Biffi ELBS-20

Biffi Assistant User Manual

BIFFI

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Table of Contents

Section 1: Reference Documents

[1]: ELBS-20 Installation and Operation Manual, Biffi™ document MAN712

[2]: DCMlink Installation Manual, Document number DCM-401-0918

⚠ WARNING

For any information regarding actuator parameters or settings,
please refer to the relevant ELBS-20 and Actuator documentation.
Wrong parameter settings may cause actuator malfunctions.

⚠ WARNING

All parameters changes not saved into the internal application database or sent to the actuator will be lost once the application is closed.

⚠ WARNING

It is assumed that the installation, setting, commissioning, maintenance and repair works are carried out by qualified personnel and checked by responsible specialists.
Operating the actuator and the ELBS-20 could damage the actuator and cause personal injury.

⚠ WARNING

Any repair work other than the operations outlined in this manual will be strictly reserved to qualified Biffi personnel or to personnel directly authorized by the company itself.

⚠ WARNING

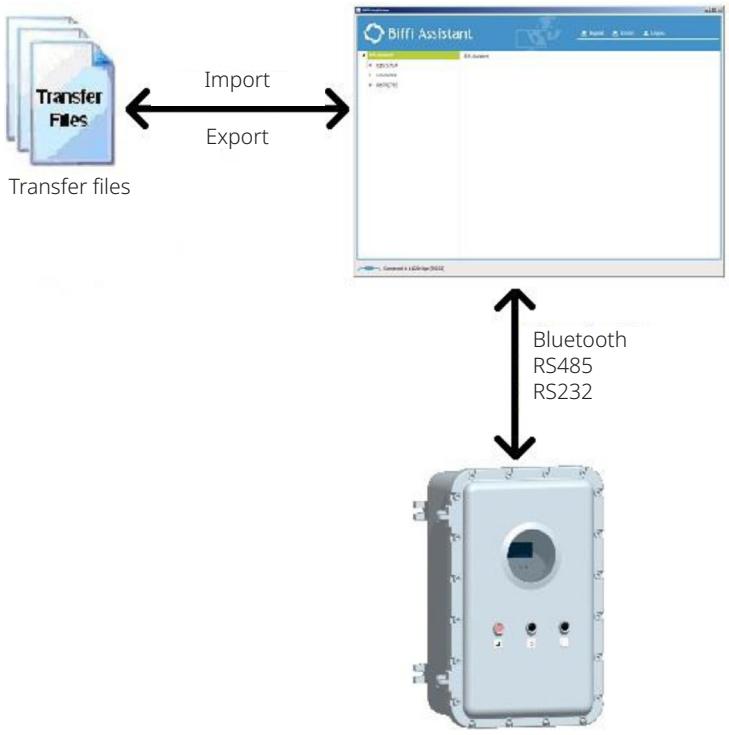
Whenever the PC will be used in HAZARDOUS AREA as defined by the applicable rules, it is mandatory to check whether the PC nameplates indicate their suitability to an hazardous area, and the appropriate protection degree.

Section 2: Introduction

The Biffi Assistant software tool is a software application for the PC that creates a versatile tool for configuring and maintaining multiple ELBS-20 devices.

The Biffi Assistant provides the ability to configure, diagnose and collect data for ELBS-20 devices on the PC/Windows platform (see Appendix B).

Figure 1. Data Plate



Section 3: Communication Interface Selection and Login

Users may connect directly to an ELBS-20 device by using Biffi Assistant through Bluetooth®, RS232 and RS485.

A direct connection with Biffi Assistant is convenient for users that need to configure or diagnose many ELBS-20 devices or users who require immediate detailed analysis on a large screen on-site. Note that Biffi Assistant may save "transfer files" to review at a later time.

⚠ WARNING

It is recommended to use only one Serial Communication Interface (RS232, Bluetooth or RS485) at a time to avoid configuration errors.

It is mandatory to use just one of the following interfaces of the ELBS-20 at a time, during the execution of the “Load Event List” command and the Export operation: RS232, Bluetooth or RS485 (see Section 7).

It is mandatory to not use the Modbus interface to read events data during the execution of the “Load Event List” command (see Section 7).

