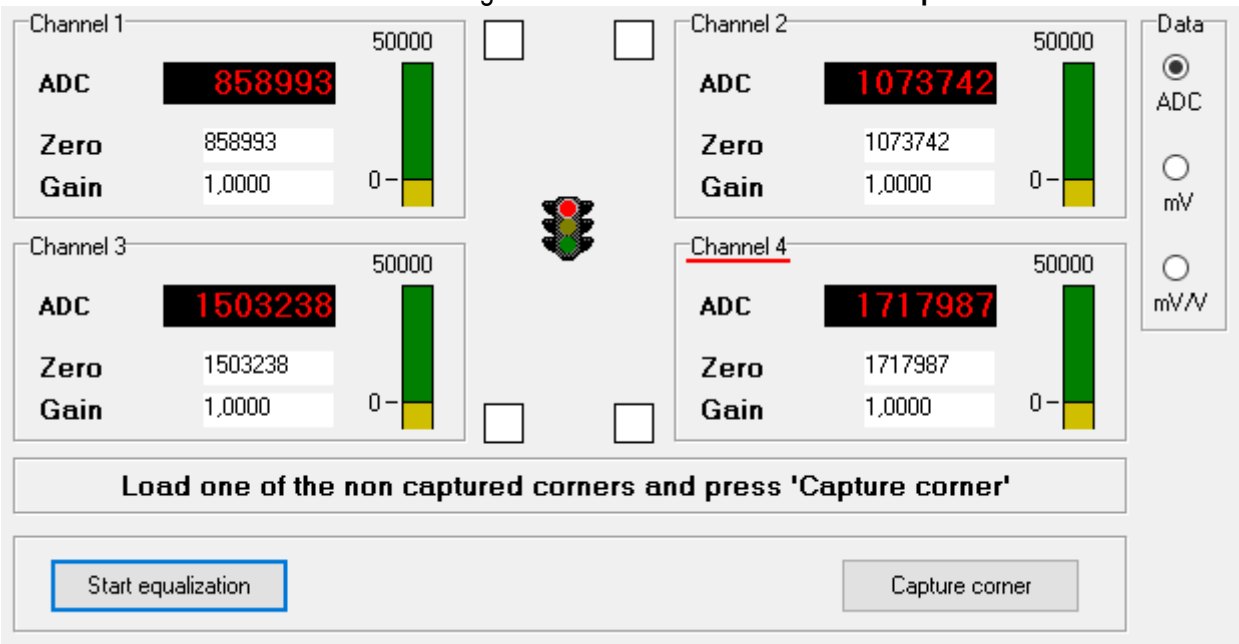
"EXPERT" MODE

Refer to the section marked in the screen below.

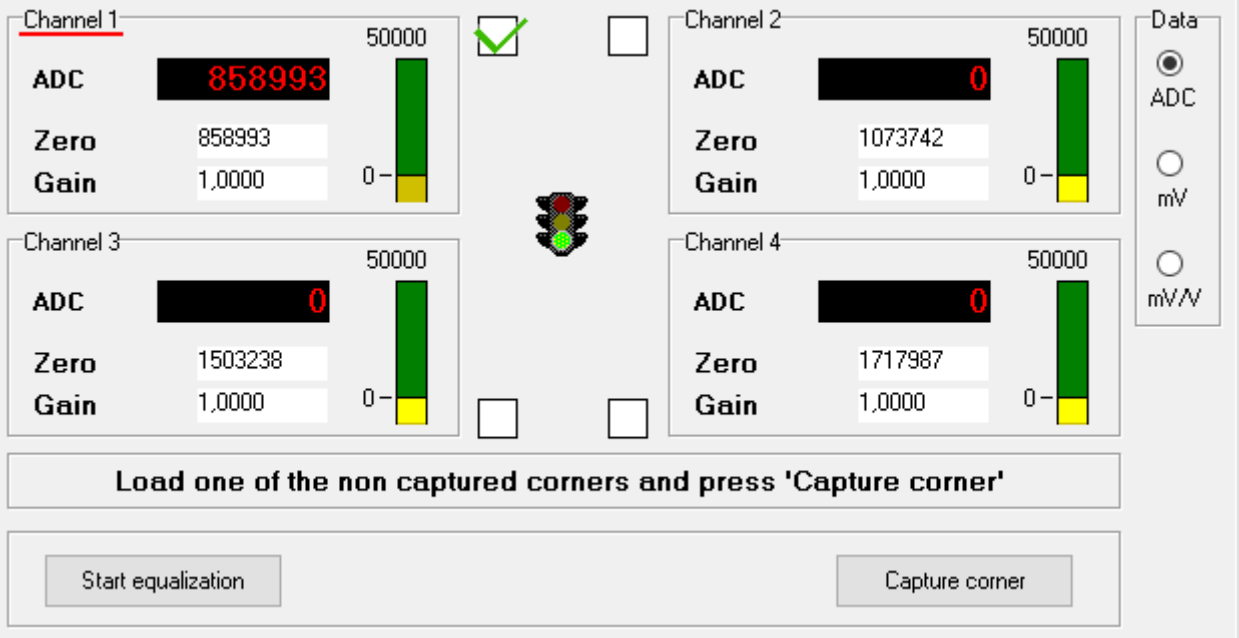


Procedure:

1) Unload all the cells connected to the configured channels and click on "**Start equalization**":



2) The programme is ready to acquire the weight on the first channel; position a calibration weight on the cell connected to input 1 and press on "**Capture corner**":



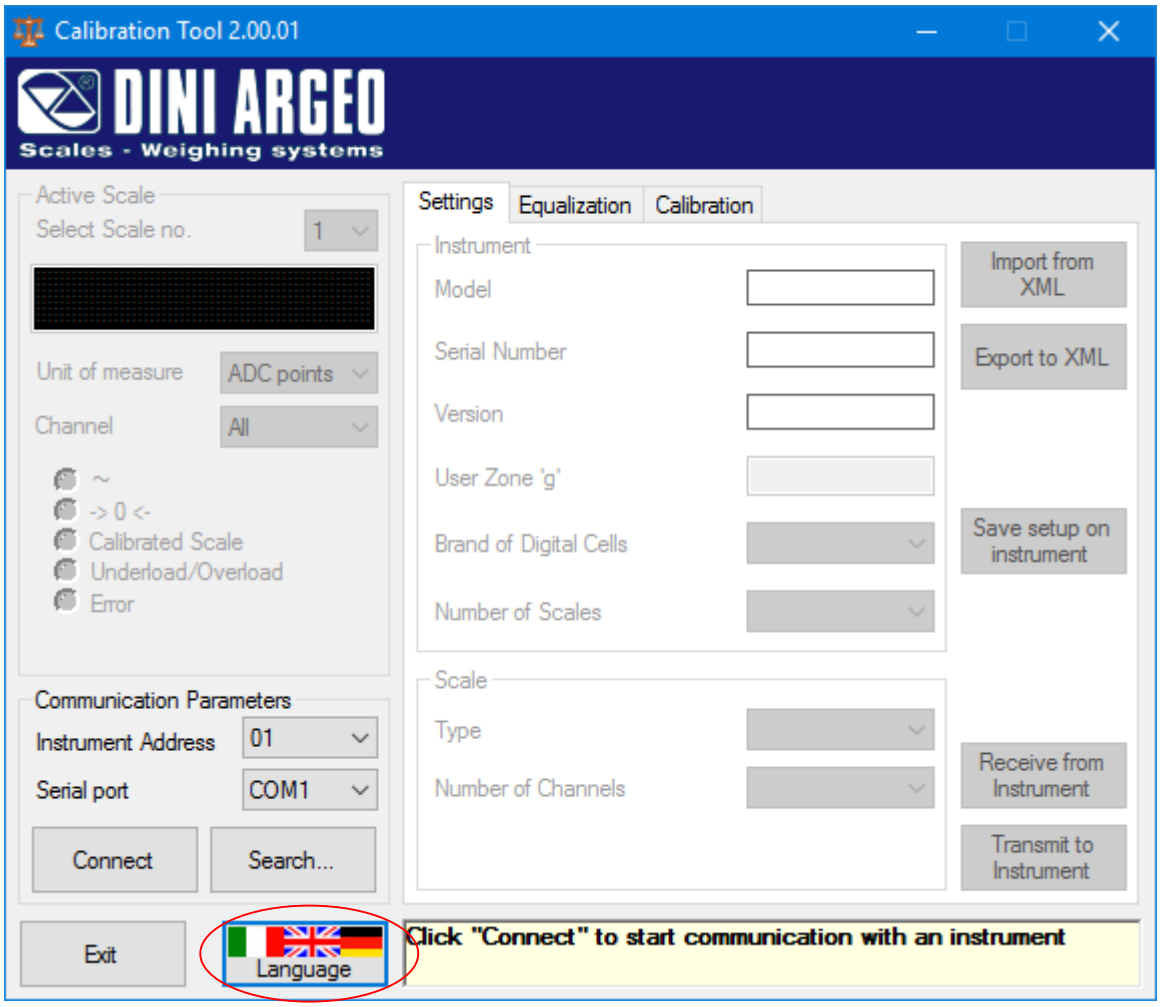
3) Repeat the operation for all the set channels by putting the same calibration weight on the cell connected to input 1; at the end of the last channel the equalisation has been completed.

4) To transmit only the equalisation and the metrological data, click on the "**Send**" key above; to transmit all the setup parameters, one should exit the calibration programme and use the "**Send**" key of the "**Setup management**" of Dinitools (see section 9.4.1.1).

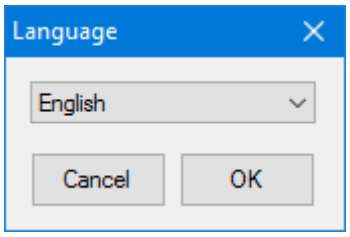
9.4.2.2 CALIBRATION WITH CALIBRATION TOOL 2

9.4.2.2.1 LANGUAGE SELECTION

1. Launch the software and the main dialog will appear:



2. Click on the **Language** button highlighted in the previous figure; the following window will appear:



3. Choose one of the available languages from the *drop-down* list:

press "**Cancel**" to close this window without changing the language; by confirming with "**OK**", the selected language will be immediately applied to all texts, “on the fly”, with no need to restart the software.

9.4.2.2.2 COMMUNICATION WITH THE INSTRUMENT

9.4.2.2.2.1 ESTABLISHING A CONNECTION

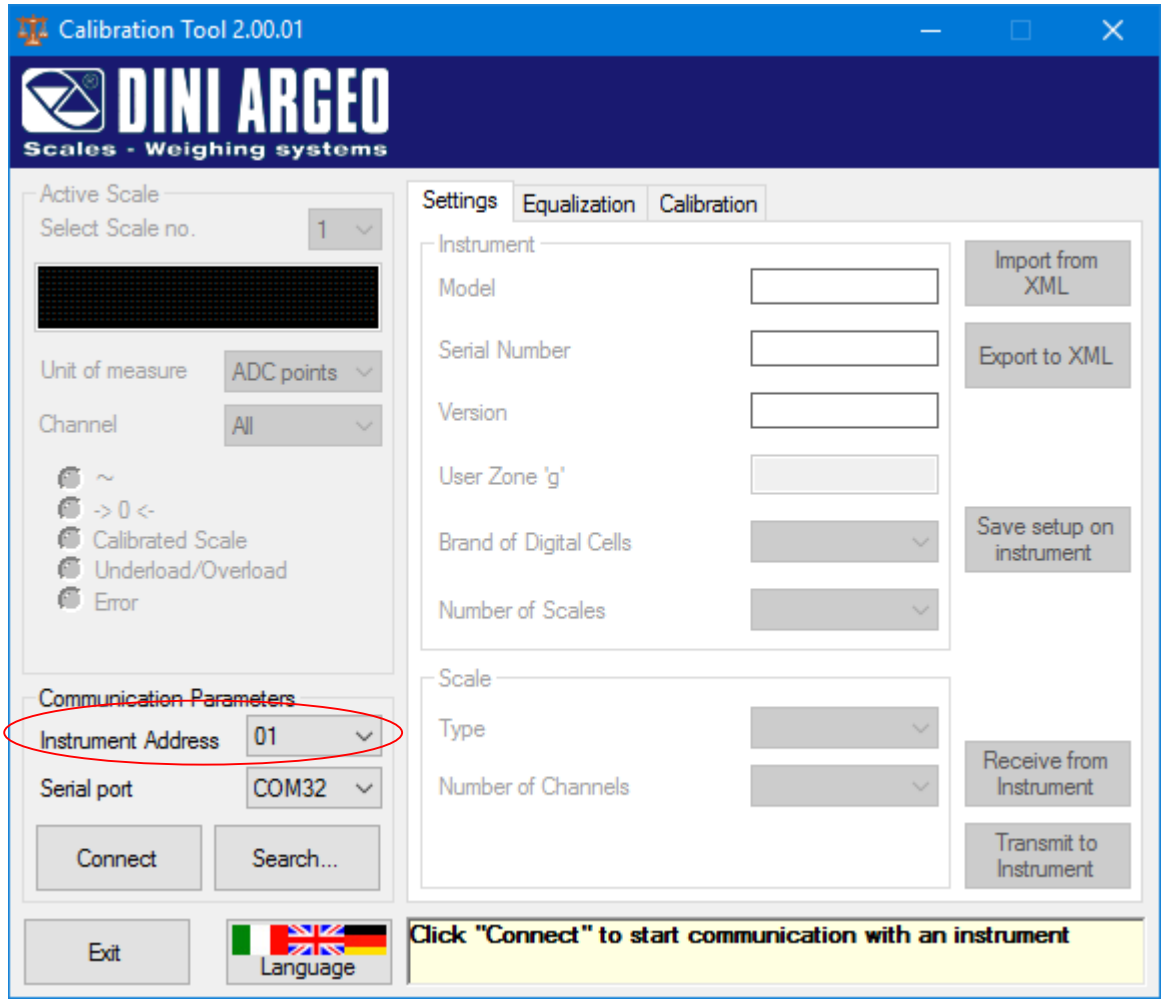
1. Connect the instrument's serial port to the PC:

a) In the case of direct connection to the instrument:
- connect the serial port of 3590E03/3590E08 assigned to the Com.PC or the RS232 port of the DGX
- turn on the instrument
- enter in the setup environment (required only in the 3590E03/3590E08)

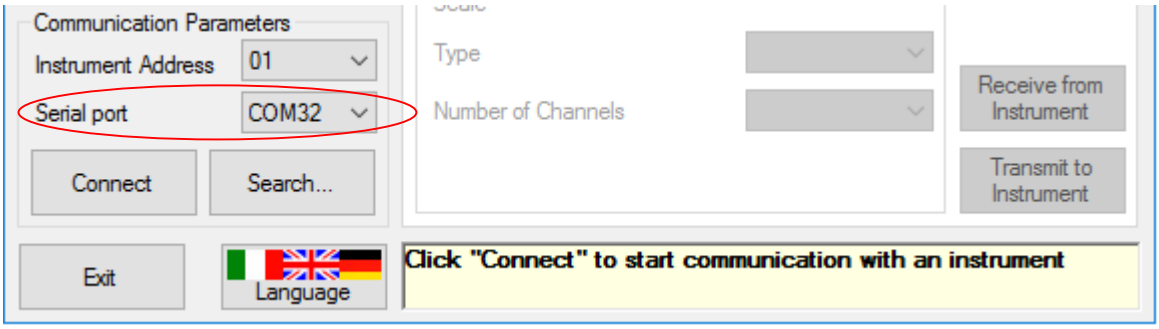
b) In the case of connection to a DGX through a 3590E03/3590E08 indicator:
- connect the serial port of the 3590E03/3590E08 assigned to the CoM.PC or CoM.Prn;
- turn on the 3590E03/3590E08;
- enable the function to redirect the data from a serial port to the other, inside the DIAG >> SERIAL step.

NOTE: See instrument's technical manual.
In case of various instruments connected through a RS485 network, it is necessary to set their 485 address before programming them (see respective manuals).

2. Launch the software. Then select the 485 Address assigned to the connected instrument (01 if the standard protocol has been set or DGX address not yet configured through the communication setting with the 3590E03/3590E08, see indicator's technical manual):

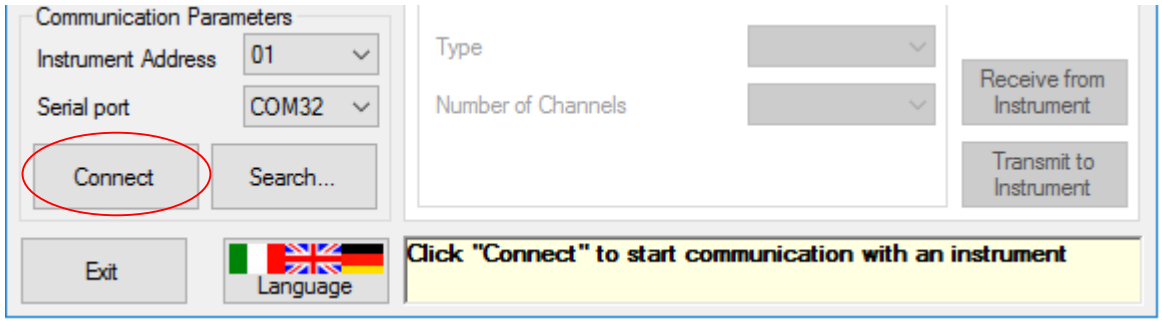


3. Select the "Serial Port" of the PC to which the instrument is attached;

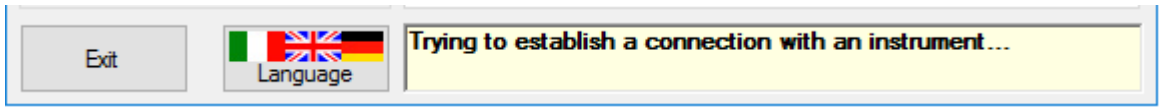


NOTE: It is possible to automatically detect all the instruments attached to the computer and select the desired one by following the **Search** procedure (see section 9.4.2.2.2.2).

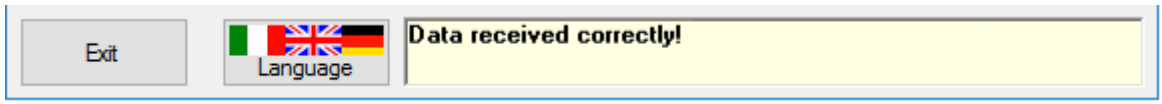
5. Click the **Connect** button to start the communication and receive the instrument data:



the following message will flash in the message panel while trying the connection:

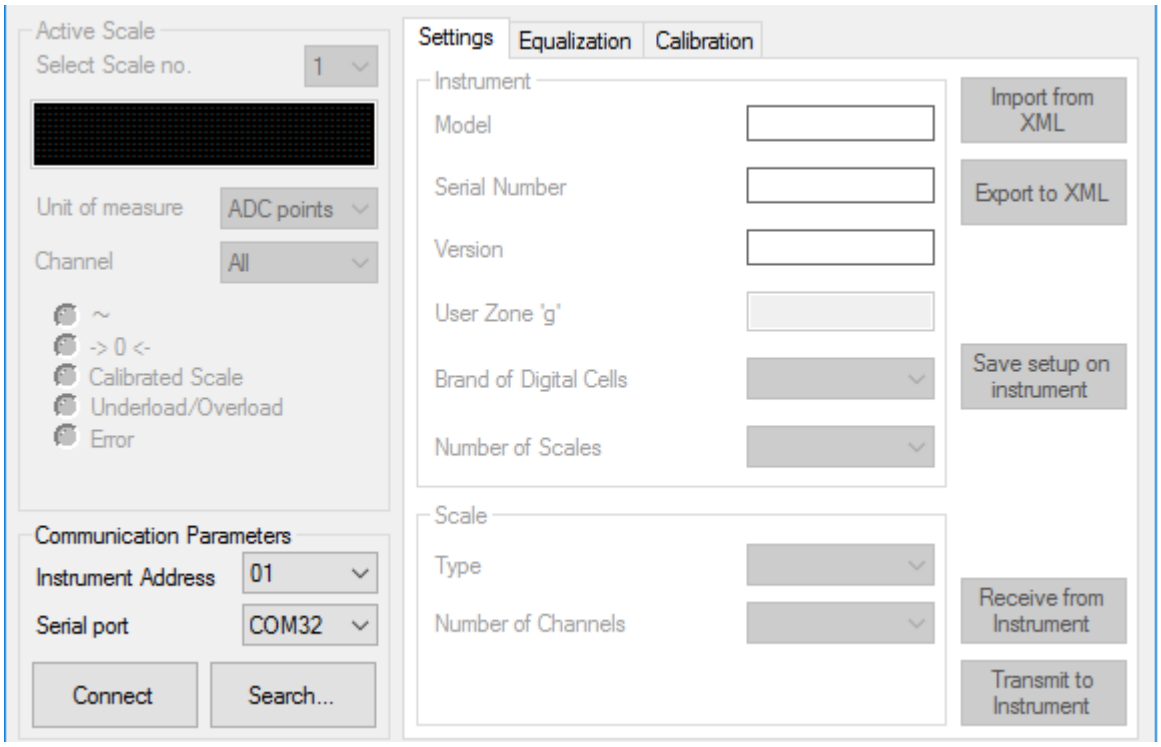


And then, if the connection has been established and the reception was successful:

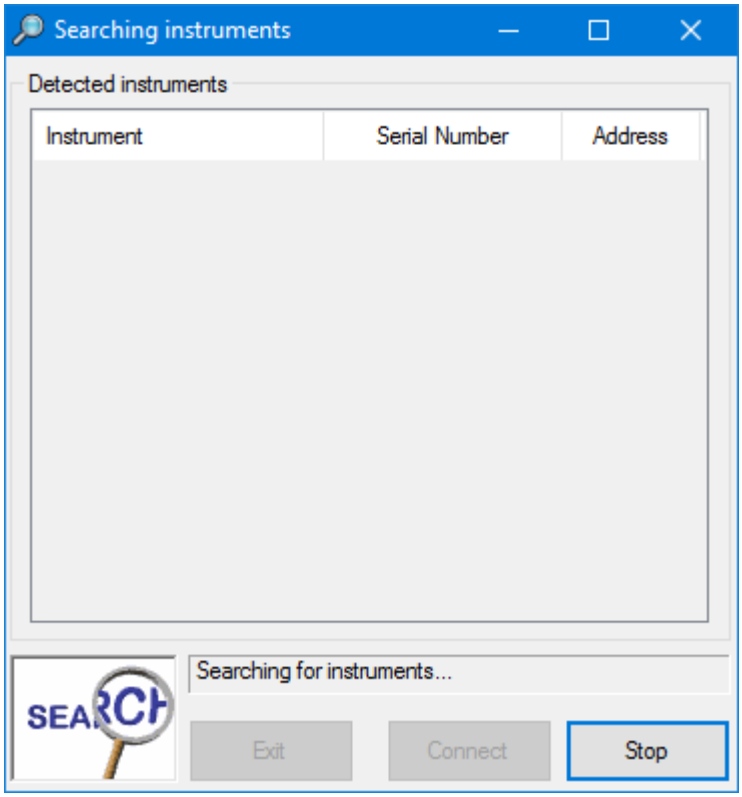


9.4.2.2.2.2 SEARCH FOR INSTRUMENTS

1. After selecting the PC serial port to which one or more instruments are connected (e.g. in case of a 485 network of instruments) click on the **Search…** button[1]:

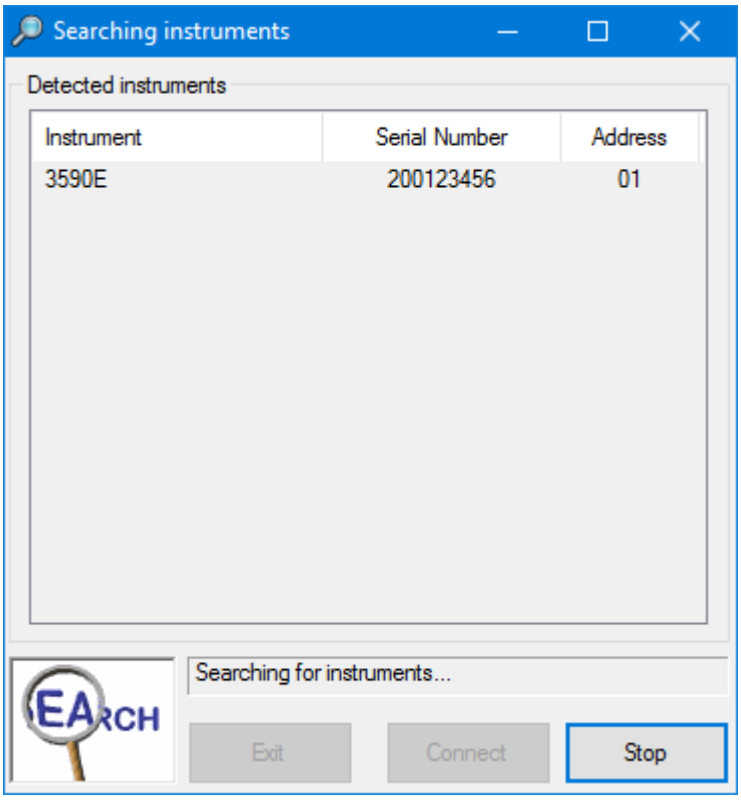


2. The following window will appear, and the search will start immediately:

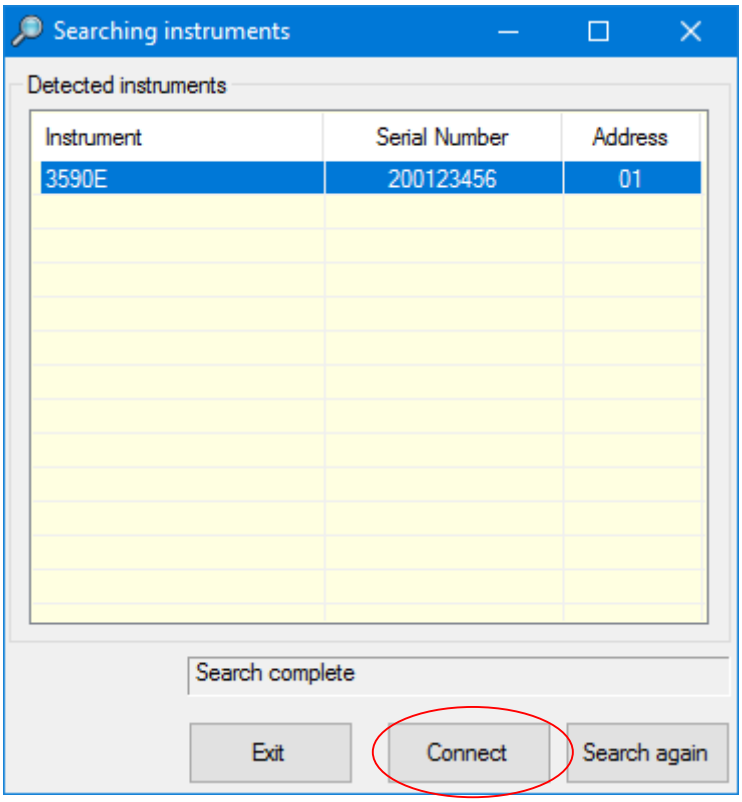


[1] The button is only available when no connection to an instrument is active.

3. Instruments will show up in the list as they are found:



4. The search can be interrupted anytime by pressing the **Stop** button. When the search ends (upon completion or interruption) it will be possible to connect to any instrument, by selecting it from the list, then pressing the **Connect** button[2].



5. Press **Exit** to close the window without connecting to any instrument or **Search again** to start a new search.

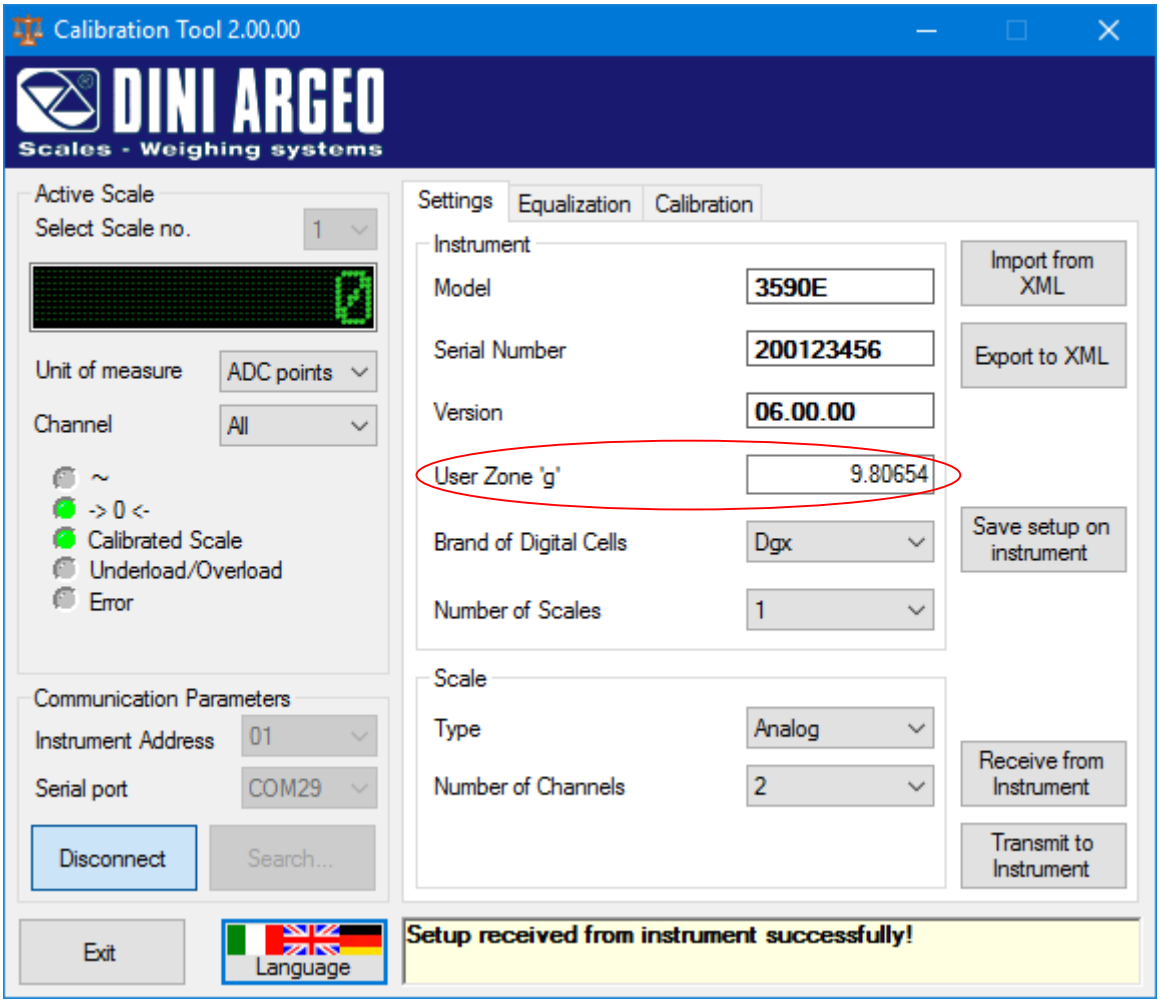
[2] As a shortcut, double-click on any instrument in the list to start connecting to it.

9.4.2.2.2.3 DISCONNECT

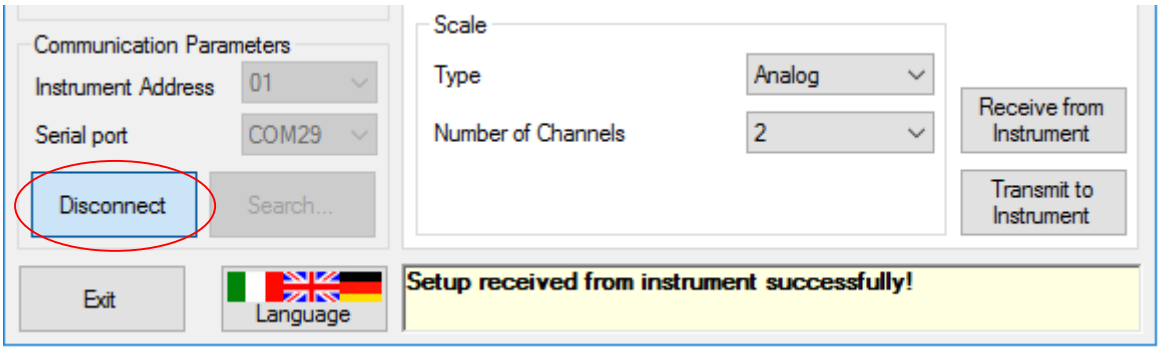
PREMISE:

In the case of DGX, the instrument will exit from the setup environment and restarted.

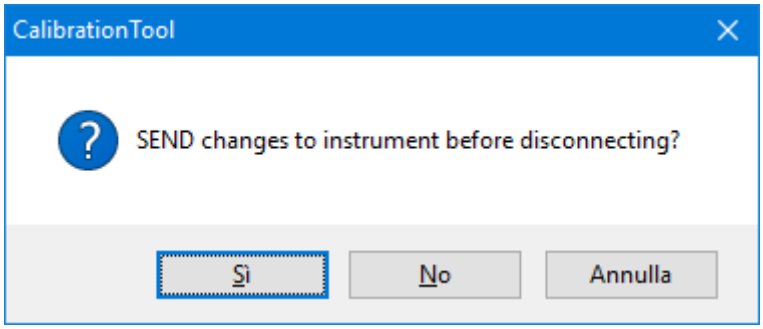
1. Check that all the modified parameters are transmitted and saved on the instrument. For any parameter that has been modified but not transmitted to the instrument yet, the caption is highlighted in red, as the **User Zone 'g'** in this example:



2. Just click the **Disconnect** button to stop the communication with the instrument:

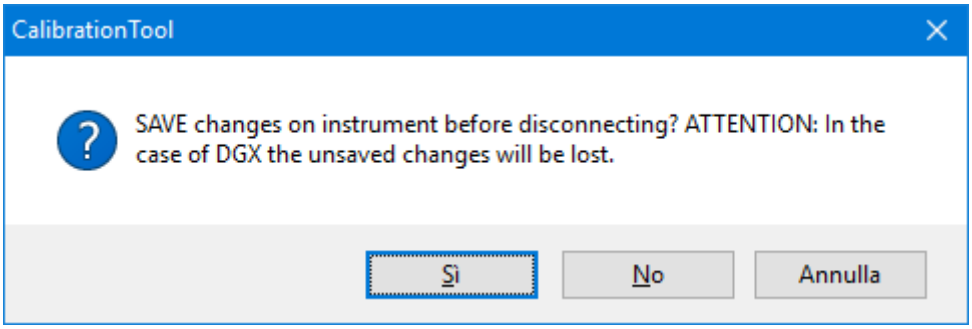


3. If any settings have been modified, but not transmitted to the instrument yet, the following confirmation request will show up when trying to disconnect:



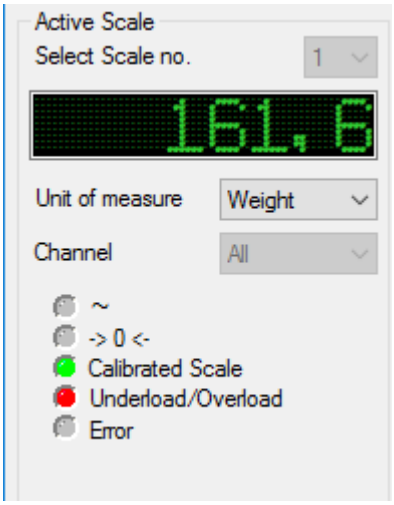
Choose **"No"** if you want to discard all changes and leave the settings on the instrument untouched. Press **"Yes"** if you want to transfer the changes to the instrument. **"Cancel"**, of course, will simply abort the disconnection.

4. After this confirmation, if some of the settings on the instrument have changed since it was connected to the tool, a further confirmation request will show up:

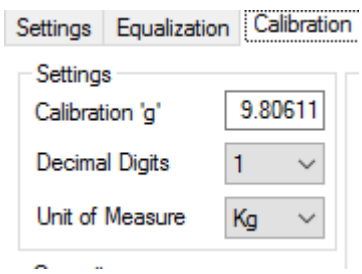


Press "**Yes**" to confirm, press "**No**" to disconnect without transmit /saving the modified parameters, or press **"Cancel"** to abort the disconnection procedure. As the message itself warns, if the instrument connected is a DGX, any unsaved changes on the instrument will be irretrievably lost upon disconnection. Remember that such unsaved data could include the results of an equalization or calibration procedure. So just be sure before choosing "No".

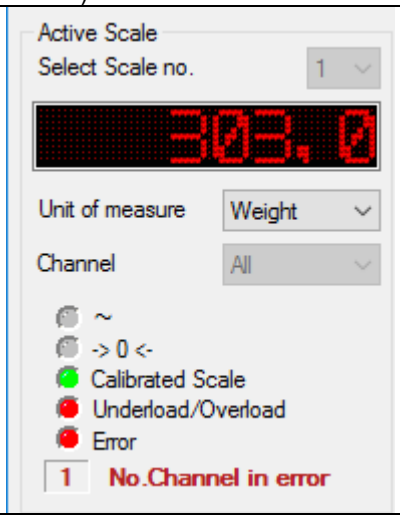
9.4.2.2.3 ACTIVE SCALE DATA



The **"Active Scale"** frame includes "live" weighing data for the currently selected scale. The weight panel shows a number[3] representing the current weight's value of the scale, which can be displayed in one of the following units of measure:
ADC points: *raw* value read from the Analogue-to-Digital Converter
mV: voltage expressed as millivolt
Weight: units of weight as configured in the *Calibration* tab, for example Kg:



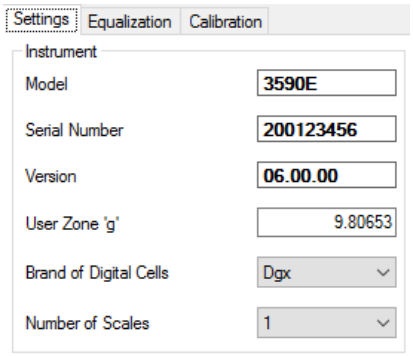
[3] The value in the weight panel is orange until stability hasn't been reached, then it turns green

PARAMETER	FUNCTION
Select Scale no.	Selection of the scale, from 1 to 4 (fixed at 1 in the case of DGX)
Unit of measure	Selection of the value's type to be shown in the weight panel, between ADC points, millivolts and weight.
Channel	Selection of the displayed channel; select *All* to show the sum value of the configured channels, ranging from 1 to 4 in the case of analogue platform, or from 1 to 16 in the case of digital scale.
~	When lit (red), this LED indicates that the weight is unstable
→0←	When lit (green), this LED indicates that the weight detected by the weighing system is near zero, including the interval of -1/4 +1/4 of the scale's division.
Calibrated Scale	When lit (green), this LED indicates that the scale is calibrated
Underload/Overload	When lit (red) this LED may indicate either one of the following: **OVERLOAD** The weight is 9 divisions or more above the **Maximum Capacity.** **OR UNDERLOAD** - Approved instrument: The weight is under the gross zero (-100 divisions). - Non approved instrument: The weight is under the gross zero (- capacity – 9 divisions).
Error	When lit (red) this LED indicates an error (e.g. an *overflow*) on one or more channels of the scale. The value in the weight panel will freeze and turn red, while the (first) faulty channel will appear under the LED, as in this example: 

9.4.2.2.4 SETTINGS

PREMISE:

- To apply the settings also on the instrument it is required to transmit them by following the procedure described in the section 9.4.2.2.4.4.
- If the parameters have not yet been transmitted (see section 9.4.2.2.4.4) it is possible to restore the instrument's settings by following the procedure described in the 9.4.2.2.4.3 section.



A table describing the meaning of these parameters can be found at the following page.

INSTRUMENT

The following parameters affect the general functioning of the instrument and all the connected scales.

PARAMETER	DESCRIPTION
Model	Type of connected instrument: - KD3590 (3590E03/3590E08) - DGX. **NOTE:** The parameter is read only.
Serial Number	Serial number of the instrument main board. **NOTE:** The parameter is read only.
Version	Software version installed on the connected instrument: XX.YY.ZZ. **NOTE:** The parameter is read only.
User Zone "g"	Setting the gravity acceleration value of the ZONE OF USE. If a wrong g value is entered (out of the range between 9,75001 and 9,84999 inclusive), an appropriate error message will be shown. If one press the Esc key: the previous set value is proposed. If one press the Esc key twice: the value set in the instrument is restored.
Brand of Digital Cells	Setting the type of cells used in case of digital scale/s: - Dgx - RCD - CCI AD - RC3D - C16i
Number of Scales	Setting the number of connected scales - 1 scale; - 2 scales; - 3 scales; - 4 scales.
Filter	Selection of the type and degree of filter intervention for the stability of the weight indication: - **FLT 0 – 3** simple weighing - **H.R.0 – 1** high resolution and "A+B" mode - **DYN.0 – 1** weight in motion (i.e. weighing animals) - **CuStoM** filter received from the instrument. **NOTE:** The parameter is visible only in case of DGX instrument. It is possible to quickly modify the parameter also during equalization and calibration procedure (see section 8 and 9).

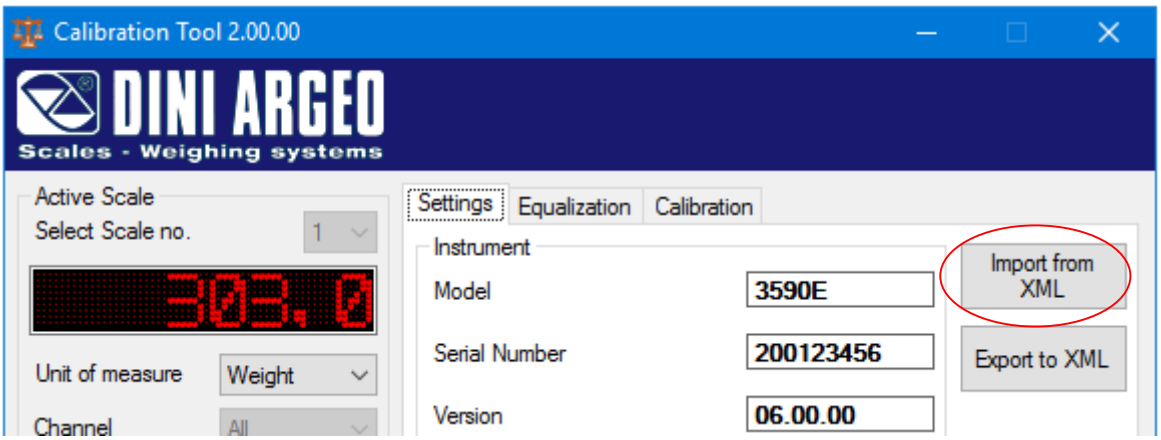
SCALE

The following parameters affect the active scale only (see section 9.4.2.2.3).

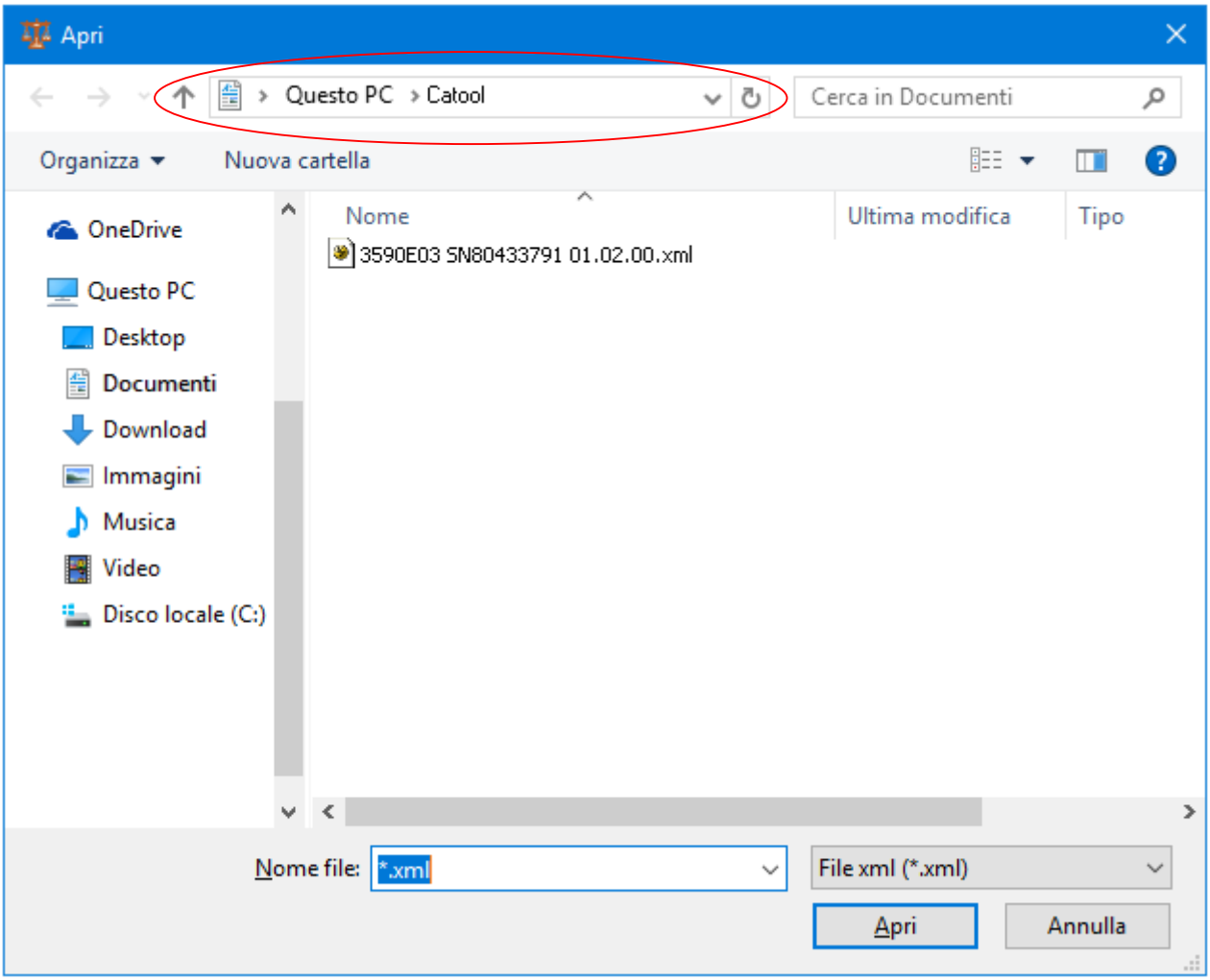
PARAMETER	POSSIBLE VALUES
Type	Setting the type of used cells: - Analog - Digital
Number of Channel	- In case of digital cells it will be possible to enter a number of cells between 1 and 16 - In case of analogue cells it will be possible to enter a number of channels between 1 and 4.