NOTICE

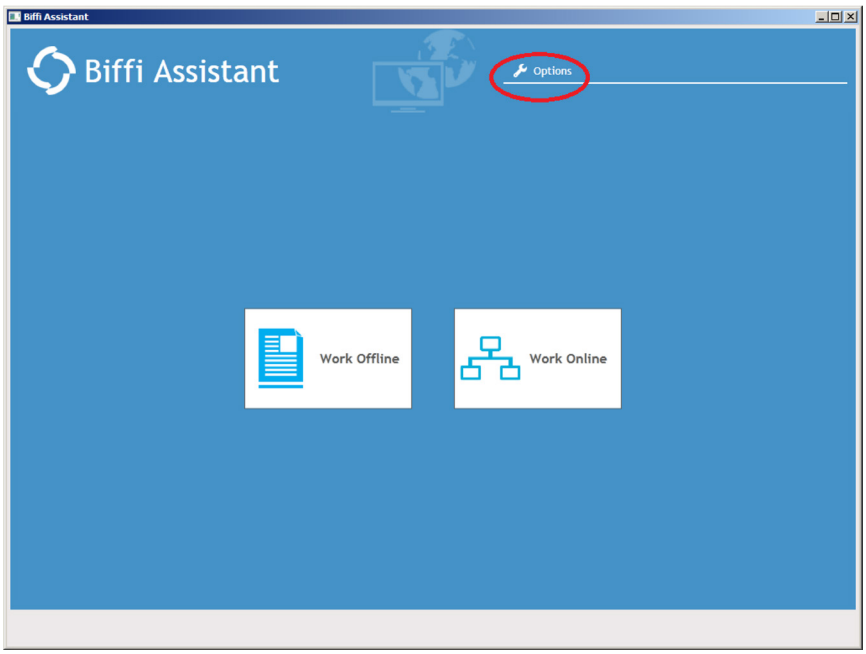
The ELBS-20 automatically inhibits the use of the Local Operator Interface when one Biffi Assistant connection (RS232, Bluetooth or RS485) is active.

3.1 Interface Selection and Settings

When the Biffi Assistant will start, the following screen will appear.

Left-click the mouse on “Options”, for setting the Communication Interface.

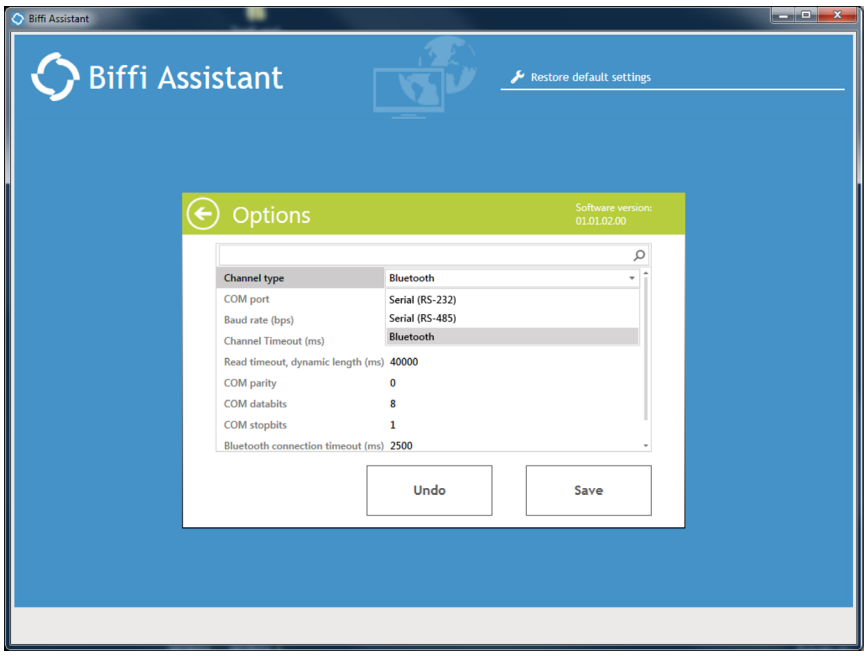
Figure 2. Welcome Page



Select the Communication Interface/Channel Type (RS232, RS485 or Bluetooth).

On the right corner of “Options” it is indicated the SW version of Biffi Assistant.