9.4.2.2.4.1 IMPORT FROM XML FILE

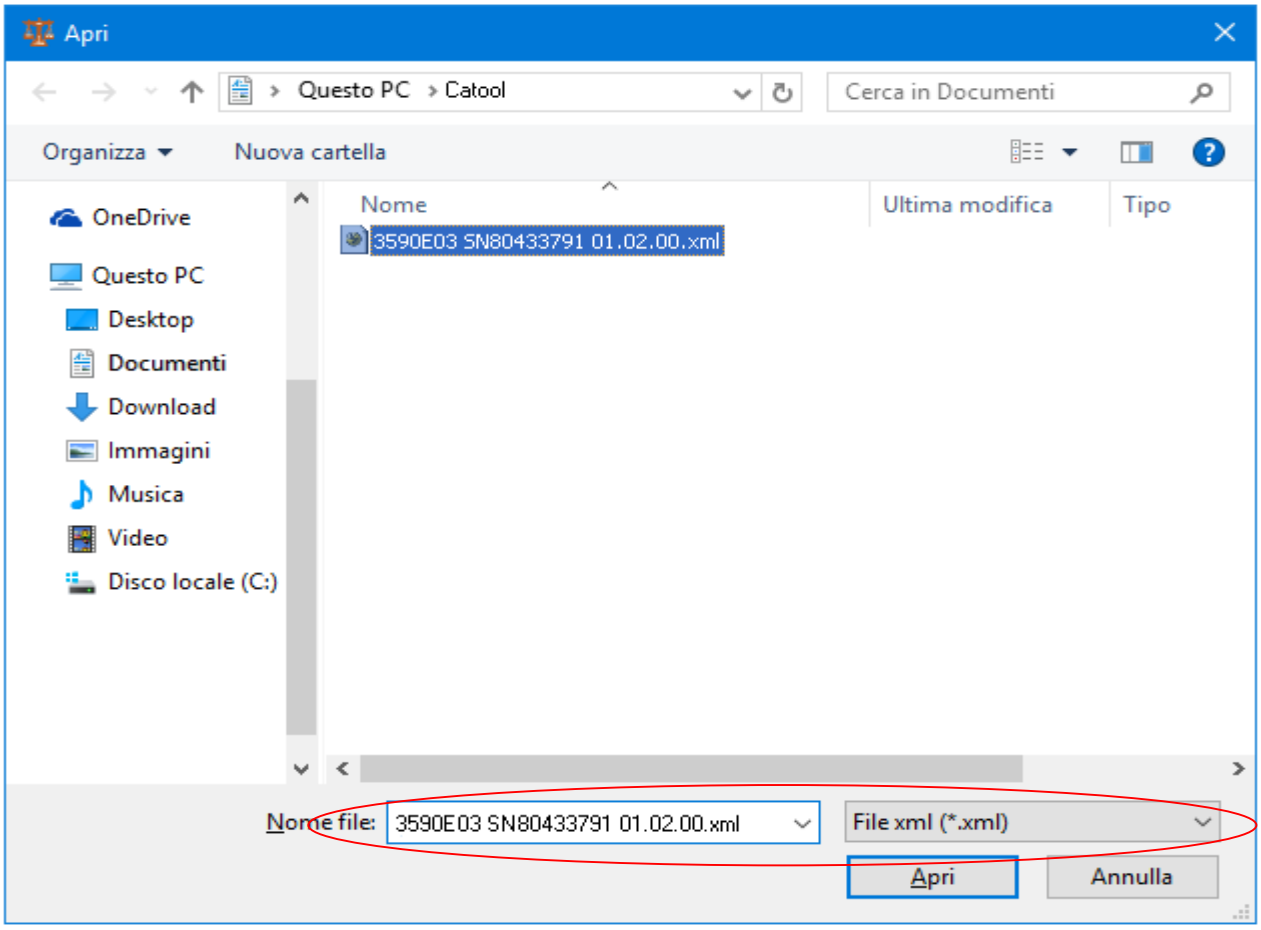
1. While connected to an instrument (see section 9.4.2.2.2), press the button **Import from XML**:



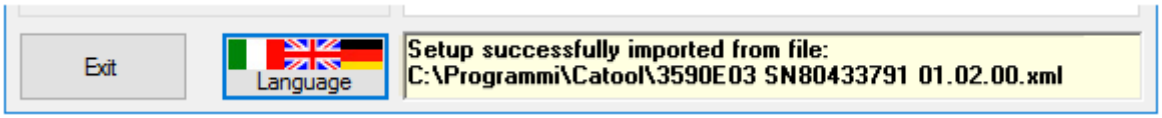
2. in the following window, browse for the folder containing the desired file:



3. Click on the file name, then press the **"Open"** button:

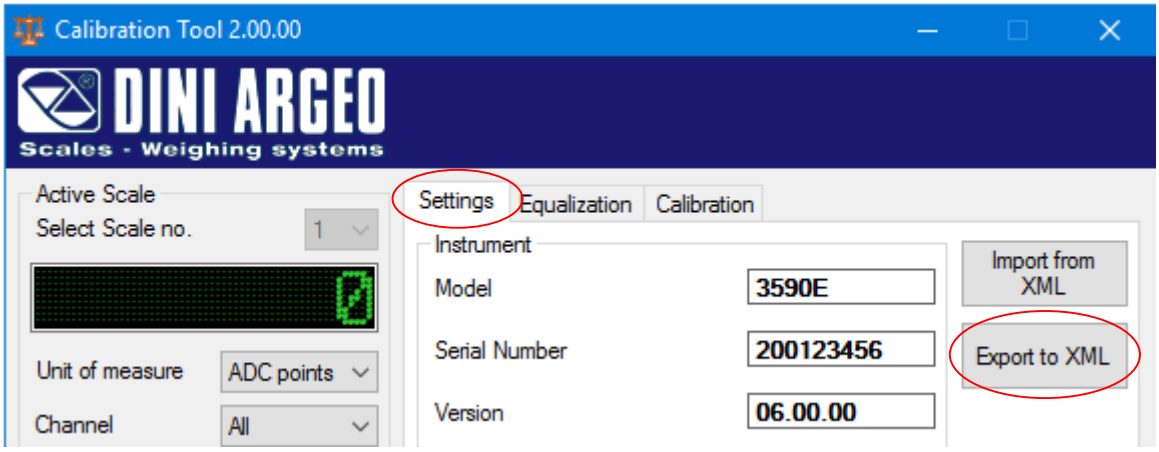


4. The setup parameters contained in the file will be loaded into the Calibration Tool, provided they are valid, while the message panel will show the operation's result:



9.4.2.2.4.2 EXPORT TO XML FILE

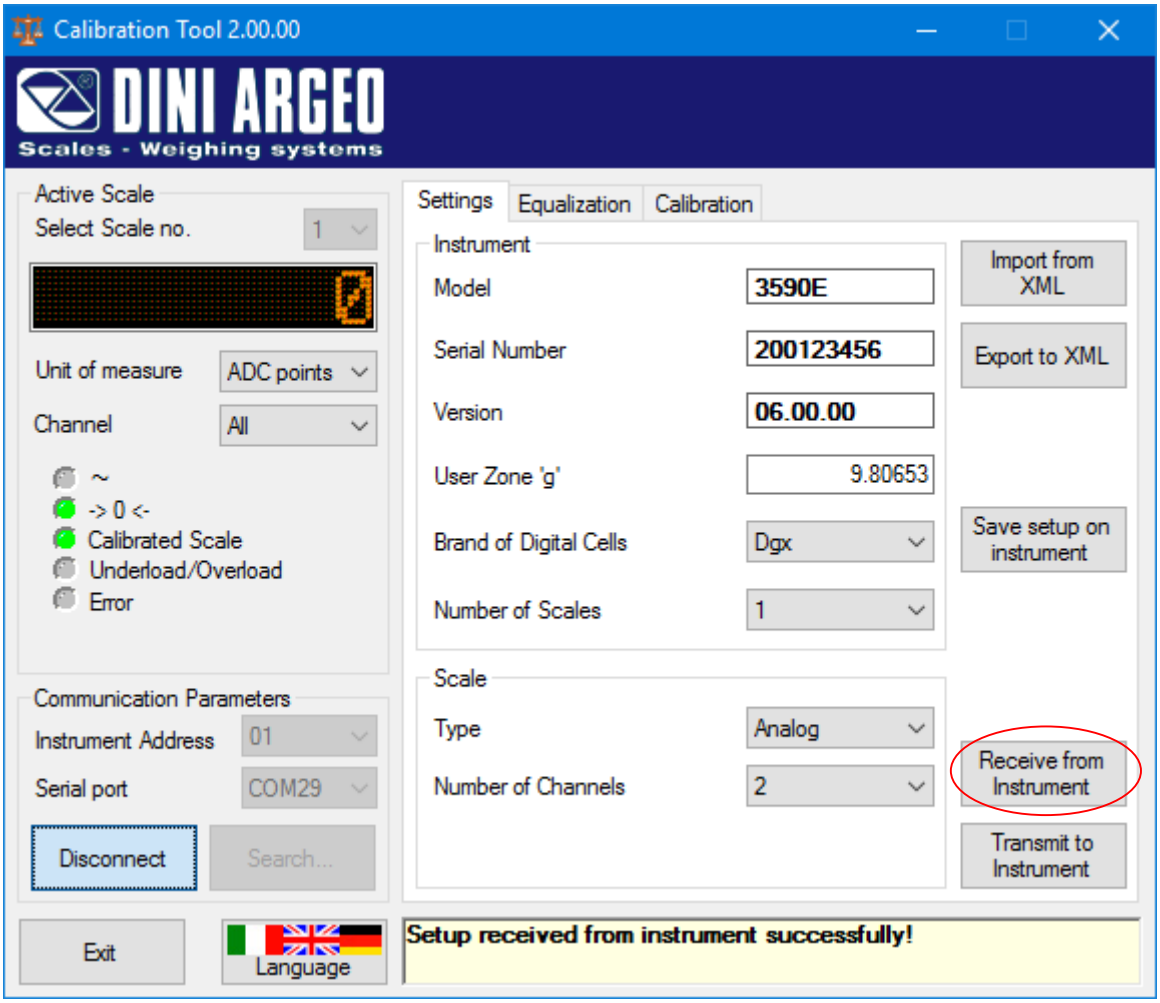
1. While connected to an instrument (see section 9.4.2.2.2), and after the necessary parameter changes and/or equalization/calibration procedures (see sections 9.4.2.2.5 and 9.4.2.2.6), press the **"Export to XML"** button, from the **Settings** tab:



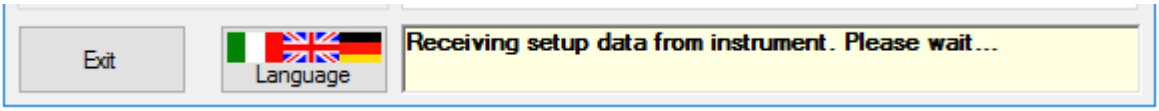
2. A well-known **Save As** window will show up. Browse for the folder where the new file has to be saved.

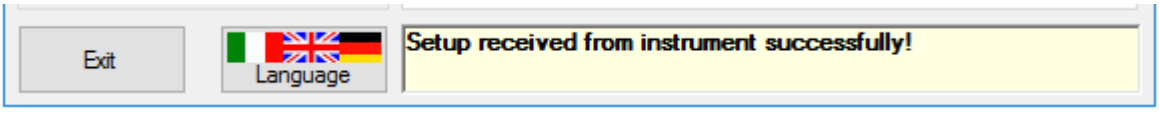
9.4.2.2.4.3 RECEIVE FROM INSTRUMENT

1. Connect the instrument (see section 9.4.2.2.2); if some parameters had been changed or imported from XML but not yet transmitted to the instrument, it will be possible to restore the program's data with the instrument's current values:



2. Press the **"Receive from instrument"** button; the following messages will appear sequentially in the message panel:





9.4.2.2.4.4 TRANSMIT TO INSTRUMENT

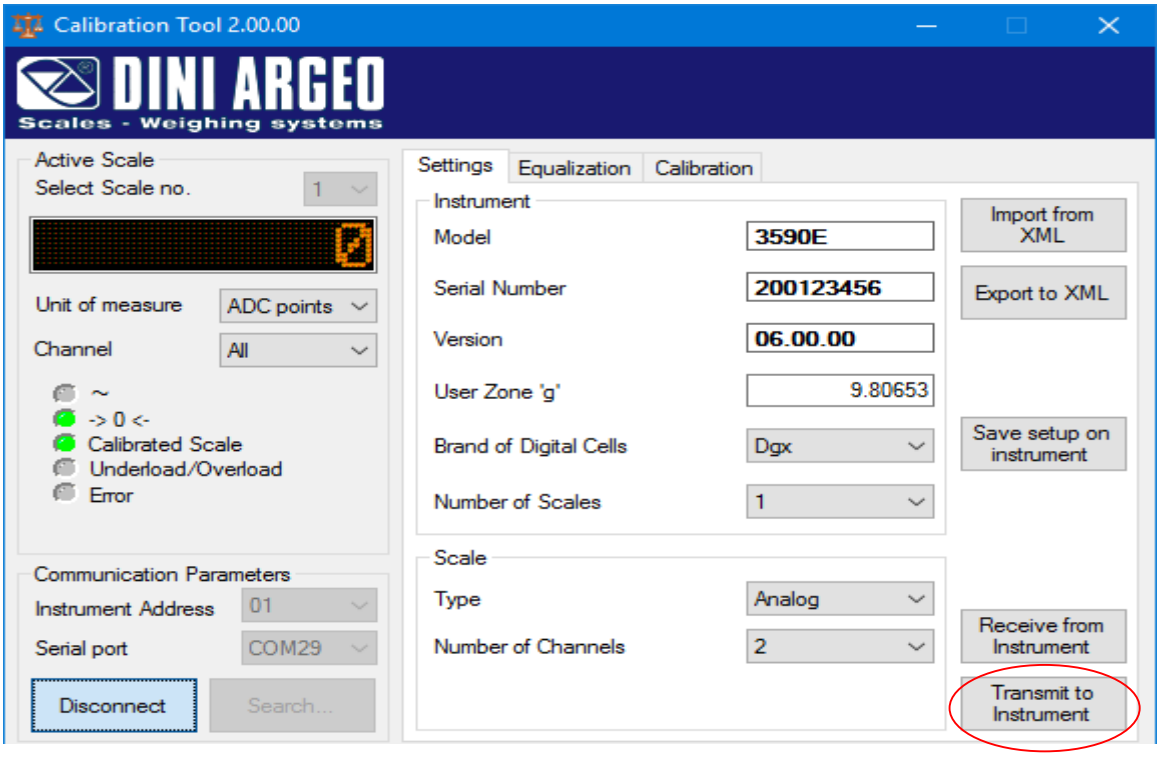
PREMISE:

- To permanently save the transmitted settings on the scale:
1) follow the procedure described in the section 9.4.2.2.4.5,
or
2) save the setup by exiting from the setup environment of the instrument (possible with the 3590E03/3590E08 only, see instrument's manual).

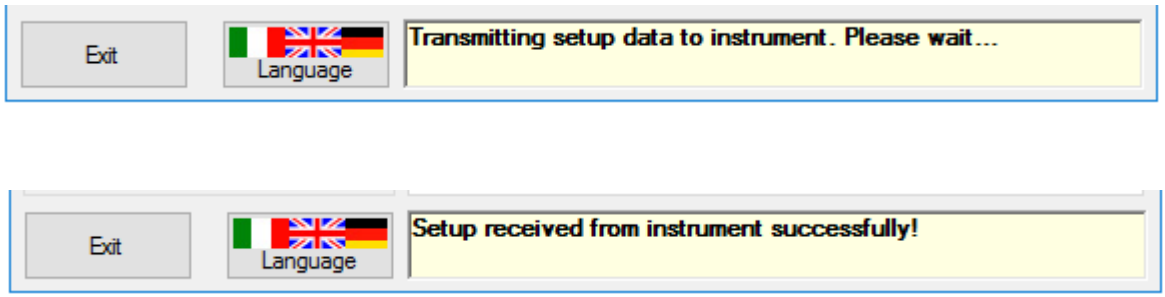
- If the transmitted parameters have not yet been permanently saved on the instrument (see section 9.4.2.2.4.5) it is possible to restore the previous settings:
1) disconnect the instrument without saving the setup (see section 9.4.2.2.2.3) **and**
2) exit from the setup environment of the instrument without saving (required with the 3590E03/3590E08 only, see instrument's manual).

PROCEDURE

1. Connect the instrument (see section 9.4.2.2.2) and, once all the parameters are modified, select the "**Settings**" window, then press the **"Transmit to Instrument"** button:

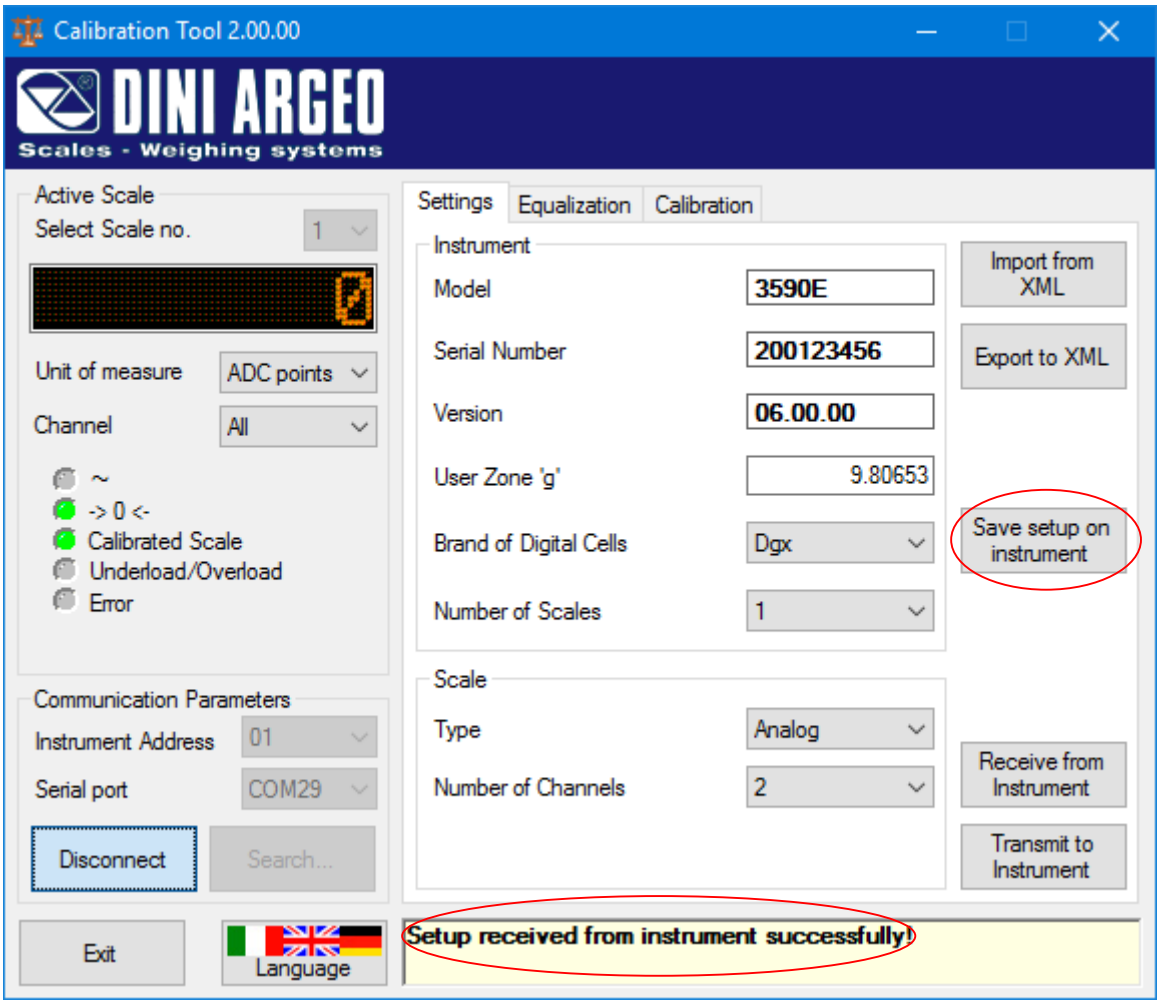


2. if the data are correct the following will appear sequentially in the message panel:

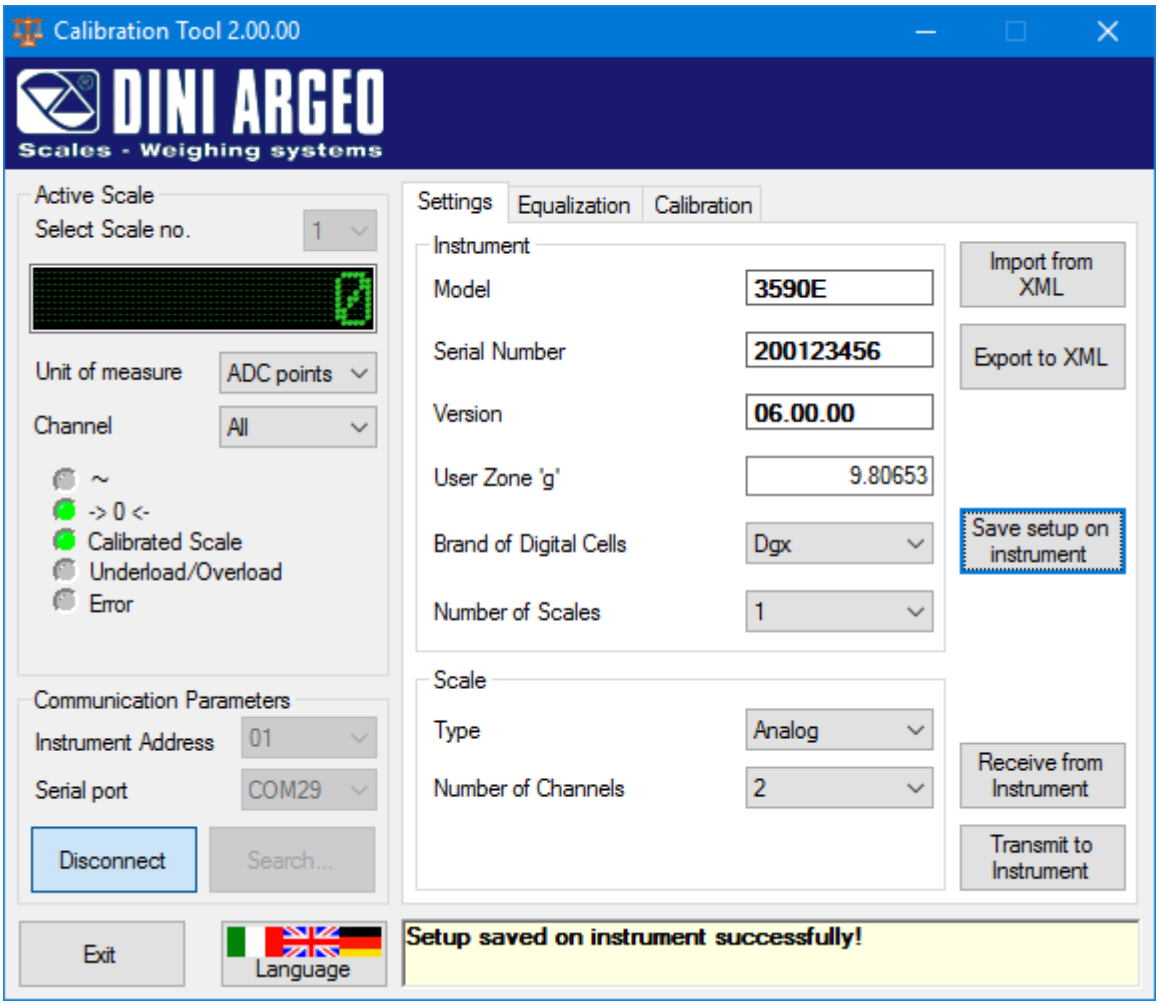


9.4.2.2.4.5 SAVE SETUP ON INSTRUMENT

1. Connect the instrument (see section 9.4.2.2.2) and, once all the parameters are modified and transmitted (see section 9.4.2.2.4.4),select the "**Settings**" window:



2. Press the **"Save setup on instrument"** button. The message panel will notify whether the operation has been successful:



9.4.2.2.5 EQUALIZATION

PREMISE:

- This procedure may be carried out only for scales having more than one channel (either digital or analogue cells).

- For this procedure it is advisable to use a weight of at least 1 / (n - 1) of the capacity (where n is the number of the digital cells or channels).

- The equalization is automatically applied to the instrument once the procedure is finished, therefore it is not required to transmit it.

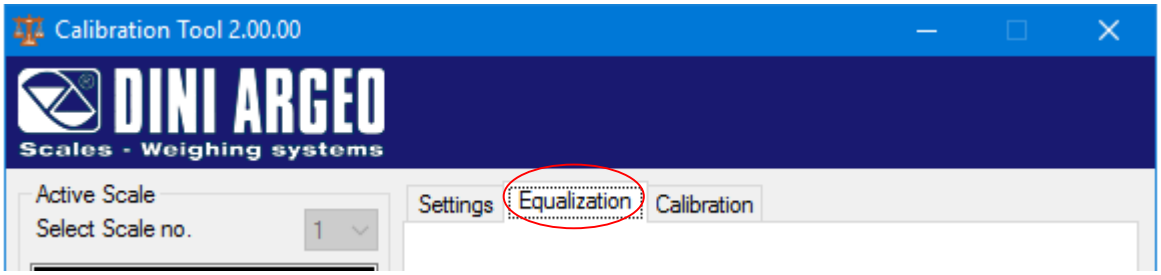
- If the equalization is not finished yet (see section 9.4.2.2.4.4) it is possible to abort the procedure as explained at section 9.4.2.2.5.1.
- To permanently save the transmitted equalization on the scale:
1) follow the procedure described at section 9.4.2.2.4.5.
or
2) save the setup by exiting from the setup environment of the instrument (possible only with the 3590E03/3590E08, see instrument's manual).

- If the transmitted parameters have not yet been saved permanently on the instrument (see section 9.4.2.2.4.5)it is possible to restore the previous equalization:

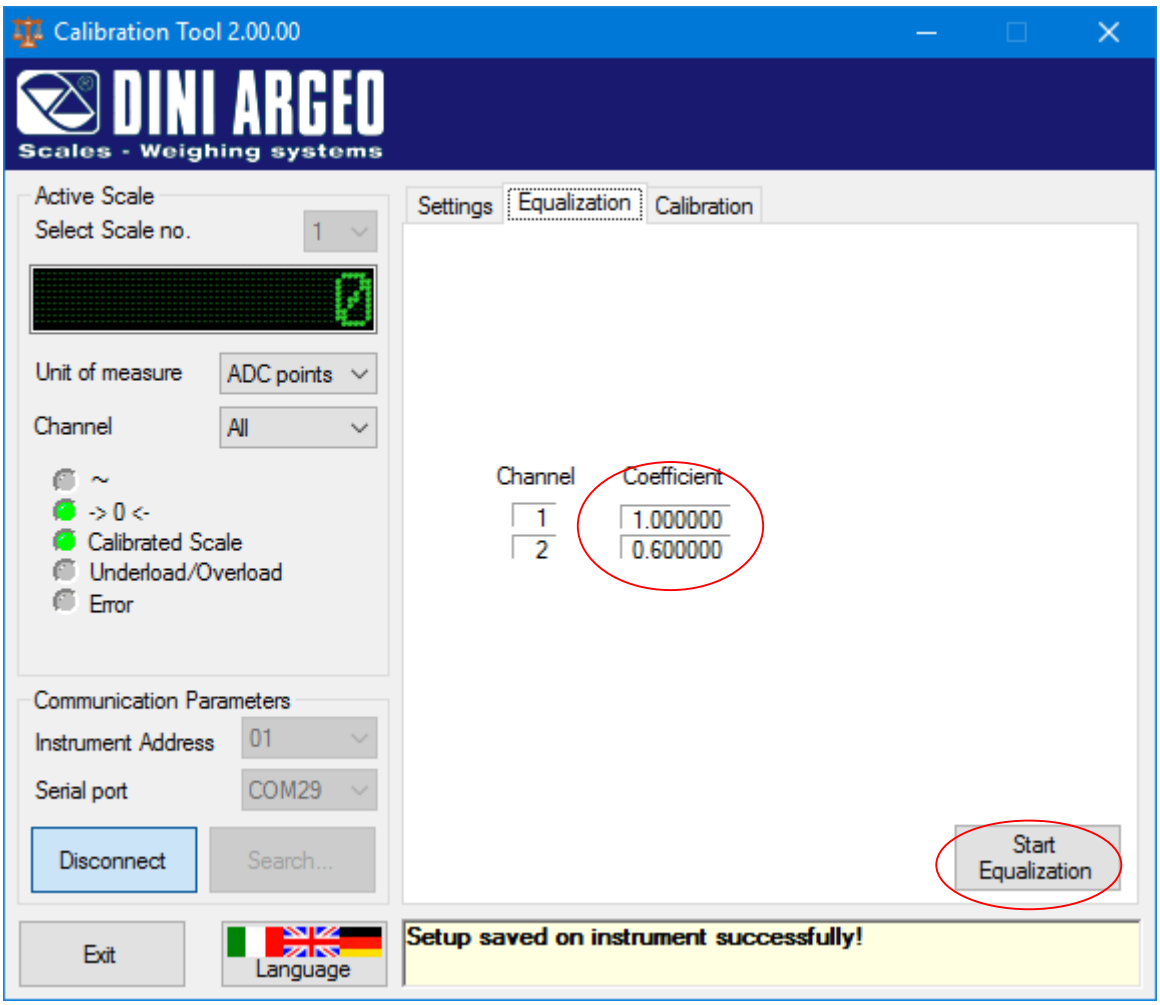
1) disconnect the instrument without saving the setup (see section 9.4.2.2.2.3)
and
2) exit from the setup environment of the instrument without saving (required only with the 3590E03/3590E08, see instrument's manual).

PROCEDURE

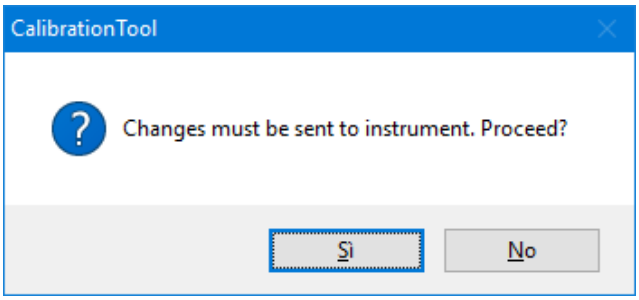
1. Connect the instrument (see section 9.4.2.2.2) and, once all the parameters are modified and transmitted, select the "**Equalization**" window:



2. The current equalization coefficient for each channel is displayed at the centre of the dialog.
Click on the **"Start equalization"** button:

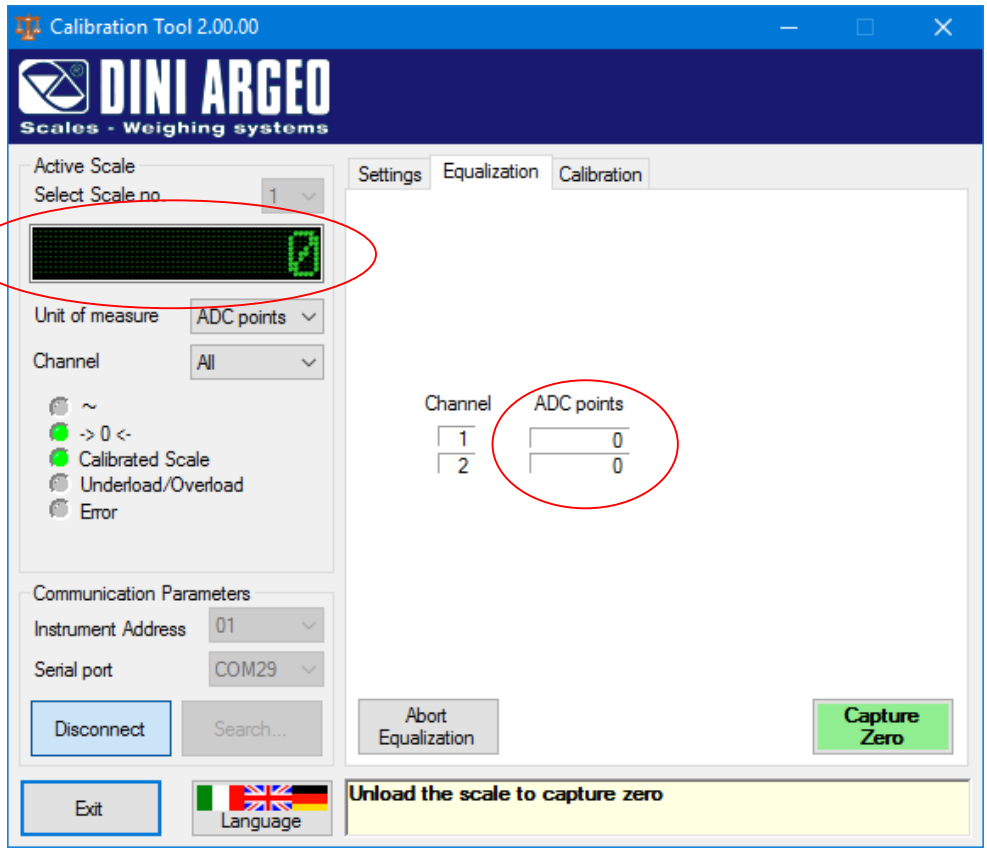


In case of some parameter changes not transmitted to the instrument, the following notice will show up:



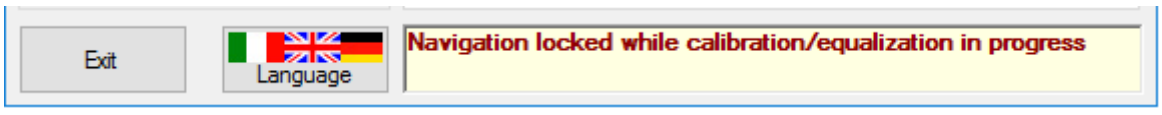
By choosing **"No"**, no data will be transmitted, but it will not be possible to proceed with the equalization.
Pressing **"Yes"** will send the changes to the instrument, then the equalization procedure will start automatically.

3. Once the procedure is started, the ADC points for each channel will be shown and updated live at the centre of the dialog, in place of the equalization coefficients.
The weight stability is highlighted through the colour of both the weight panel and the "**Capture**" button: *orange* when unstable, or *green* when stable, as in the following example:

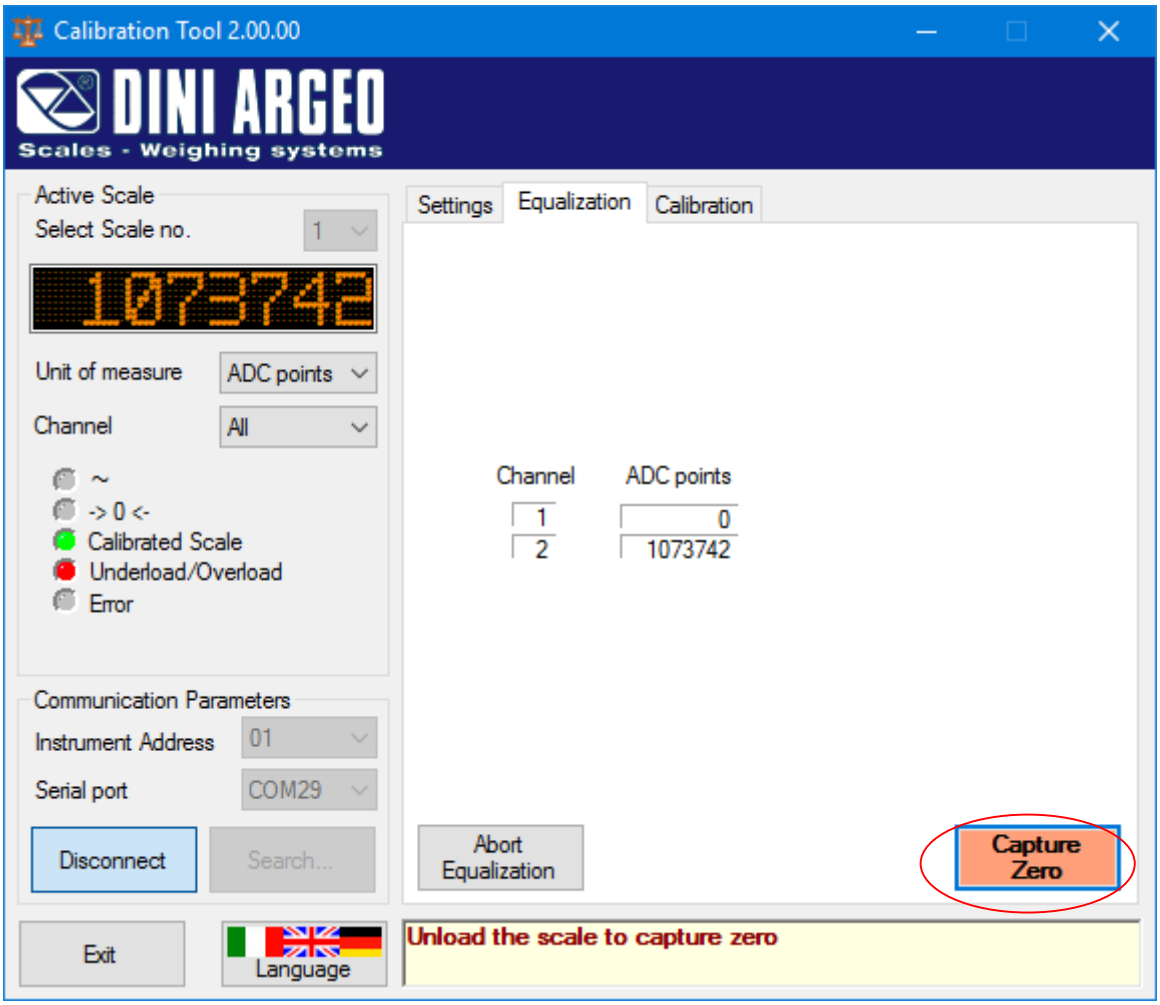


if required, it is possible to modify the type and degree of filter intervention so as to affect the stability of the weight indication, by the following:
- In the case of DGX instrument, by choosing a different filter parameter from the "**Filter**" list
- In the case of 3590E03/3590E08 instrument (for which the Filter list is not shown), through the "Stabil" parameter in the setup environment of the indicator (see instrument's technical manual).

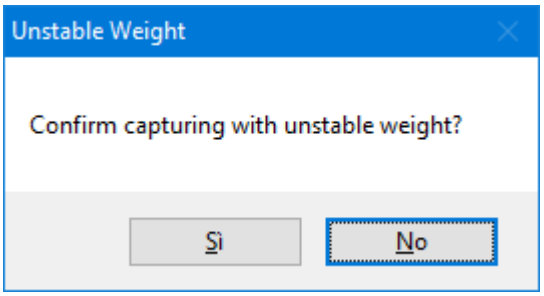
Notice that while the equalization procedure is in progress, it is not possible to navigate to different tabs of the dialog (i.e. **"Settings"** or **"Calibration"**). Any such attempts will prompt the following warning to temporarily appear in the message panel:



4. Unload all the cells of the scale, then press the "**Capture Zero**" button:

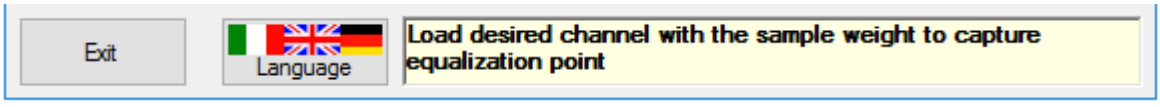


The picture above shows an example of unstable weight. As highlighted by the orange color, it is not advisable to "capture" in such a condition. However, it is still possible, by answering **"Yes"** to the following confirmation request:

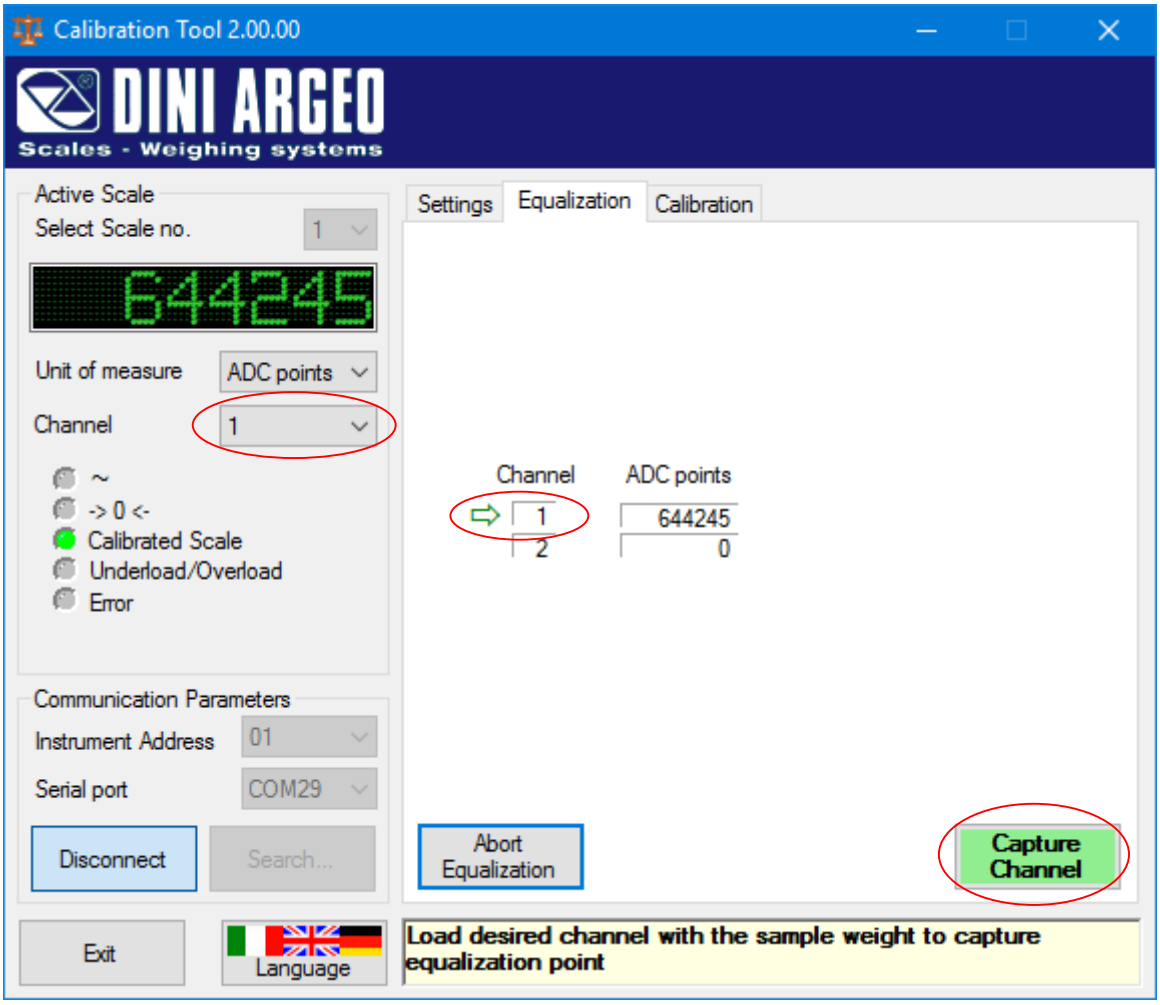


The capture will occur at the exact instant that the **"Yes"** button is pressed, whether stability has been reached in the meantime or not. Use caution though when acquiring unstable weights, as such operation could lead to incorrect equalization coefficients being calculated and applied by the instrument.

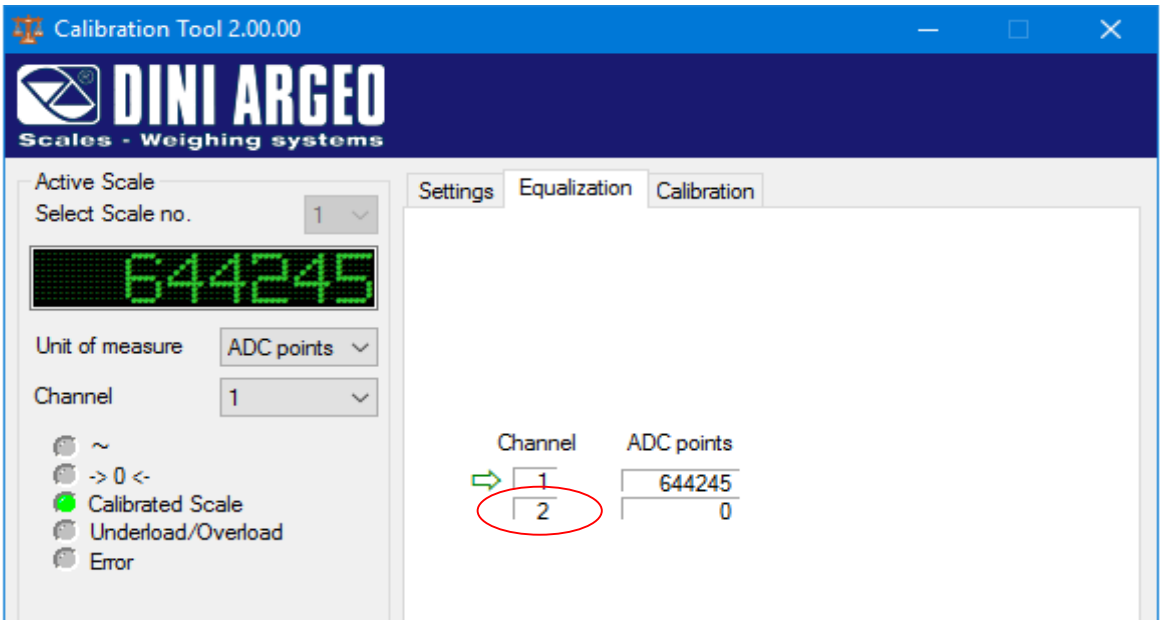
5. Once the zero value has been acquired, the first channel can be measured. Load the desired sample weight on the cell connected to channel 1, as prompted by the message panel:



6. The loaded channel will be automatically detected and indicated by a shaking arrow, while it will also be automatically selected in the **"Channel"** box, so as to display the ADC points for the current channel in the weight panel too[4]:

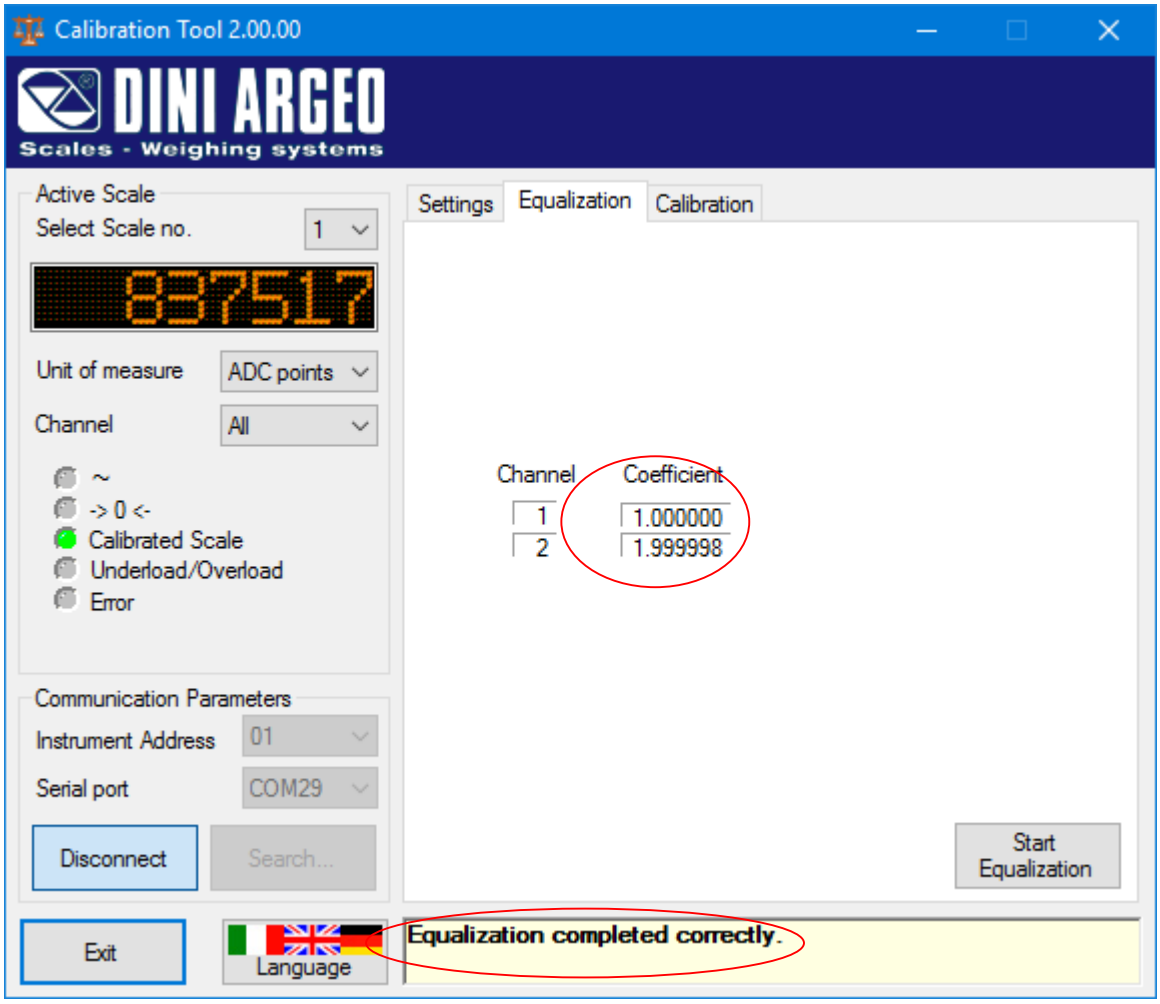


As soon as the weight on the current channel reaches stability (signalled by the green colour), press the **"Capture Channel"** button. A green tick will show up next to the channel just acquired. From now on, the orange colour will be used not only for instability, but also for channels already captured:



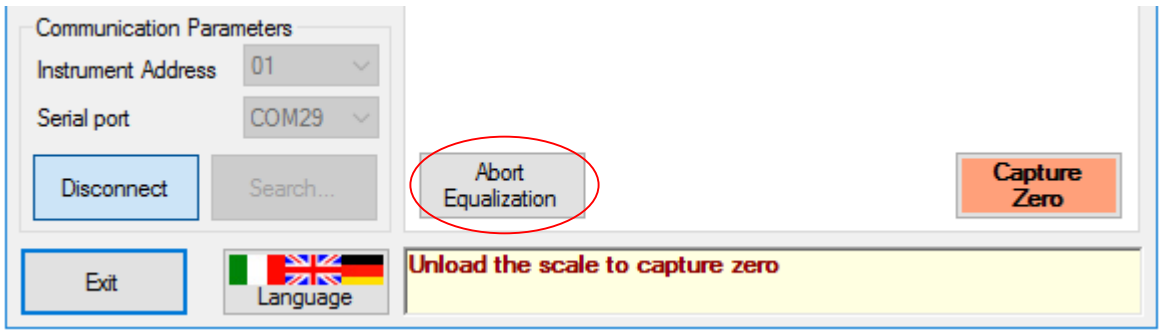
[4] It is still possible, however, to select **"All"**, or even another channel, if needed.

7. Move the sample load on the next cell, then repeat the operation. Once all channels have been measured, the newly calculated equalization **"Coefficients"** will show up again in place of the "Adc points", while a message will report a successful procedure:

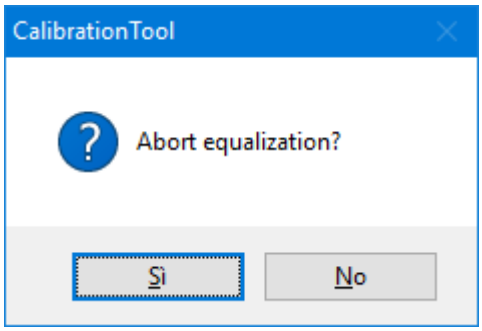


9.4.2.2.5.1 EQUALIZATION ABORT

1. While the equalization procedure is in progress, it is possible to abort it, thus restoring the previous coefficients on the instrument. Press the **"Abort Equalization"** button at the bottom of the equalization frame:



2. Then respond to the confirmation request:



3. Press "**Yes**" to discard all data acquired thus far and abort the procedure; press "**No**" to avoid aborting and continue equalizing the scale.