Figure 3. Interface Channel Selection



According to the selected “Channel Type”, set the parameters as follows (*):

Table 1. Channel Parameters

	RS232	Bluetooth	RS485
COM Port	Set the used COM	-	Set the used COM
Baud Rate (bps)	115,200 (fixed)	115,200 (fixed)	192,000 (fixed)
Channel Timeout (ms)	6000	6000	2000
Read timeout, dynamic length (ms)	100,000	100,000	250,000
COM Parity	0 (fixed)	0 (fixed)	0 (fixed)
COM Databits	8 (fixed)	8 (fixed)	8 (fixed)
COM Stopbits	1 (fixed)	1 (fixed)	1 (fixed)
Bluetooth connection timeout (ms)	-	6000	-
Language	en (fixed)	en (fixed)	en (fixed)

Left-click the mouse on “Save” for applying the setting otherwise left-click the mouse on “Undo”.

The selected Interface, with its settings, will be used by the Biffi Assistant, for the connection with the device.

Before starting the connection, verify that the selected interface is enabled (see Reference Document [1]).

For restoring the default settings, left-click the mouse on “Restore default settings”.

(*) it is indicated the typical value of the parameters. In some cases (PC with low performance) it could be necessary to increase the value of the following parameters: “Channel Timeout”, “Read timeout, dynamic length” and “Bluetooth connection timeout”.

3.2 Login and Connection

See Section 3.1 to select the Communication Interface and to set it correctly.

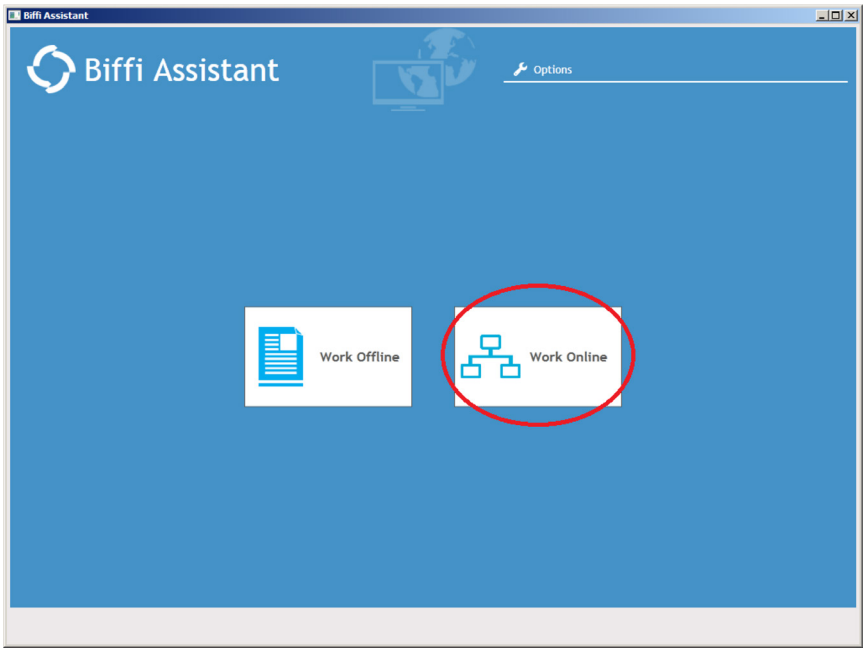
3.2.1 RS232 Connection

It is supposed that the cable connection is correctly made.

For the RS232 connection see Appendix A and Reference Document [1].
For the RS485 connection see Reference Document [1].

Left-click the mouse on “Work Online“ to start the connection with the ELBS-20.

Figure 4. Welcome Page

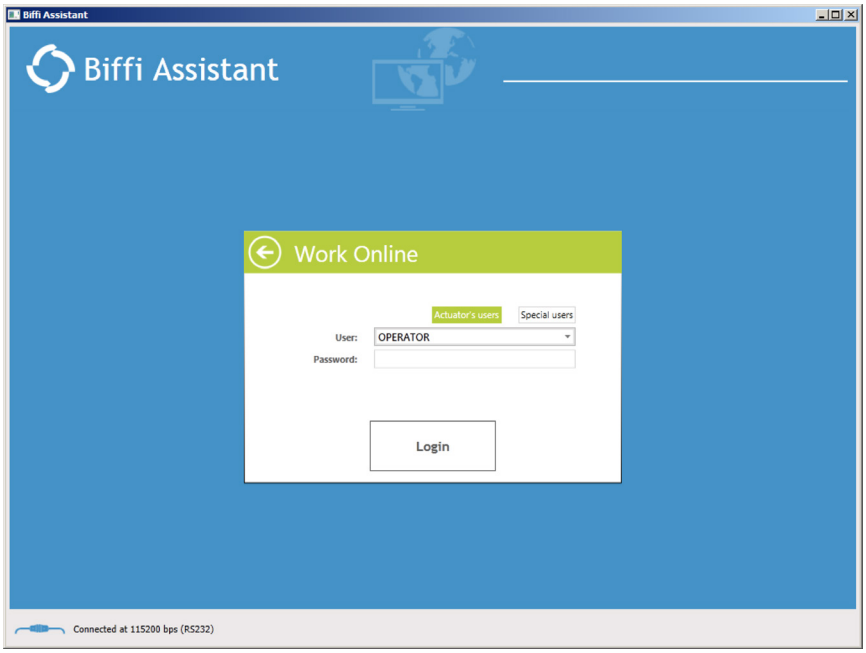


The “preliminary” connection will start.