9.4.2.2.6 CALIBRATION

The program offers various possibilities:

- **Calibration with Sample Weights**
- **Zero Calibration**
- **Calibration parameters modification**

9.4.2.2.6.1 CALIBRATION WITH SAMPLE WEIGHTS

PREMISE:
- In case of various connected scales, each of them must be calibrated on its own, with its own capacity, division and unit of measure.

- In case of various channels (no matter whether connected to digital or analogue cells), in addition to the calibration, one must carry out the equalisation (see 9.4.2.2.5 section).

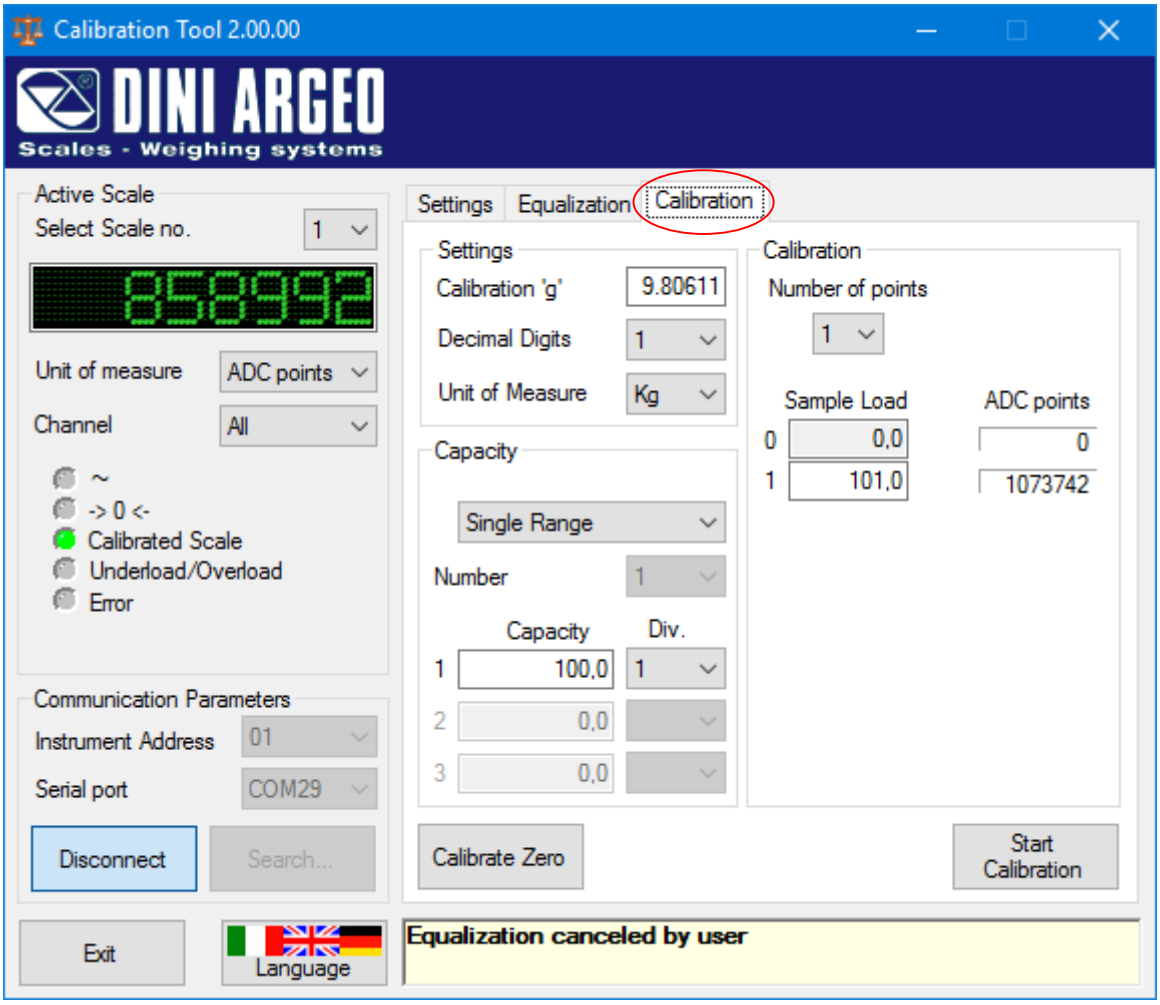
- The calibration is automatically applied to the instrument once the procedure is finished, therefore it is not required to transmit it.

- As long as the calibration is in progress (see section 9.4.2.2.4.4) it is possible to abort the procedure by following the procedure described in the 9.4.2.2.6.1.1 section.

- To permanently save the transmitted calibration on the scale:
1) follow the procedure described in the section 9.4.2.2.4.5
or
2) save the setup by exiting from the setup environment of the instrument (possible only with the 3590E03/3590E08, see instrument's manual).

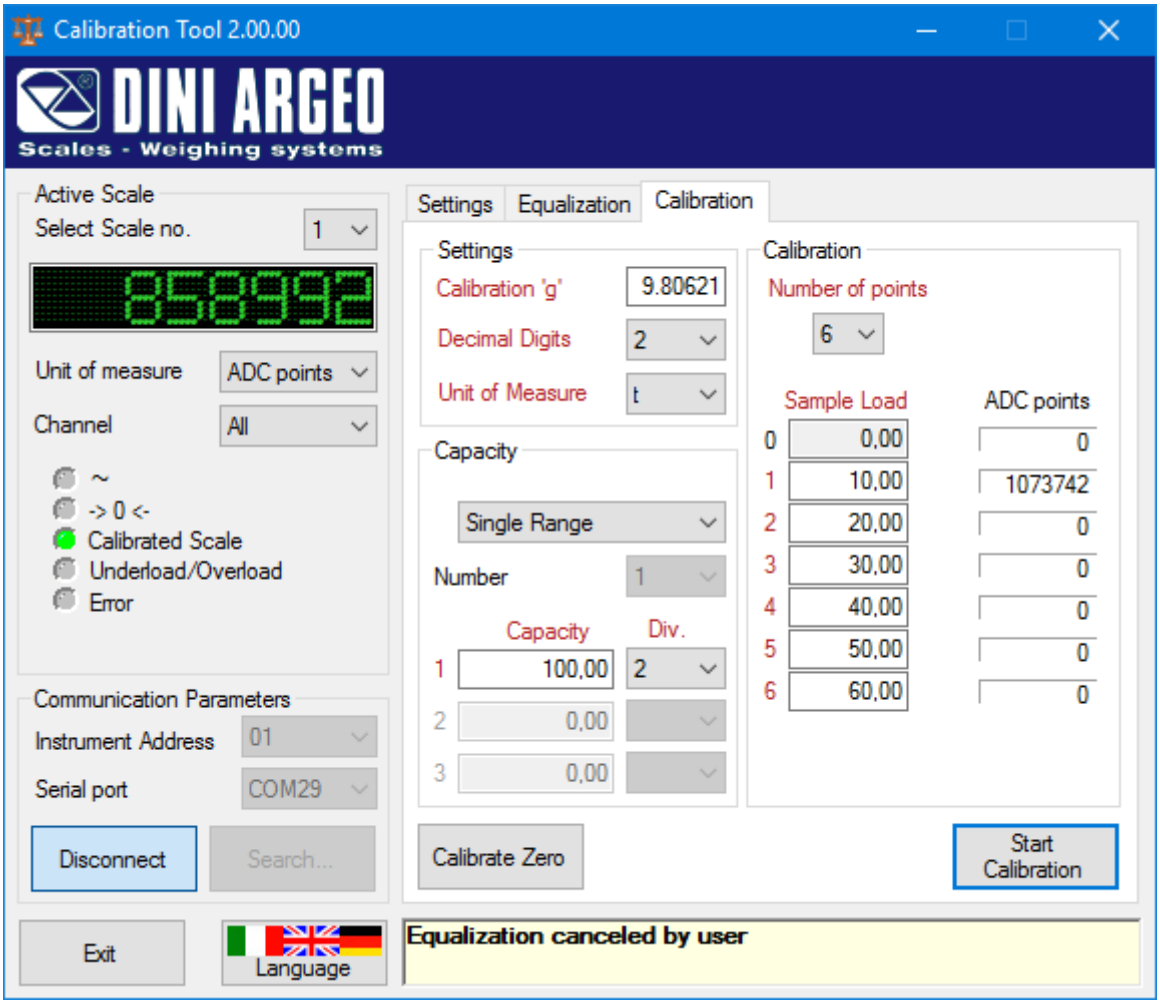
- If the transmitted parameters have not yet been saved permanently on the instrument (see section 9.4.2.2.4.5) it is possible to restore the previous calibration:
1) disconnect the instrument without save the setup (see section 9.4.2.2.2.3)
and
2) exit from the setup environment of the instrument without save (required only with the 3590E03/3590E08, see instrument's manual).

1. Connect the instrument (see section 9.4.2.2.2) and, once all the parameters are modified and transmitted, select the "**Calibration**" window:

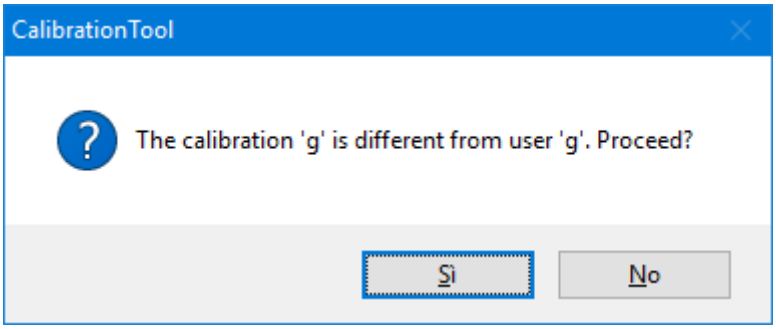


The window shows the current calibration parameters for the selected scale, as received from the instrument.

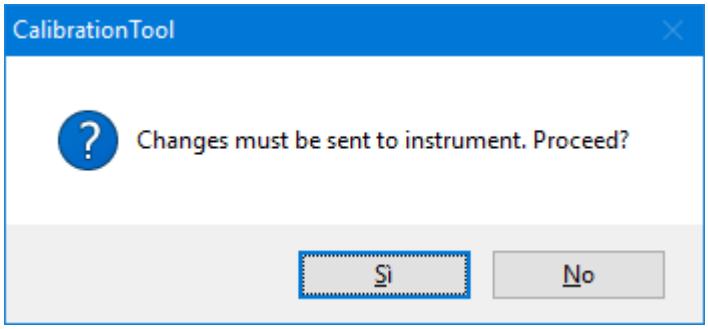
2. Make changes to any parameters, if needed, before calibrating the scale. As usual, the caption for the modified parameters will turn red, as in the following example:



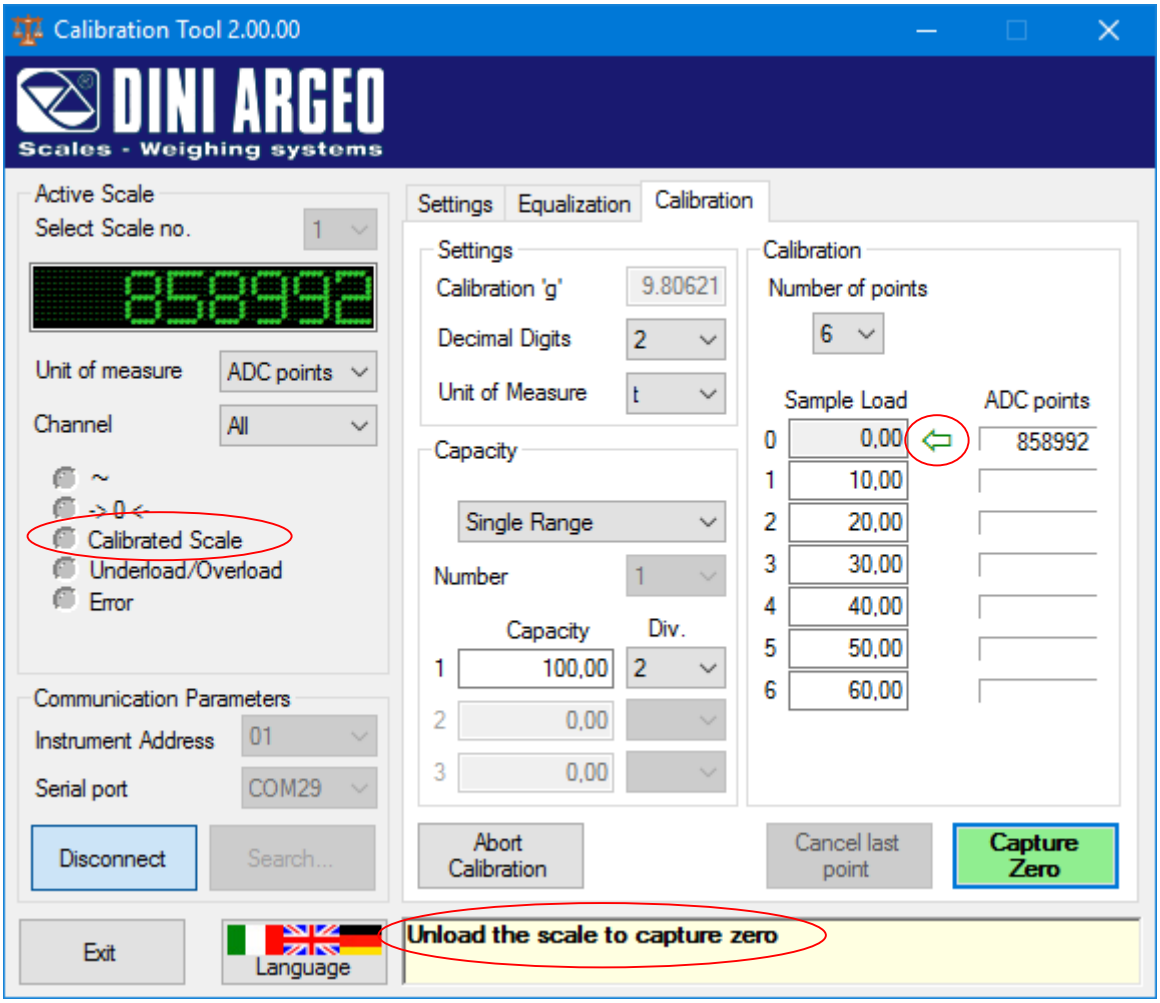
3. These changes must be transmitted to the instrument *before* calibrating it. It is possible to do this through the button **"Transmit to Instrument"**, after focusing the tab **"Settings"**. But that would be unnecessary, since it will be done automatically at the pressure of the **"Start Calibration"** button. First, though, the following warning will be given:



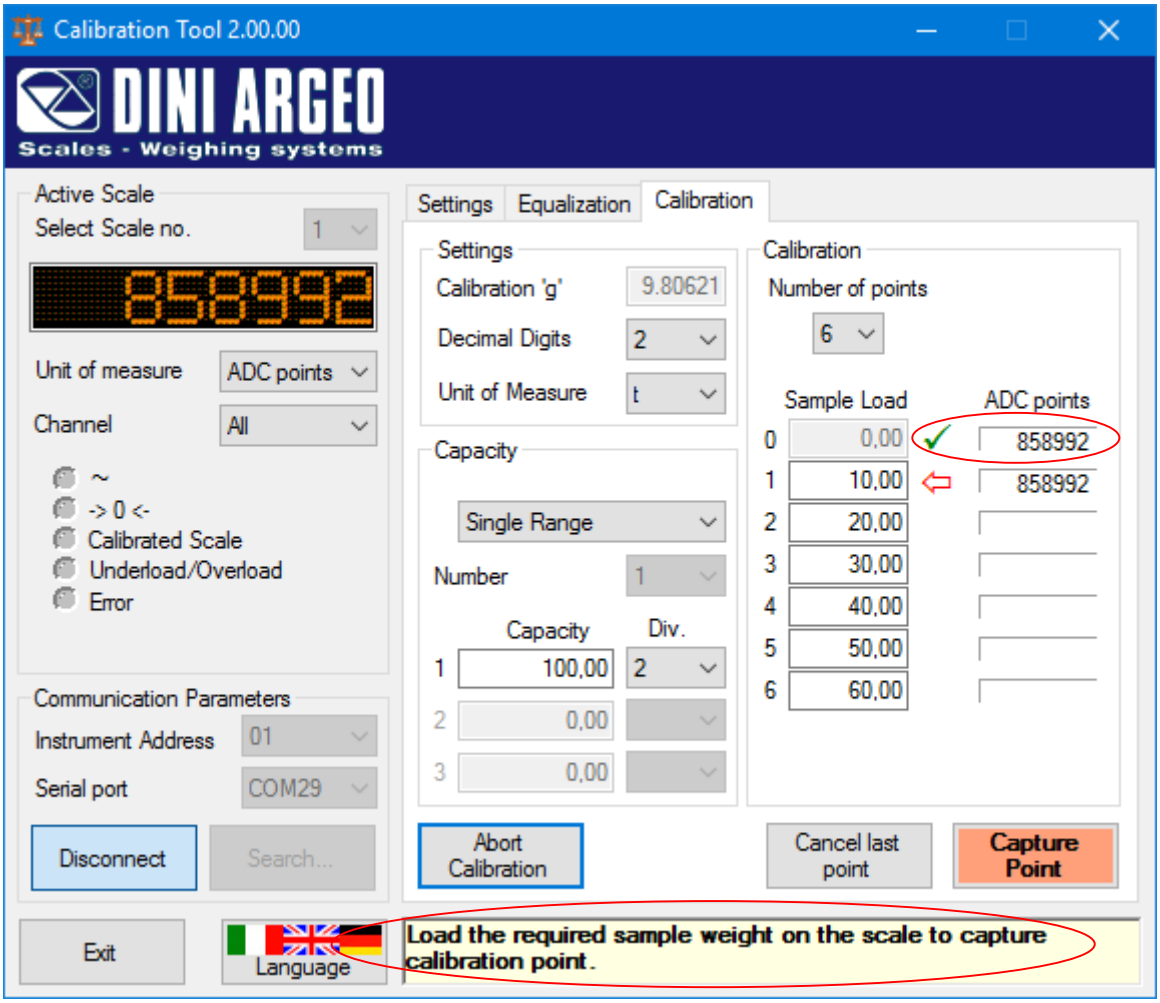
4. This warns that the calibration about to start will be based on a gravity value (calibration “g” constant) different from the value which will be used by the instrument when operating normally (user “g” constant). Clicking on **Yes** to proceed will prompt a further notice:



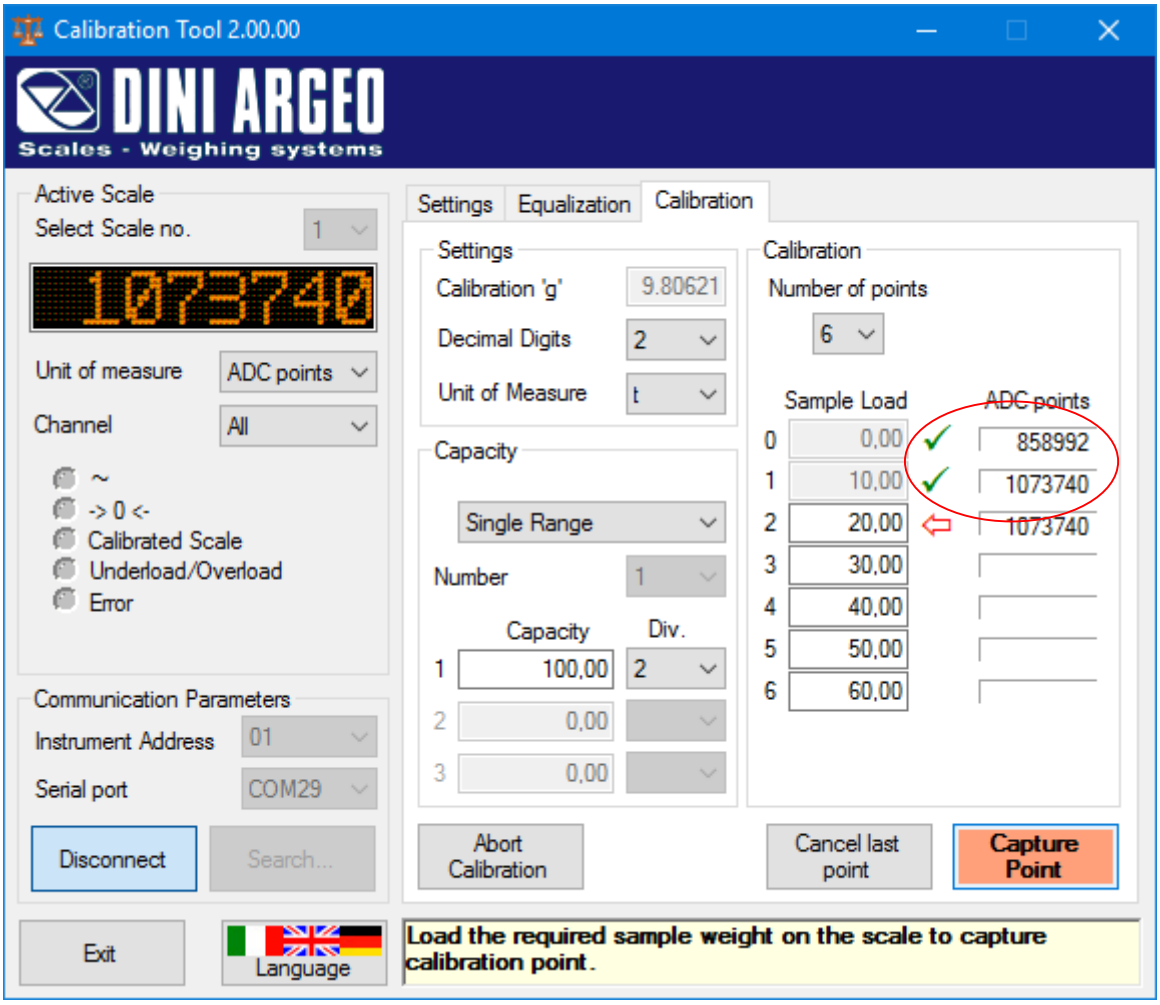
By choosing **No**, no data will be transmitted, but it will not be possible to proceed with the calibration.
Pressing **Yes** will send the changes to the instrument, then the calibration procedure will start automatically (notice the **“Calibrated Scale”** LED turning off):



5. The *shaking* arrow will point to the first calibration point to be captured, which is always the zero. Make sure no weight is loaded on the scale, then press **Capture Zero**. The ADC points will freeze, while a green tick will show up next to the calibration point just acquired. Then the arrow will move down to the next calibration point and turn red, while the button and weight panel turn orange, signifying - besides instability - the need to load the next sample weight on the scale

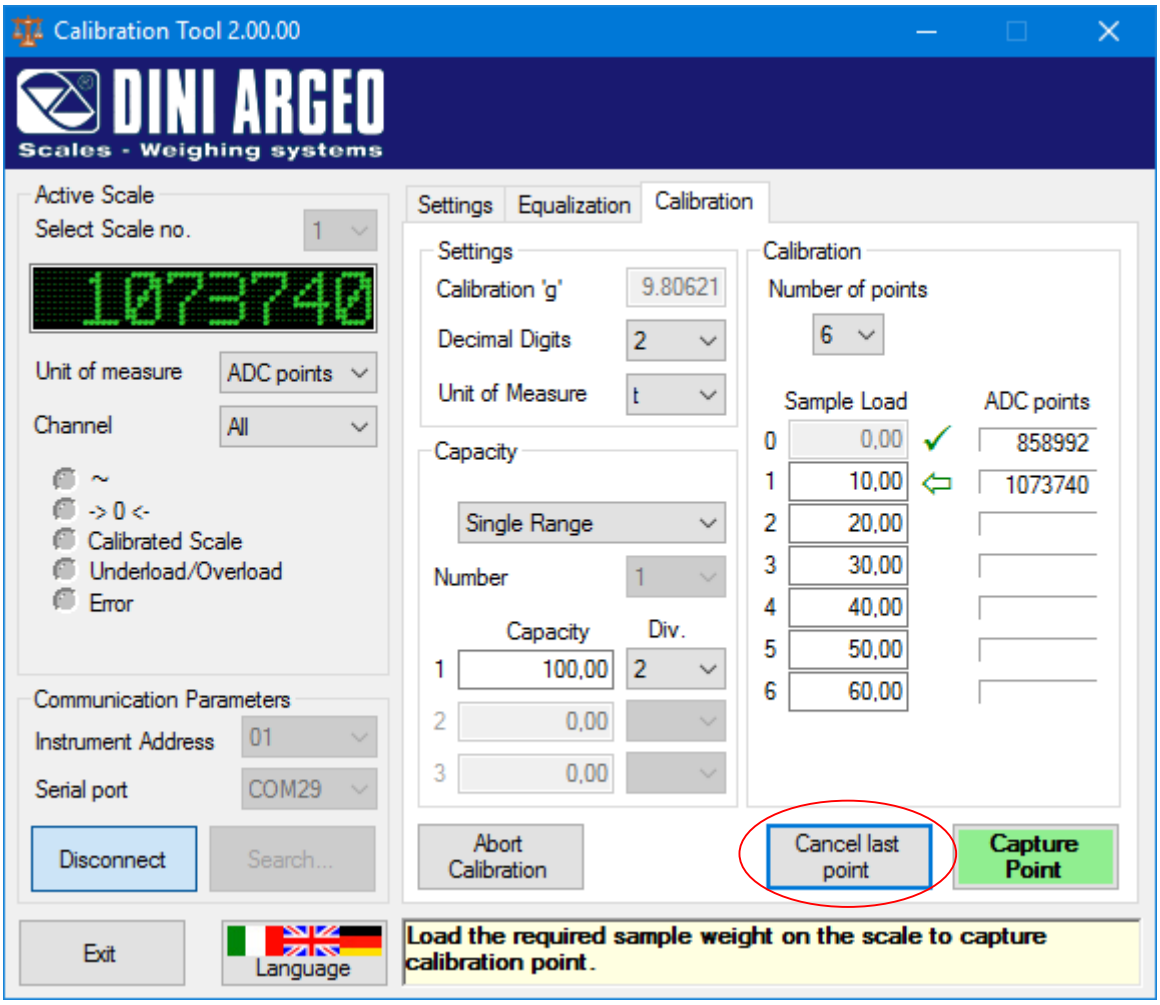


6. Load the required sample weight on the scale, wait for stability (which can be affected by changing the filter, if available)[5], then press the button **"Capture Point"**:

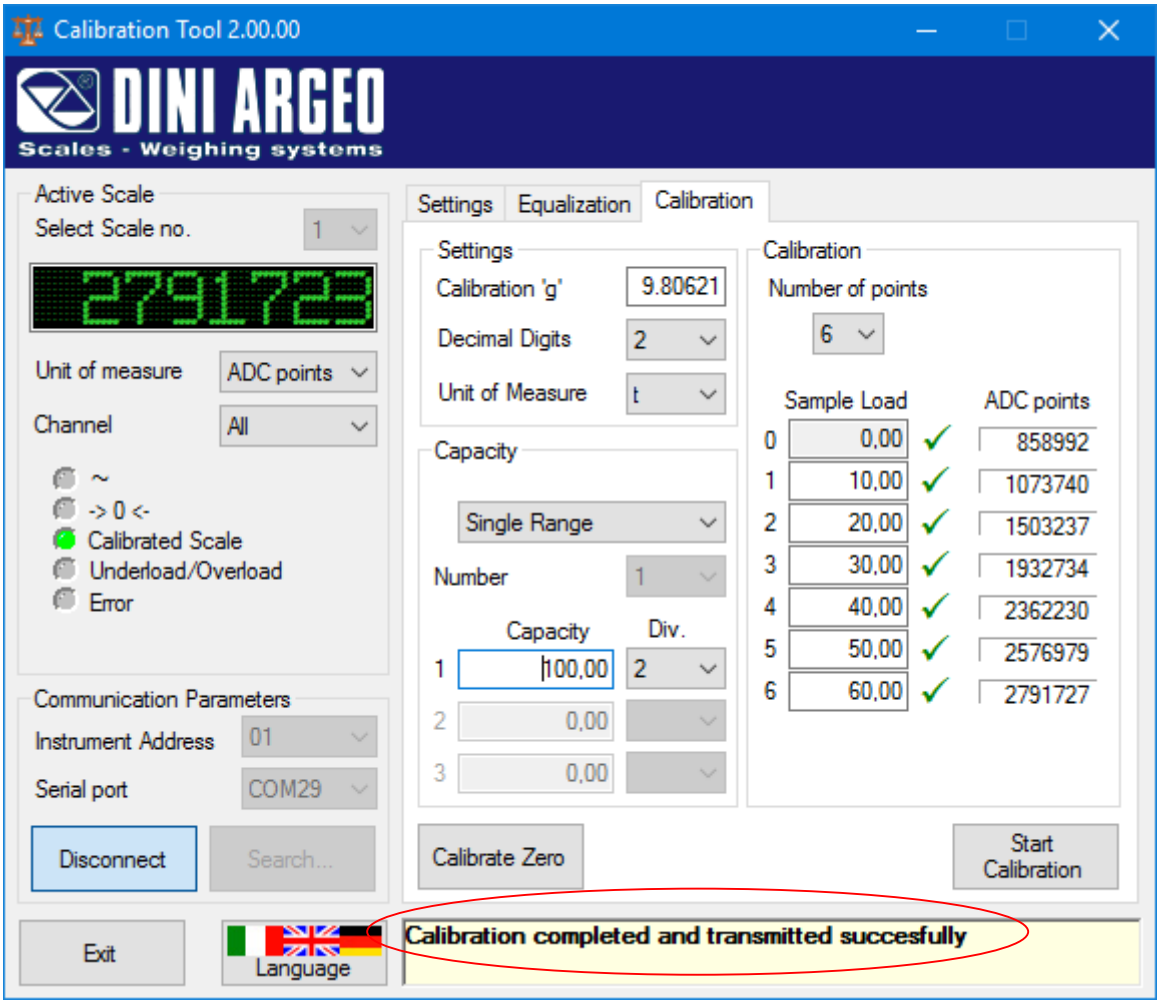


7. It is possible to change the sample weight values for the calibration points not yet acquired. It is also possible to go back and capture the previous point again, by pressing the **"Cancel last point"** button (the arrow will move up, back to the preceding point):

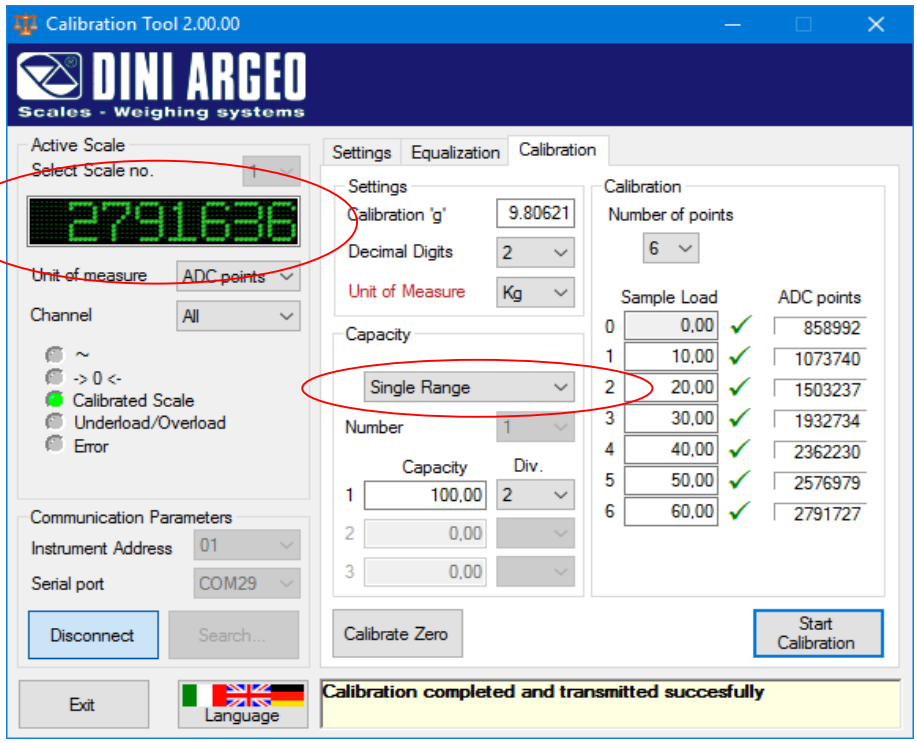
[5] See point 3 of section 9.4.2.2.5 about equalization on how stability can be affected through filters and other means.


Calibration Tool 2.00.00
DINI ARGEO
Scales - Weighing systems
Active Scale
Select Scale no.
1
1073740
Unit of measure
ADC points
Channel
All
~
-> 0 <-
Calibrated Scale
Underload/Overload
Error
Communication Parameters
Instrument Address
01
Serial port
COM29
Disconnect
Search...
Exit
Language
Settings
Equalization
Calibration
Settings
Calibration 'g'
9.80621
Decimal Digits
2
Unit of Measure
t
Capacity
Single Range
Number
1
Capacity
Div.
1
100,00
2
2
0,00
3
3
0,00
Calibration
Number of points
6
Sample Load
ADC points
0
0,00
858992
1
10,00
1073740
2
20,00
3
30,00
4
40,00
5
50,00
6
60,00
Abort Calibration
Cancel last point
Capture Point
Load the required sample weight on the scale to capture calibration point.

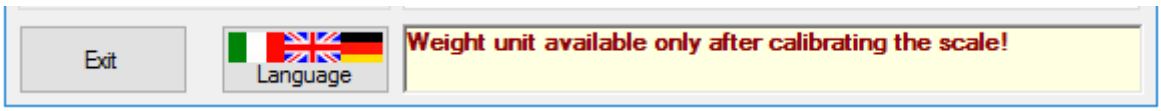
8. Repeat last step for all other calibration points, until the last point has been captured. A message will confirm that the calibration has completed successfully, while the **"Calibrated Scale"** LED will turn on (green):



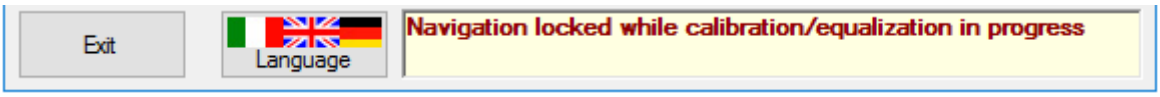
9. Now that the scale is calibrated, it is possible to select **"Weight"** as **"Unit of Measure"** for the weight panel:



If the scale is not calibrated (e.g. during calibration itself) only **"ADC points"** and **"mV"** (*millivolt*) are allowed as **"Unit of measure"**. Any attempt to select **"Weight"** will make a warning flash temporarily in the message panel:

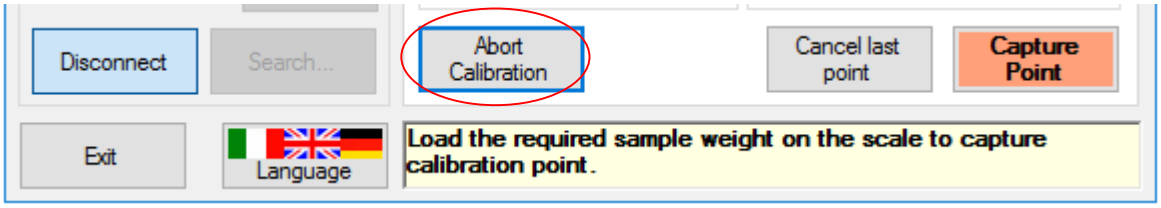


Notice also that while the calibration procedure is in progress, as for equalization, it is not possible to navigate to different tabs of the dialog (i.e. **"Settings"** or **"Equalization"**). Any such attempts will prompt the following warning to temporarily appear in the message panel:

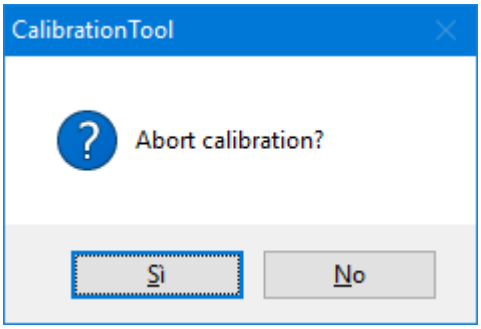


9.4.2.2.6.1.1 CALIBRATION ABORT

1. While the Calibration procedure is in progress, it is possible to abort it and have the previous coefficients restored on the instrument. Press the **"Abort Calibration"** button at the bottom of the calibration frame:



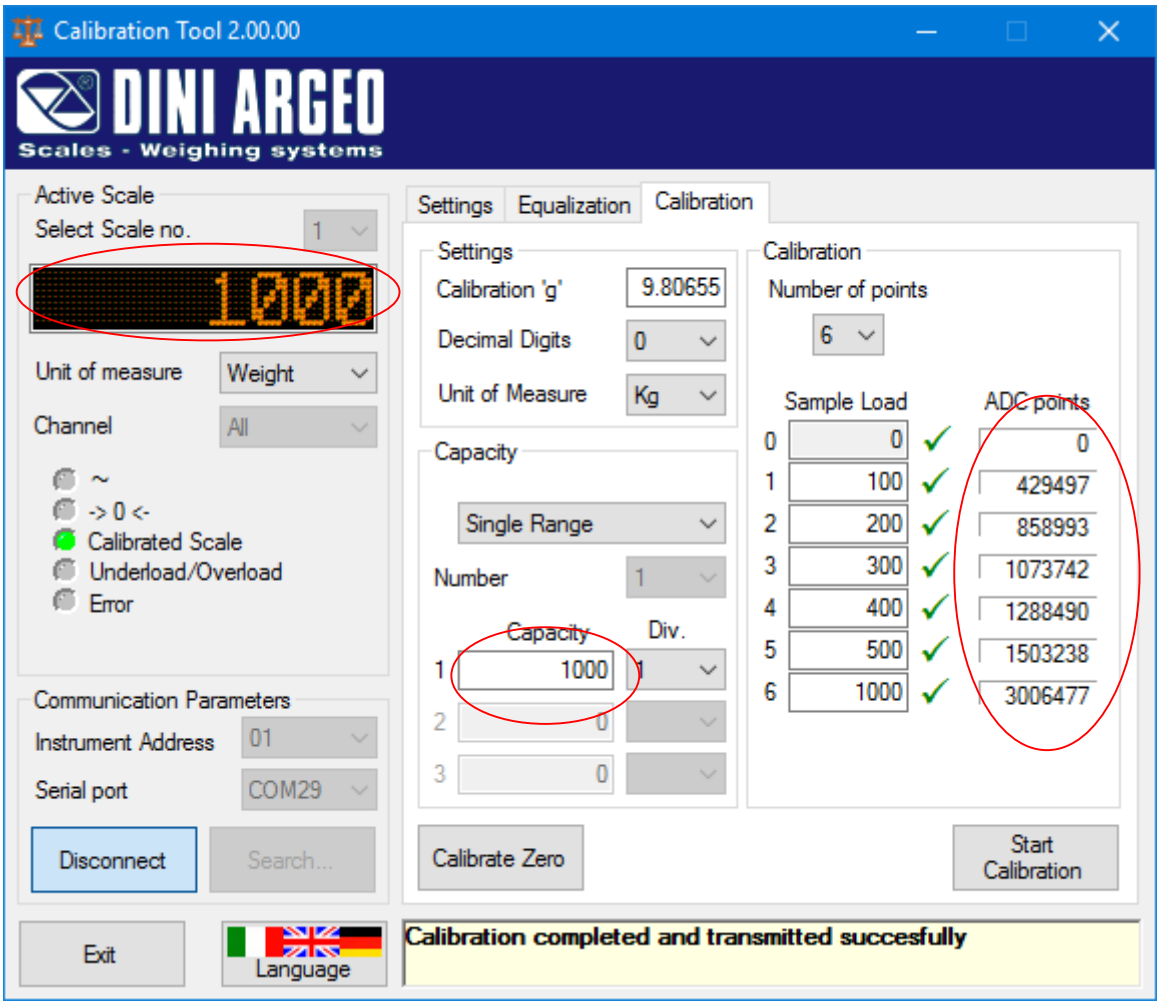
2. Then respond to the confirmation request:



3. Press "**Yes**" to discard all data acquired thus far and abort the procedure; press "**No**" to avoid aborting and continue calibrating the scale.

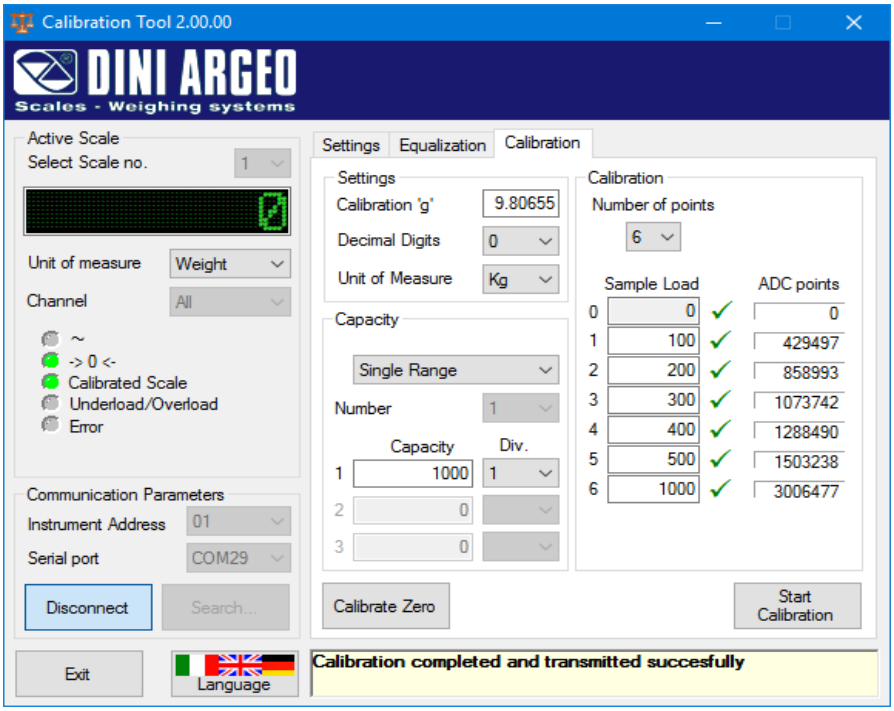
9.4.2.2.6.2 ZERO CALIBRATION

The zero calibration allows to carry out a new zero point without completely recalibrating the scale (the other points are proportionally altered); it's therefore necessary that the scale be already calibrated. Press the **"Calibrate Zero"** button when the scale is unloaded and the new zero will be acquired immediately[6]. Then notice how the weight and the calibration data change. This is before calibrating the zero:



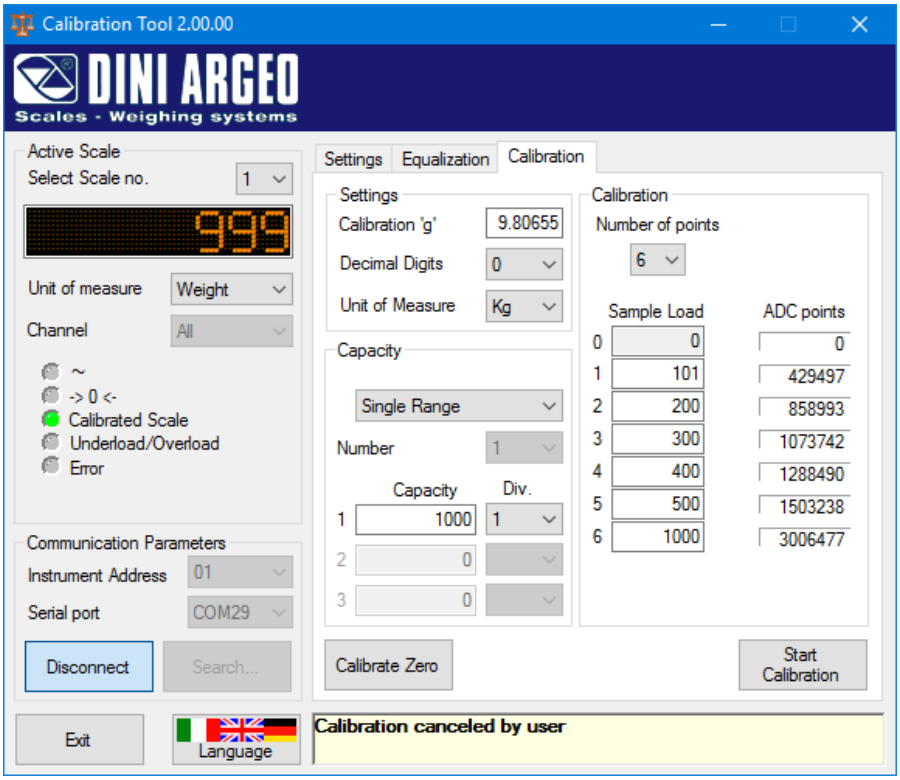
[6] Only in case of instability will the user be required to confirm whether to proceed with the acquisition or not.

And the following is after pressing the button. As the new “ADC points” values show, the calibration data have been linearly displaced, so as to set the current weight as the new zero value:

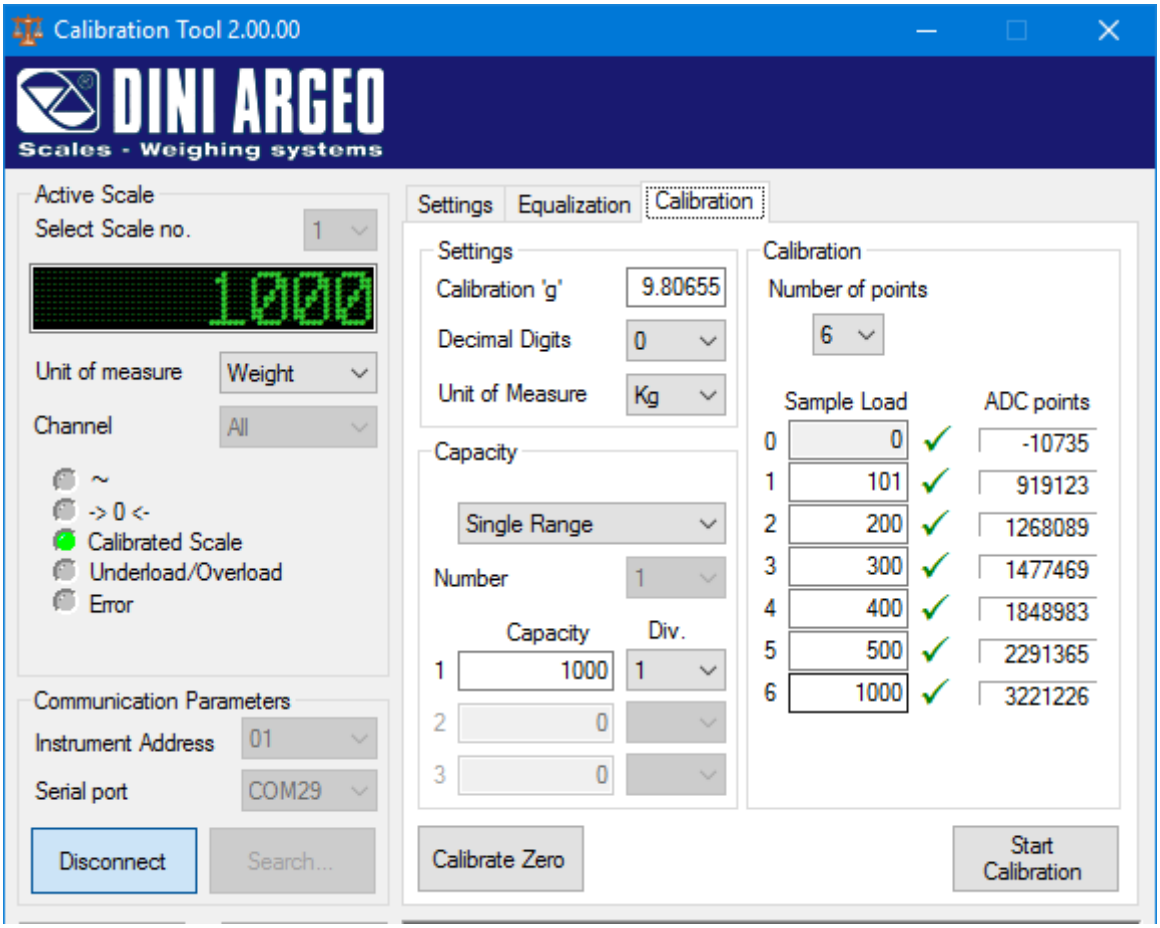


9.4.2.2.6.3 CALIBRATION PARAMETERS MODIFICATION

It is possible to manually adjust the calibration data, in order to correct slight nonlinearities in the scale’s response. This is achieved indirectly, by modifying the *sample weight* rather than the *ADC points*, for a given calibration point. In the following example the **“Sample Load n. 1”** is modified from 1000.0 to 1001.0, so as to correct a -1 Kg error at that calibration point, which is visible in the weight panel:

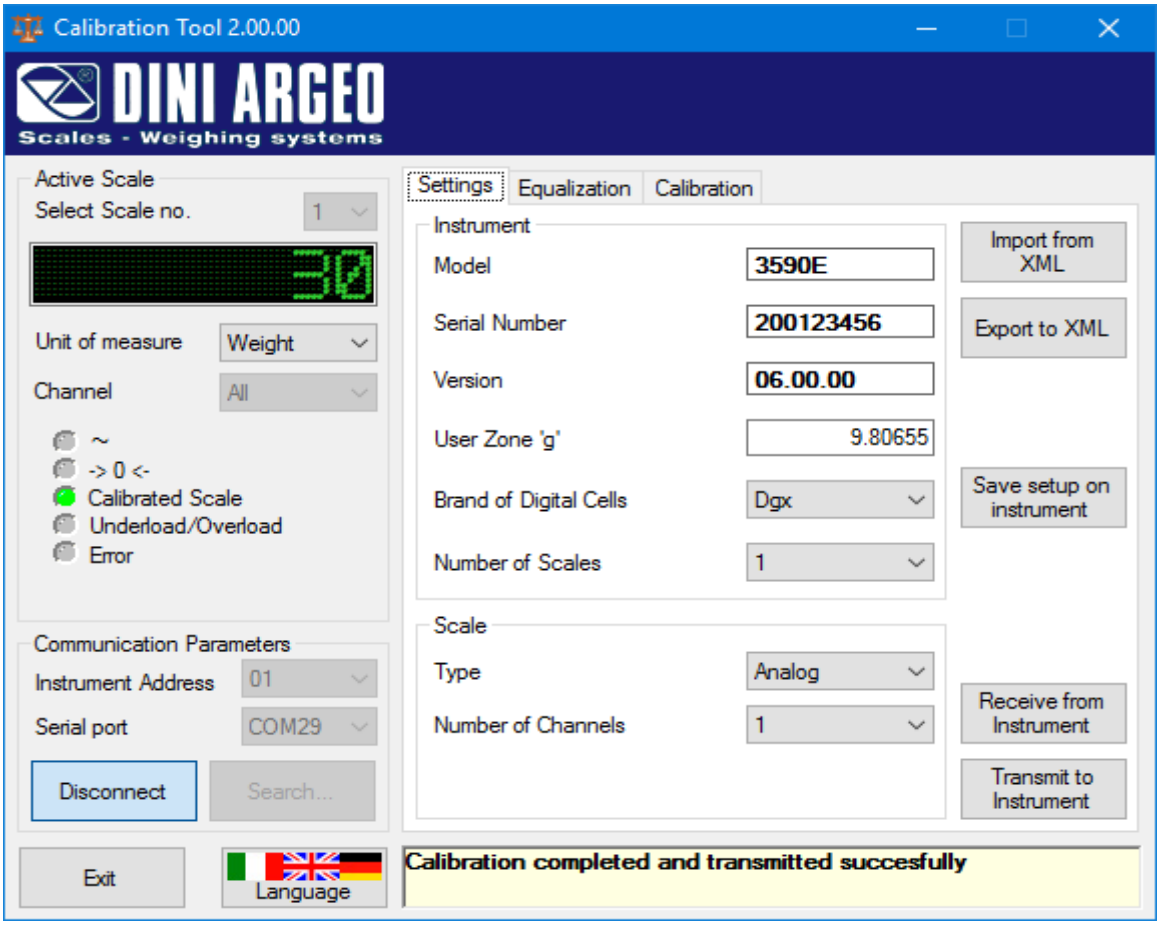


After transmitting the change to the instrument through the **"Transmit to Instrument"** button in the **"Settings"** tab, the weight increases by 1 Kg, as desired:

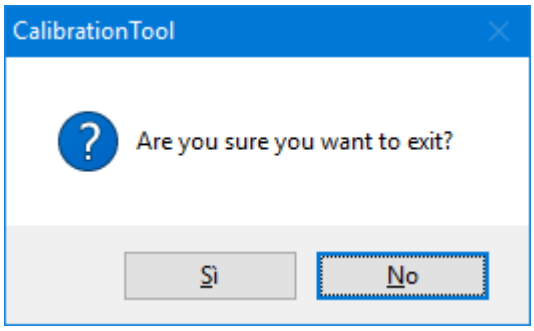


9.4.2.2.7 EXITING THE PROGRAM

To quit the *Calibration Tool v.II* press either the **"Exit"** button at the bottom or the standard *Windows Close red Button (X)*:



Then click **Yes** on the confirmation request that follows (of course **No** will return to the main window without exiting):



If a connection with an instrument is in progress, it must be terminated first. This, in case of unsaved changes, will prompt the warnings described at section 9.4.2.2.2.3 (points 3 and 4).

9.4.3 MODIFYING OF A SETUP

To modify a setup one can proceed in various ways:

1) With the left key click on the desired setup in the left window and:
   - From the main menu click on "**File**" and "**Open**", or
   - From the toolbar press "**Open**";
2) With the right key click on the desired setup in the left window, and choose "**Edit selected setup**",
3) With the left key click on the "**Setup**" item in the left window and:
   - With the right key click on the desired setup in the right window, and choose "**Edit selected setup**".

At this point it's possible to modify the setup, see section 9.4.1.1.

9.4.4 CANCELLATION OF A SETUP

To cancel a setup one can proceed in various ways:

1) With the left key click on the desired setup in the left window and:
   - From the main menu click on "**File**" and "**Delete**" (or the CTRL+D fast keys), or
   - From the toolbar press "**Delete**",
   - Confirm the request of the cancellation.
2) With the right key of the mouse click on the desired setup in the left window, and:
   - Choose "**Delete selected items**"
   - Confirm the request of the cancellation.

9.4.4.1 CANCELLATION OF SEVERAL SETUP

To cancel various setups simultaneously one should:

- With the left key click on the "**Setup**" item in the left window.
- With the left key click on the setup that are to be eliminated in the right window.
- With the right key of the mouse click on one of the selected setups in the right window and choose "**Delete selected items**".
- Confirm the request of the cancellation.

NOTE

To select various objects simultaneously, keep the CTRL key of the PC keyboard pressed and click on the desired codes.

9.4.5 EXPORTING THE SET-UP ON FILE

- Open an existing Set-up (see section 9.4.3):
- By pressing on "**Export**", it will be possible **to export the set-up in a file** (with ".mot" extension) in a directory on PC:
  - Select the destination
  - Enter the file name
  - Confirm the operation.

9.4.6 IMPORTING THE SET-UP FROM A FILE

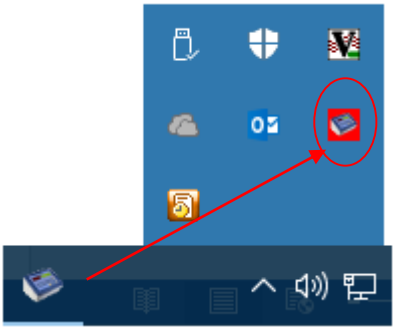
- Open an existing Set-up (see section 9.4.3):
- By pressing on "**Import**", it will be possible **to import the set-up from a ".mot" file** previously created through the exportation procedure:
  - Select the file
  - Confirm the operation

10. DINITOOLS UTILITIES

10.1 WEIGH CONSOLE

It's a programme which allows to view on PC the weight displayed on the indicator, receive the weight string using a key of the PC keyboard and receive the list of weighs from the indicator. This string will be received **in any open Windows application (e.g. database management systems, Excel, Word), in correspondence with the cursor position.**

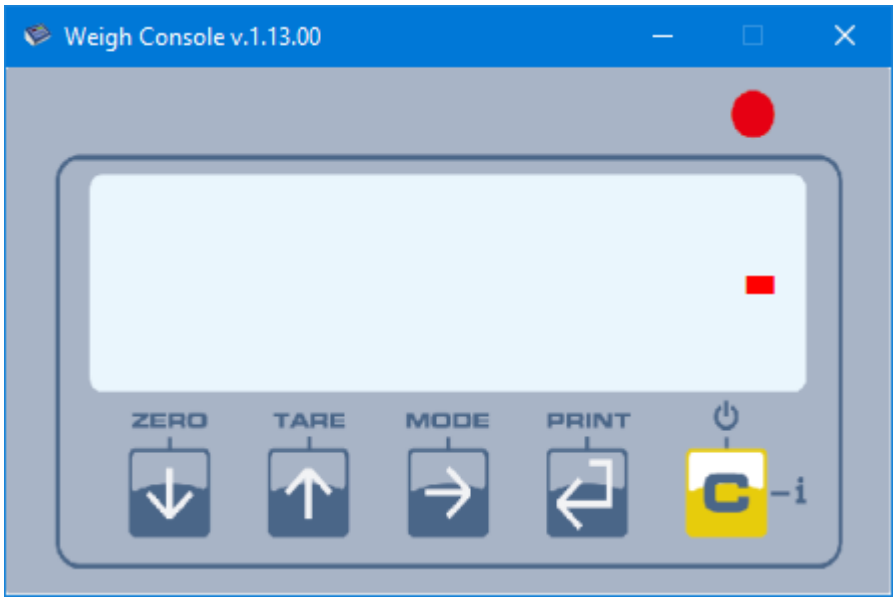
To launch the Weigh Console:
- In the main menu select **TOOLS >>> WEIGH CONSOLE:** a new application will appear among the Windows applications as shown in the figure below:



Weigh Console reduced to an icon

Note: if the scale is not connected, the icon is highlighted in red.

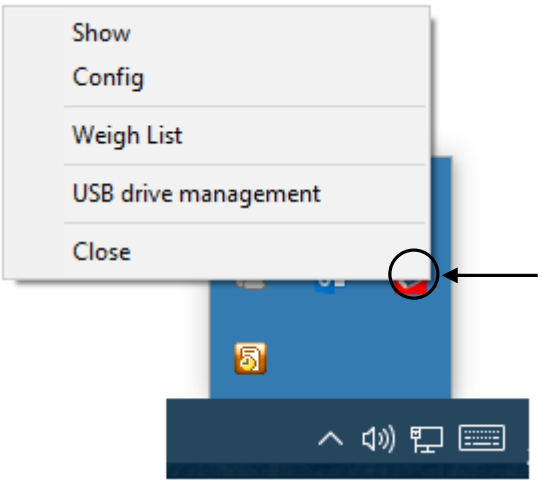
By pressing with the right key on the programme reduced to an icon and selecting "Restore", the application will be shown in the extended mode:



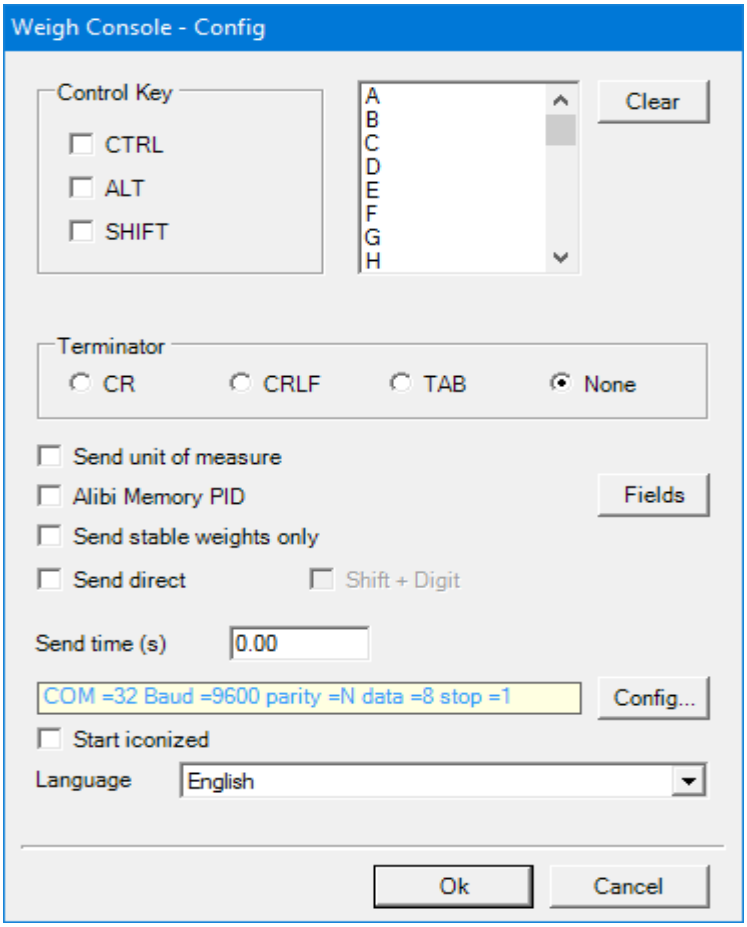
At this point other commands are available:
- **ZERO**, which emulates the pressing of the ZERO key on the indicator
- **TARE**, which emulates the pressing of the TARE key on the indicator.
- **MODE**; not managed.
- **ENTER/PRINT**; not managed.
- **C**, to exit.

CONFIGURATION AND RECEPTION OF THE WEIGHT STRING FROM THE INDICATOR

With the right key of the mouse click on the Weigh Console icon in the bottom right of the applications bar; select "**Config**":



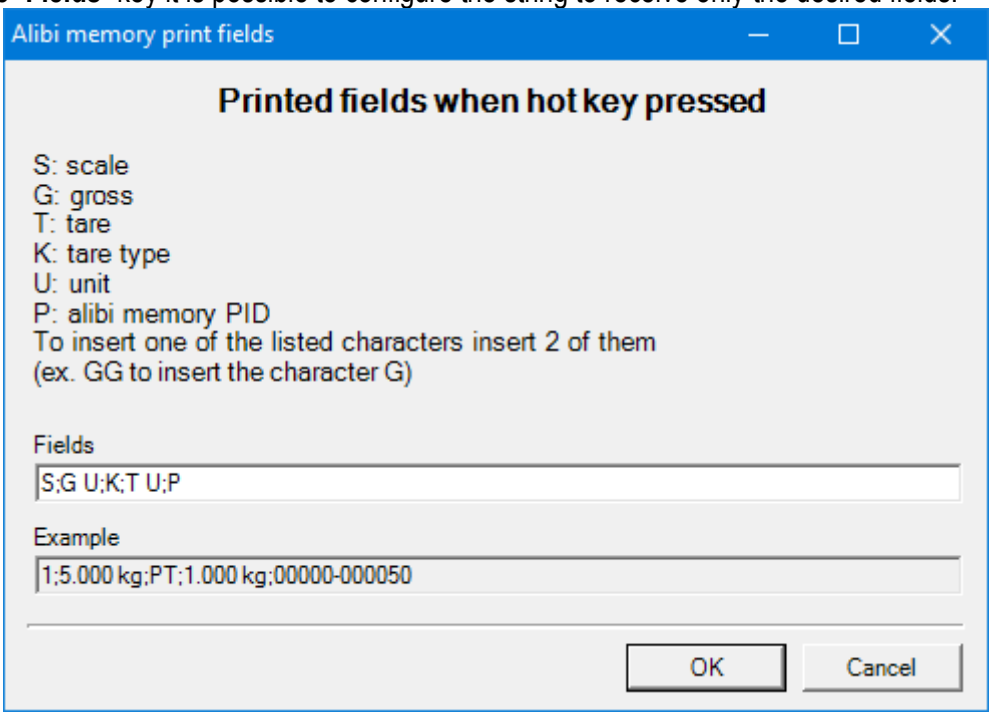
In this way one has the possibility to configure the tool and select with which key of the PC keyboard one receives the weight string from the indicator:



It is possible to select any key of the keyboard, also in combination with the CTRL, ALT and SHIFT keys.

- In the "Terminator" field one selects the last character of the received string:
  - CR
  - CRLF
  - TAB
  - None
- By clicking on "**Send unit of measure**", also the unit of measure will be received.
- By clicking on "**Alibi Memory PID**", the string of the weight stored in the alibi memory will be received.
- By clicking on "**Send stable weights only**", the weight string is sent only if the weight is stable
- In the "**Send time (s)**" field, it's possible to enable the automatic send of the weight string and insert the delay between every string. The minimum value is 1 s.

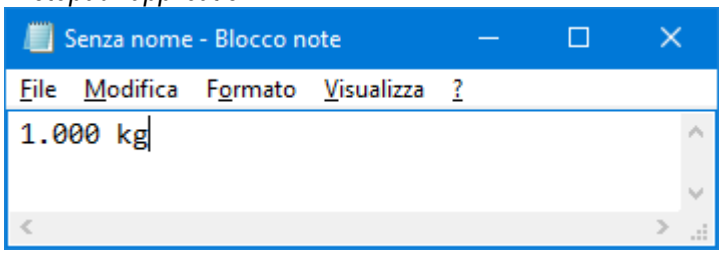
By pressing the "**Fields**" key it is possible to configure the string to receive only the desired fields.



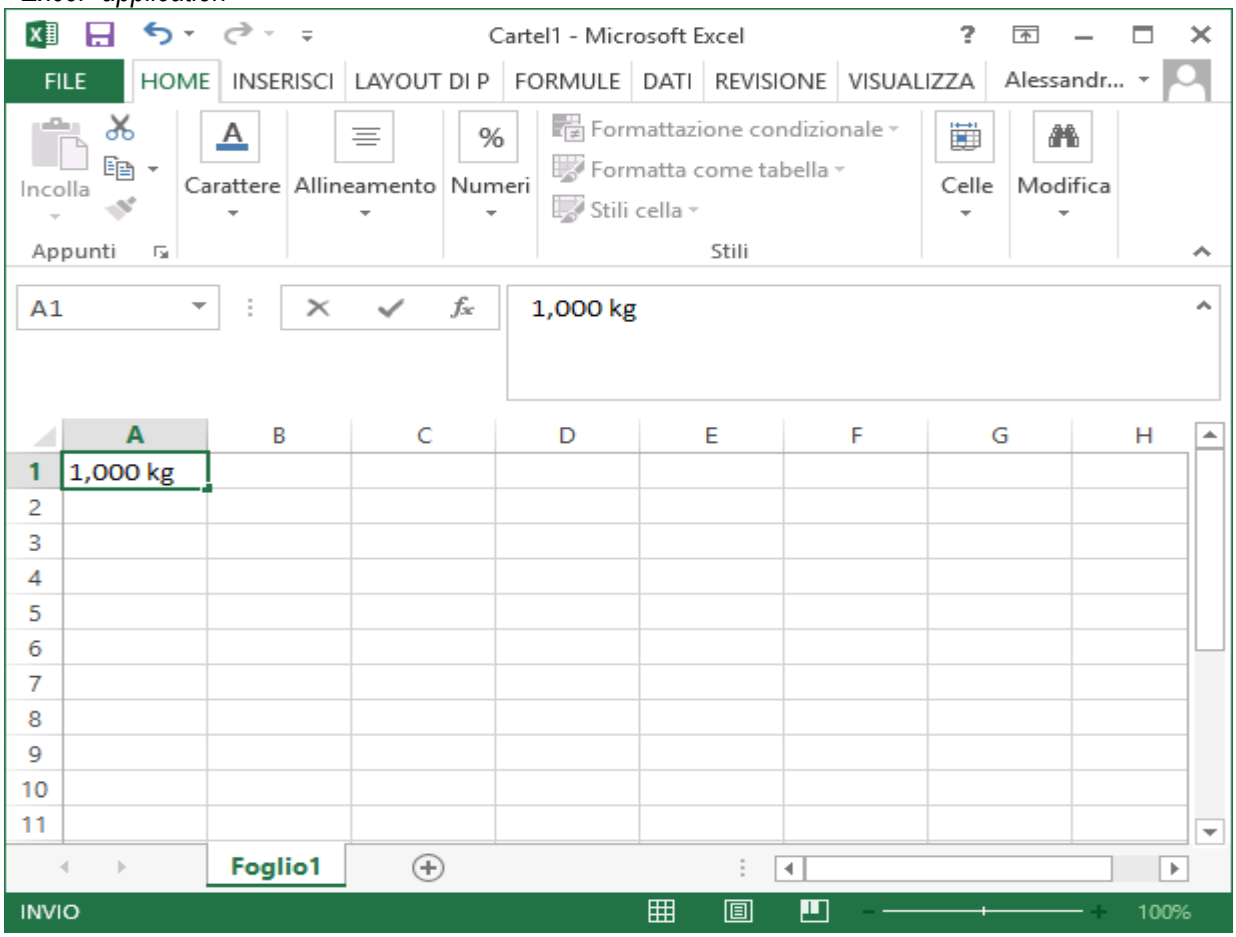
- By pressing the "**Config**" key it's possible to configure the parameters relative to the communication between the PC and the weight indicator (see section 5.1), shown to the left of the key.
- By clicking on "**Start iconized**", the programme will be started always reduced to an icon with the possibility of restoring the extended mode by pressing with the right key on the reduced programme icon and selecting "Restore".
- In the "Language" field it is possible to select one of the available languages to view the menu descriptions and the checks in the desired language.
- Confirm with OK: by pressing the key (or the keys) previously configured, **the weight will be received in any open Windows application (e.g. notepad, Excel, Word), in correspondence with the cursor position.**
- The weight data is filtered from the indicator's standard transmission string; **it is therefore necessary to set the "standard communication protocol" in the indicator's set-up environment (see the indicator's technical manual).**

EXAMPLES

"Notepad" application

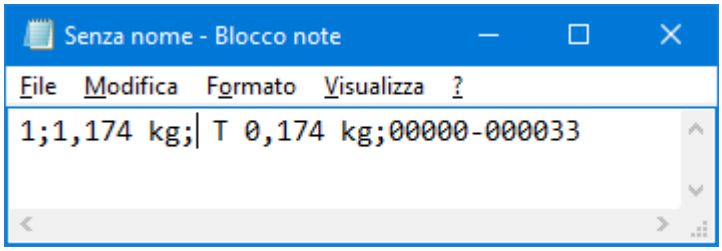


"Excel" application

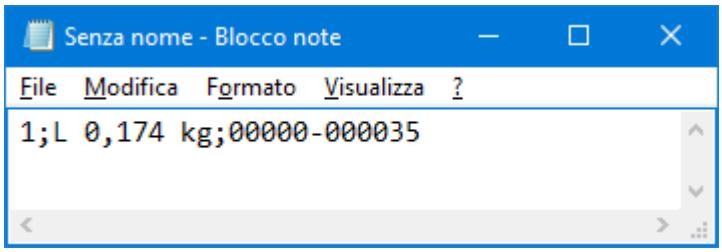


EXAMPLES: STRING FROM ALIBI MEMORY

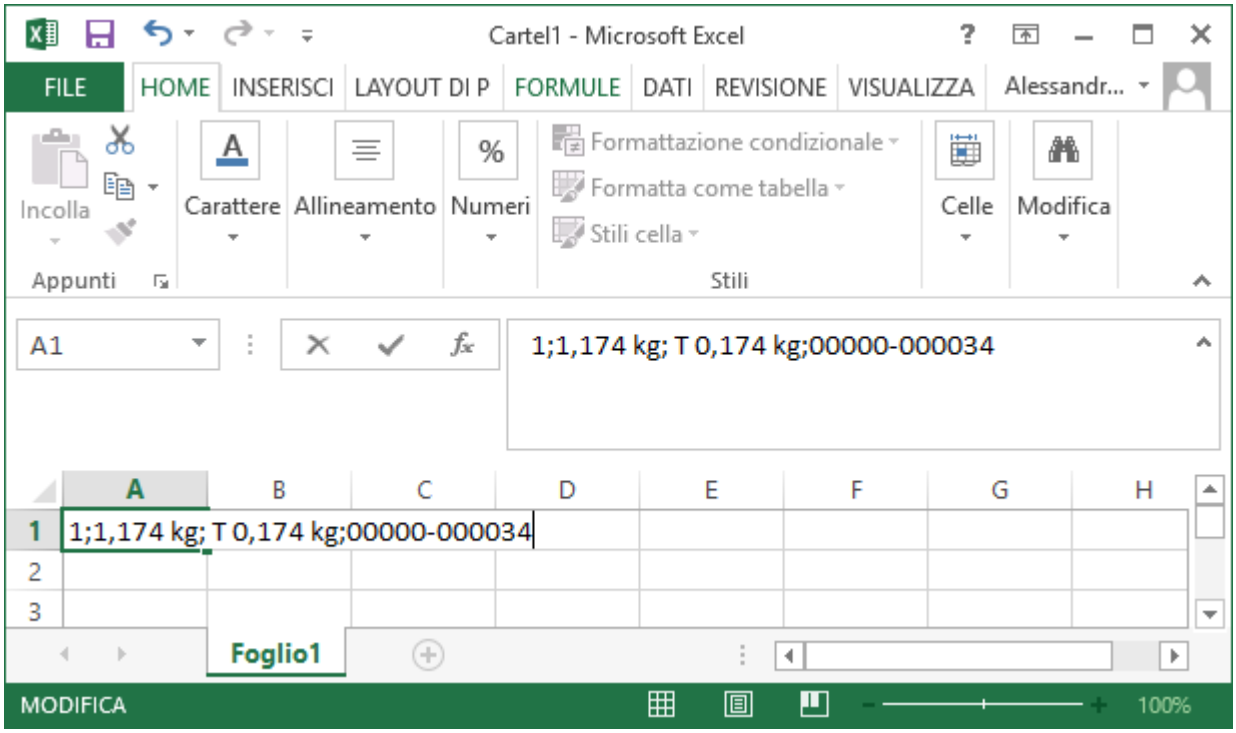
"Notepad" application – Fields: S;G U;K T U;P