Figure 5.

Wait for the end of the “preliminary” connection until the Login screen requests the user for a “User” and a “Password”.

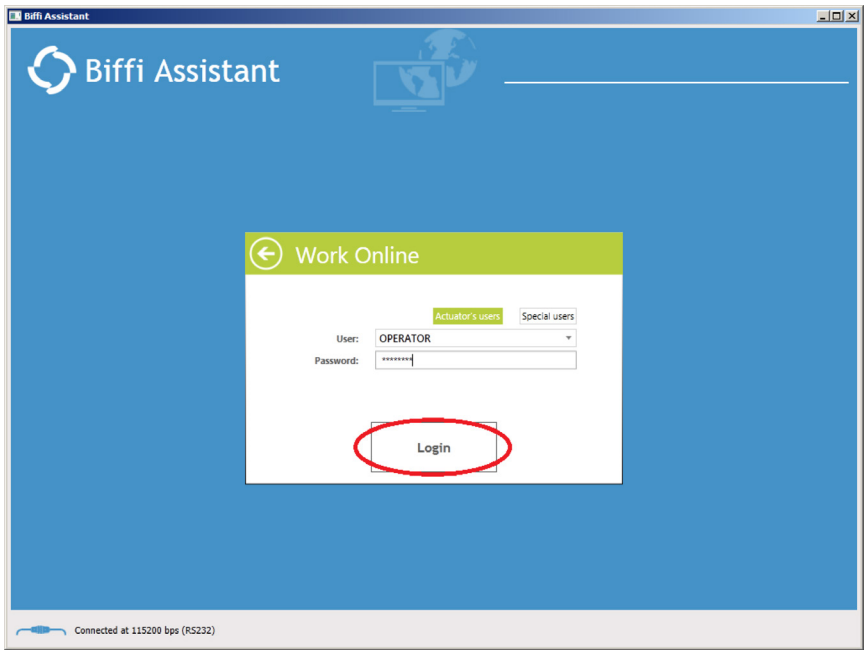
Figure 6.



To login, select the “User” (see Section 3.3 for details), insert the password and left-click the mouse on “Login” (or press ENTER).

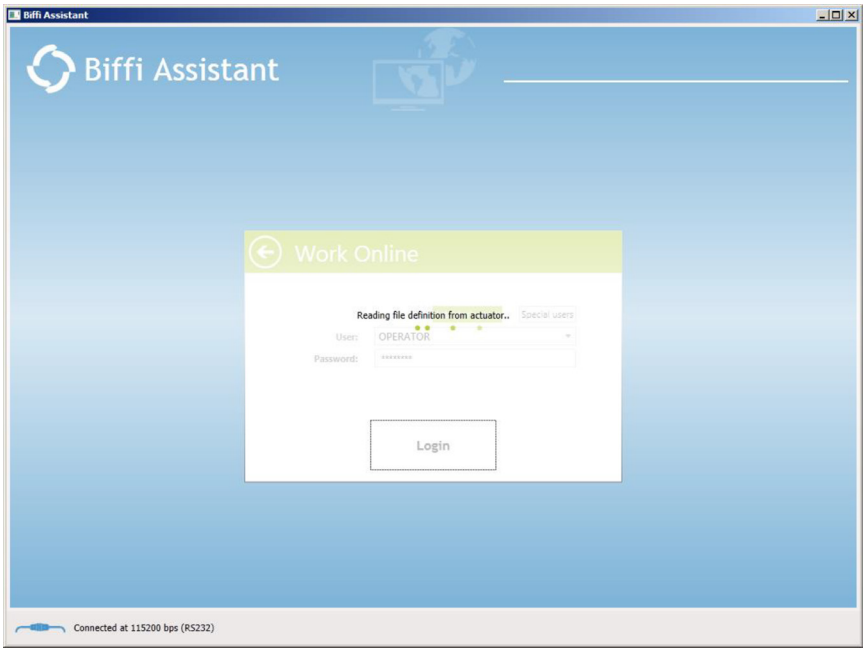
To cancel the Login, left-click the mouse on the left arrow.