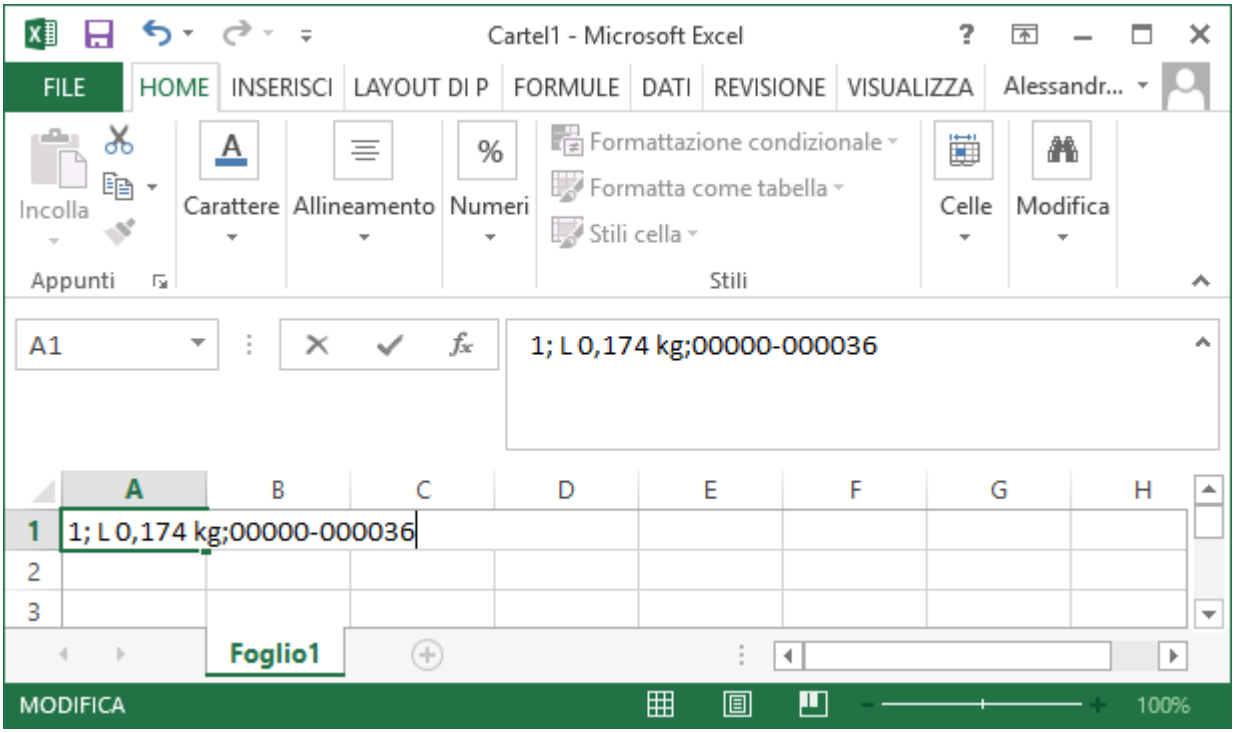
"Notepad" application – Fields: S;GG G U;P



"Excel" application - Fields: S;G U;K T U;P

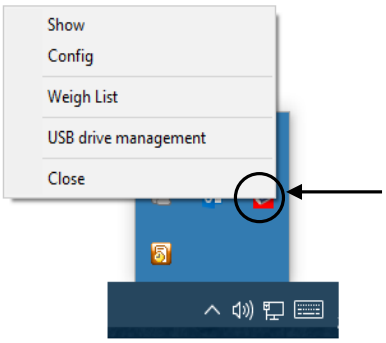


"Excel" application - Fields: S;GG G U;P

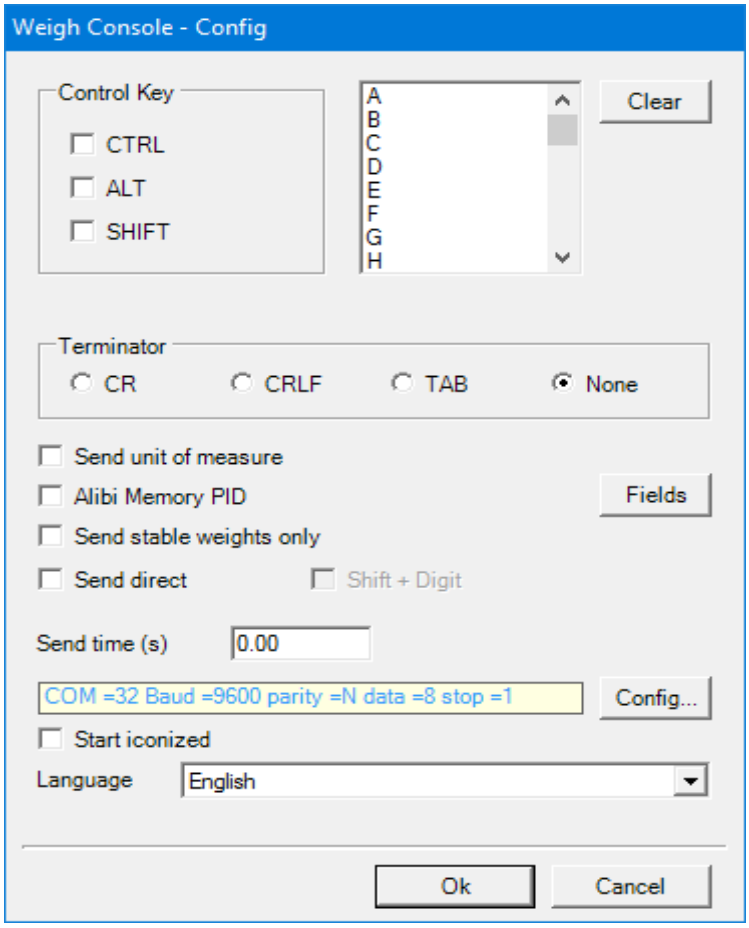


RECEPTION OF THE LIST OF WEIGHS FROM THE INDICATOR

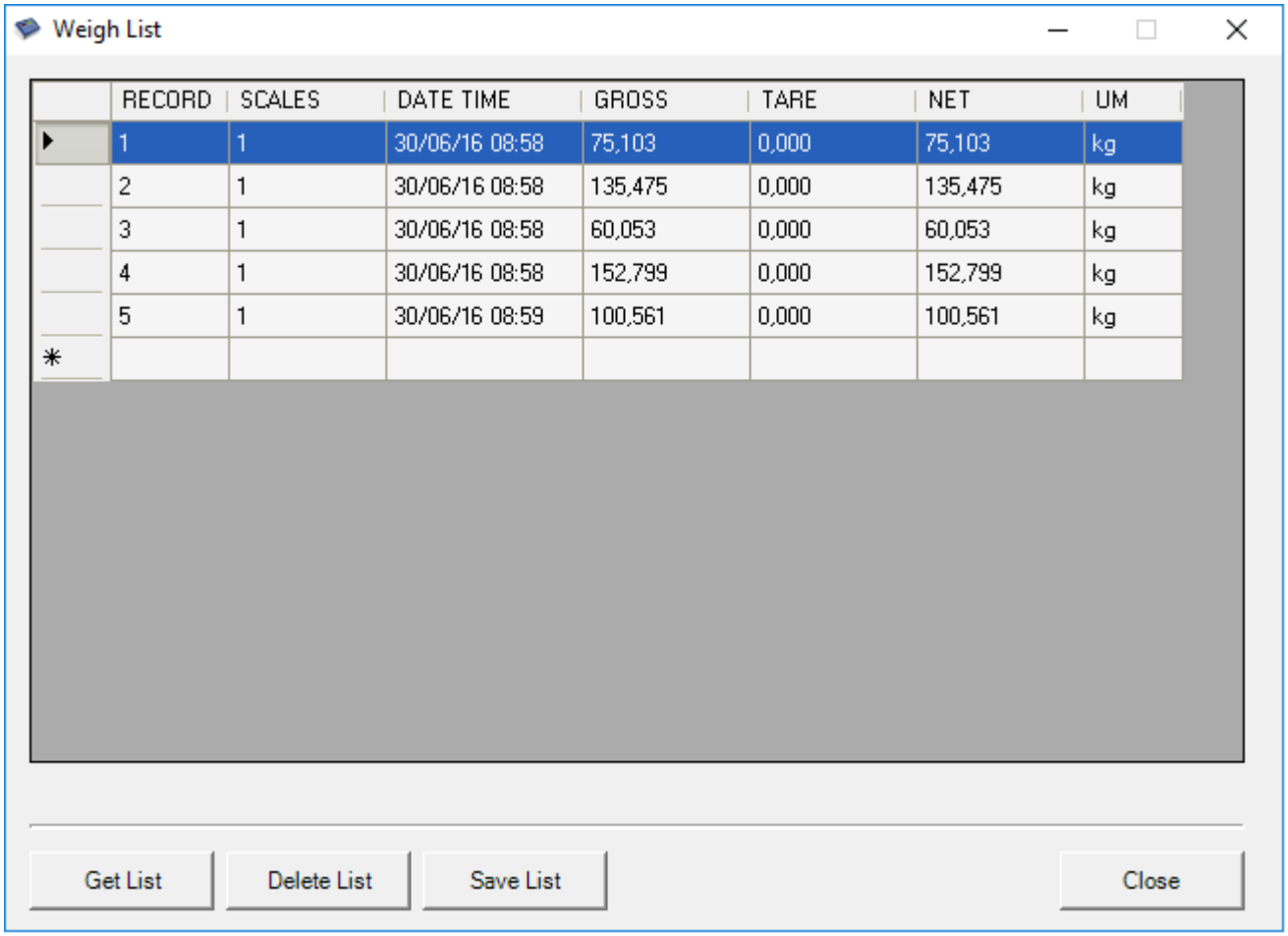
With the right key of the mouse click on the Weigh Console icon in the bottom right of the applications bar; select "**Config**":



In this way one has the possibility to configure the tool:

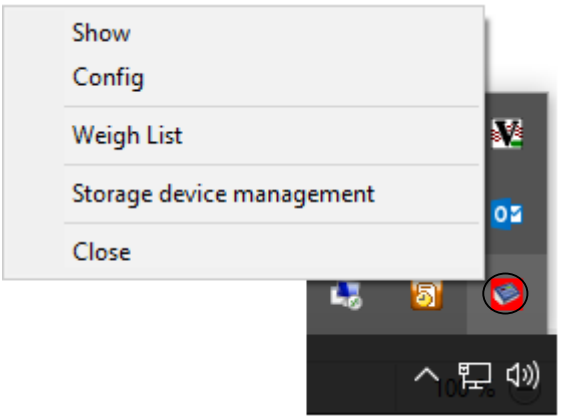


- By pressing the "**Config**" key it's possible to configure the parameters relative to the communication between the PC and the weight indicator (see section 5.1), shown to the left of the key.
- By clicking on "**Start iconized**", the programme will be started always reduced to an icon with the possibility of restoring the extended mode by pressing with the right key on the reduced programme icon and selecting "Restore".
- In the "Language" field it is possible to select one of the available languages to view the menu descriptions and the checks in the desired language.
- Enter in the "PC.Conn >> PC.WAit" step of the indicator: the list of weighs is automatically received and displayed by the WeighConsole.

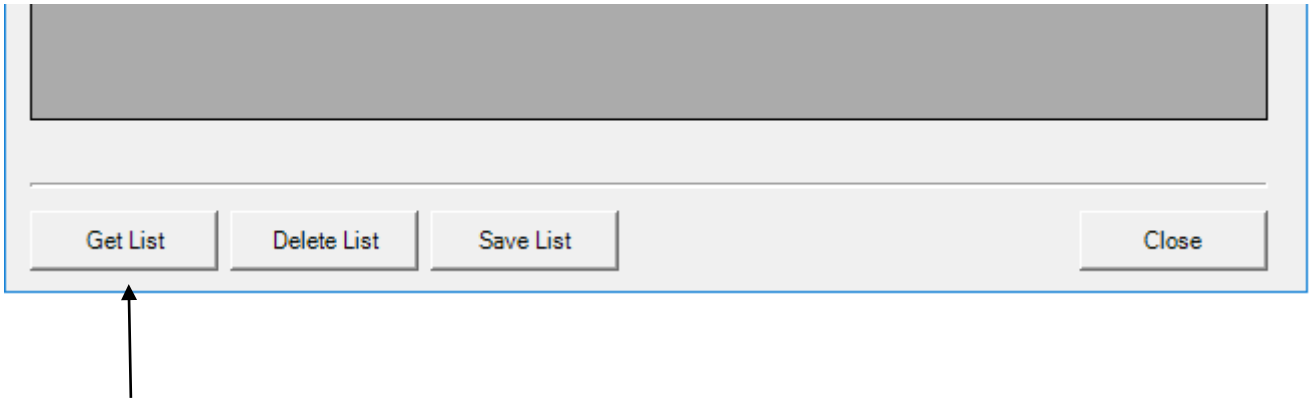


It is possible to receive the list of weighs also in this way:

- with the right key of the mouse click on the Weigh Console icon in the bottom right of the applications bar; select "**Weigh List**":

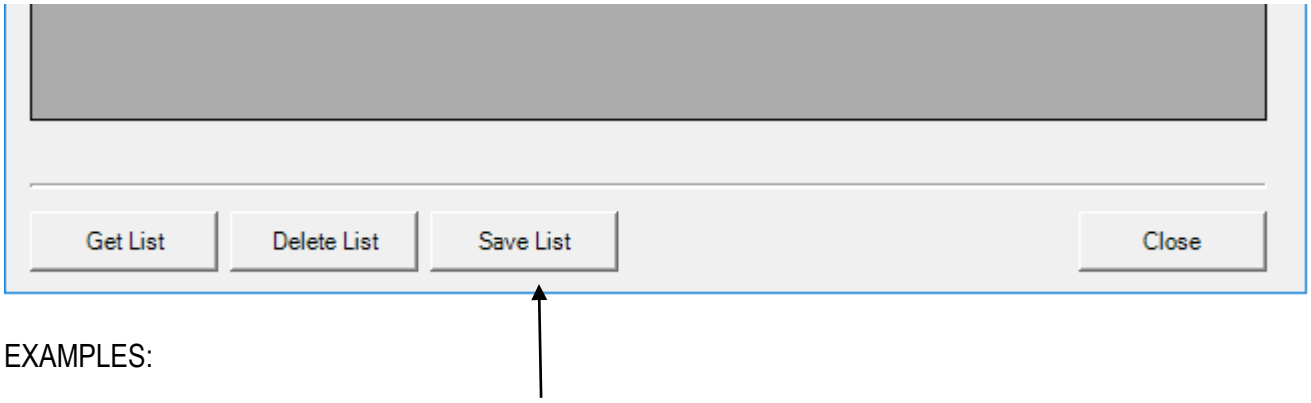


- enter in the “PC.Conn >> PC.WAit” step of the indicator and press the “Get List” key: the list of weighs is received and displayed by the WeighConsol



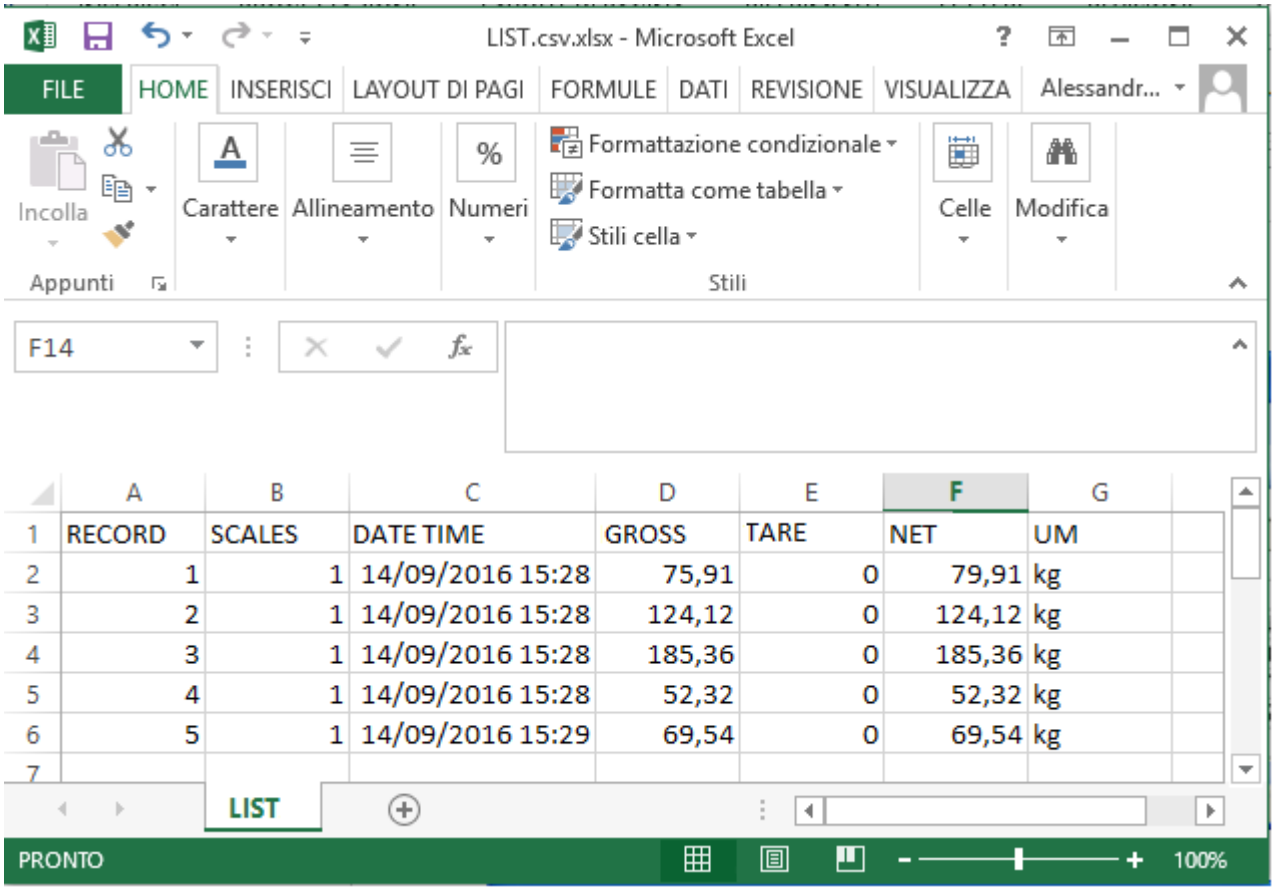
Save the list:

It is possible to save the list by pressing the “Save List” key; one can select to save the list in the .csv format or in the .xls format (this kinds of file can be opened with Excel).



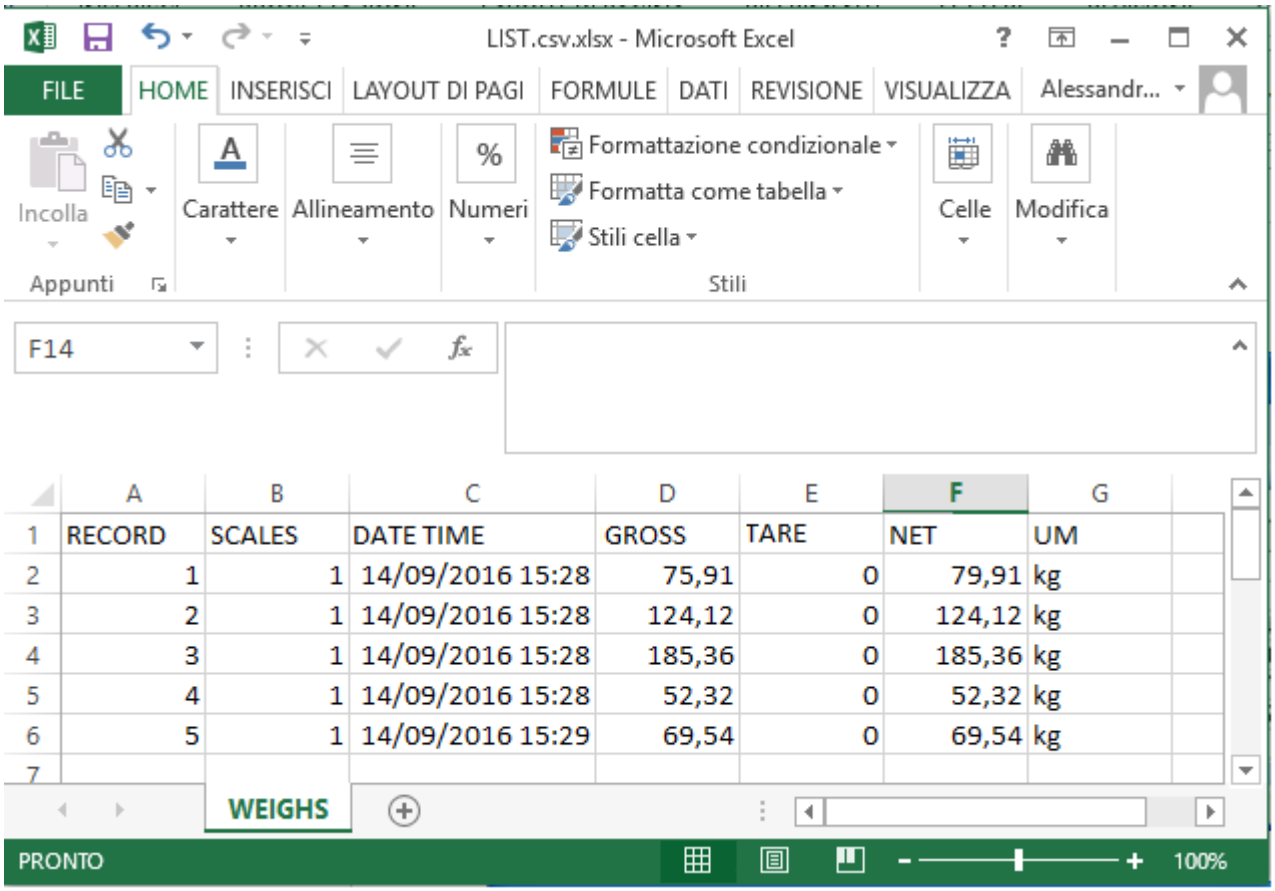
EXAMPLES:

.csv file:



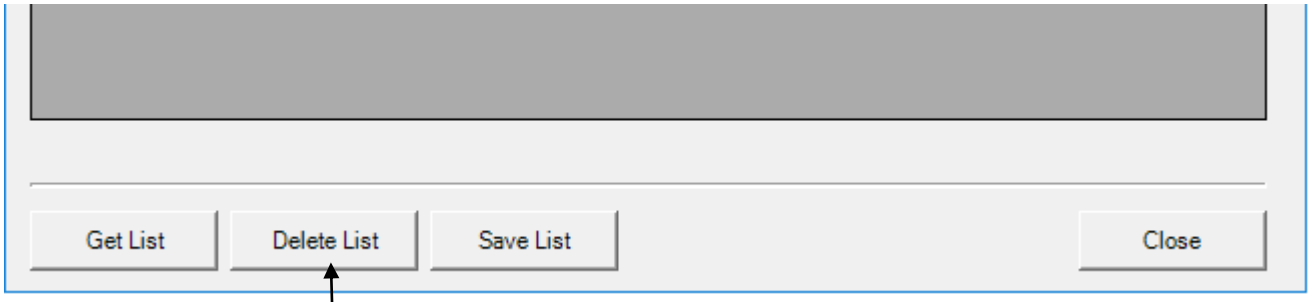
	A	B	C	D	E	F	G
1	RECORD	SCALES	DATE TIME	GROSS	TARE	NET	UM
2	1	1	14/09/2016 15:28	75,91	0	79,91	kg
3	2	1	14/09/2016 15:28	124,12	0	124,12	kg
4	3	1	14/09/2016 15:28	185,36	0	185,36	kg
5	4	1	14/09/2016 15:28	52,32	0	52,32	kg
6	5	1	14/09/2016 15:29	69,54	0	69,54	kg
7							

.xls file:



	A	B	C	D	E	F	G
1	RECORD	SCALES	DATE TIME	GROSS	TARE	NET	UM
2	1	1	14/09/2016 15:28	75,91	0	79,91	kg
3	2	1	14/09/2016 15:28	124,12	0	124,12	kg
4	3	1	14/09/2016 15:28	185,36	0	185,36	kg
5	4	1	14/09/2016 15:28	52,32	0	52,32	kg
6	5	1	14/09/2016 15:29	69,54	0	69,54	kg
7							

Deletion of the list:
It is possible to delete the list by pressing the “Delete List” key.



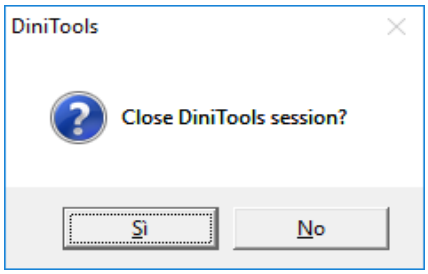
After pressing this key, one can select to confirm or not perform the deletion of the list.

11. EXITING THE PROGRAMME

To end the work session:

- From the main menu select "File" and "Exit" or
- Press the "Exit" button of the toolbar, or
- Press the closing button in the upper right of the DiniTools window.

Whatever method is used, a message will appear asking for the confirmation of the choice:



By pressing "No" one cancels the request to end the work session, while with "Yes" one definitely exits.