Figure 7.



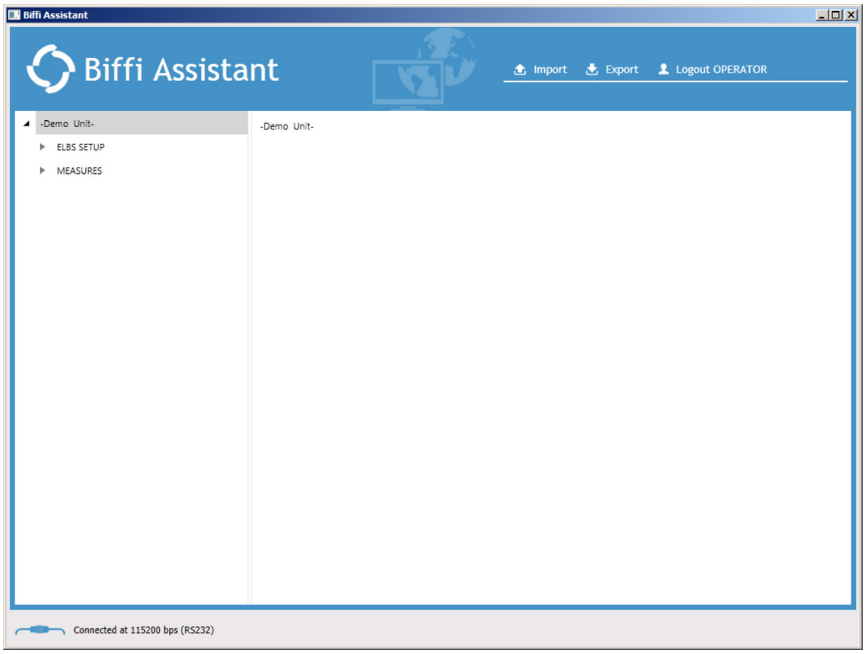
If the password is correct the connection with the ELBS-20 will start.

Figure 8.



When the ELBS-20 is connected (“User” = OPERATOR), the following screen will appear.

Figure 9.



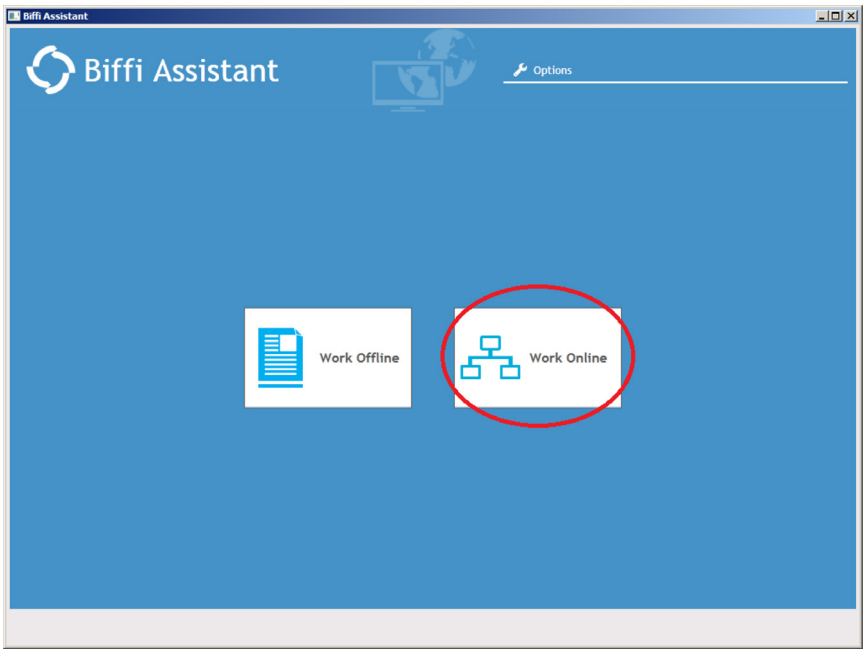
To log out, left-click the mouse on “Logout User Level”.

3.2.2 Bluetooth Connection

For the Bluetooth to operate properly, bring the PC to within 10 meters of the ELBS-20 device. Note that Bluetooth configuration is provided by your Bluetooth hardware manufacturer (see Appendix B for the approved USB/Bluetooth adapters).

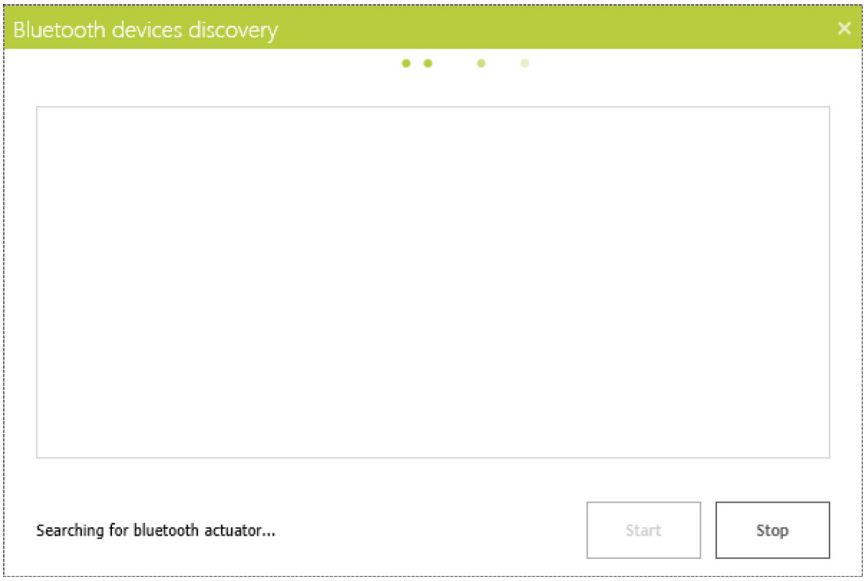
1. Left-click the mouse on “Work Online“, to start the connection with the ELBS-20.

Figure 10.



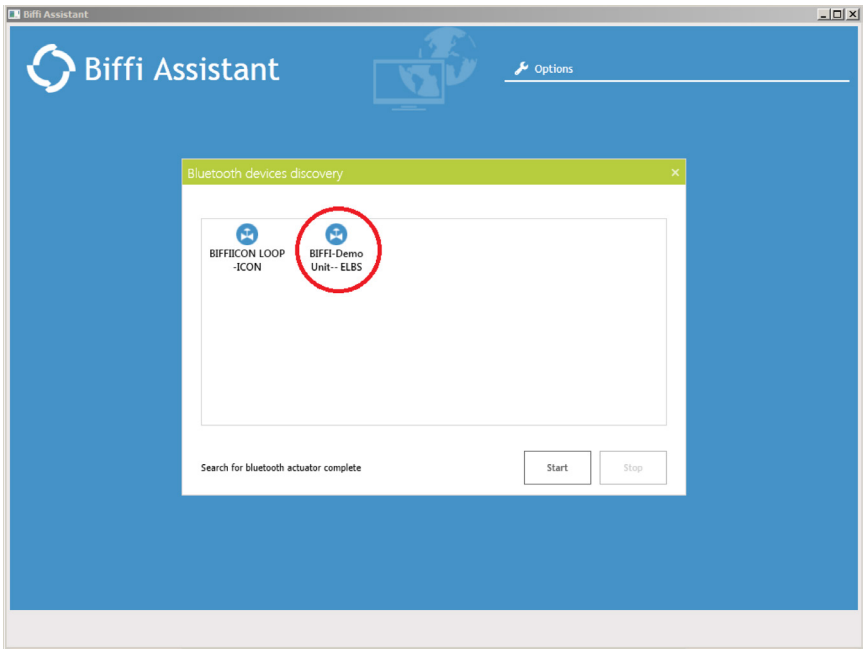
2. Left-click the mouse on “Start” to search for Bluetooth devices.

Figure 11.



3. Double left-click the mouse on the desired device to start the connection.

Figure 12.



At this point, depending on the Bluetooth stack of the laptop and on the Bluetooth module installed into the device, the following three connection sequences can occur:

- Direct connection to the Device Password page (see Section 3.2.2.1)
- Notice of the Bluetooth Connection before Device Password page (see Section 3.2.2.2)
- Request of Bluetooth password before Device Password page (see Section 3.2.2.3)

Afterwards, log in the user credentials as seen in Section 3.2.2.4.

3.2.2.1 Direct Connection to the Device Password Page

The preliminary connection will start.

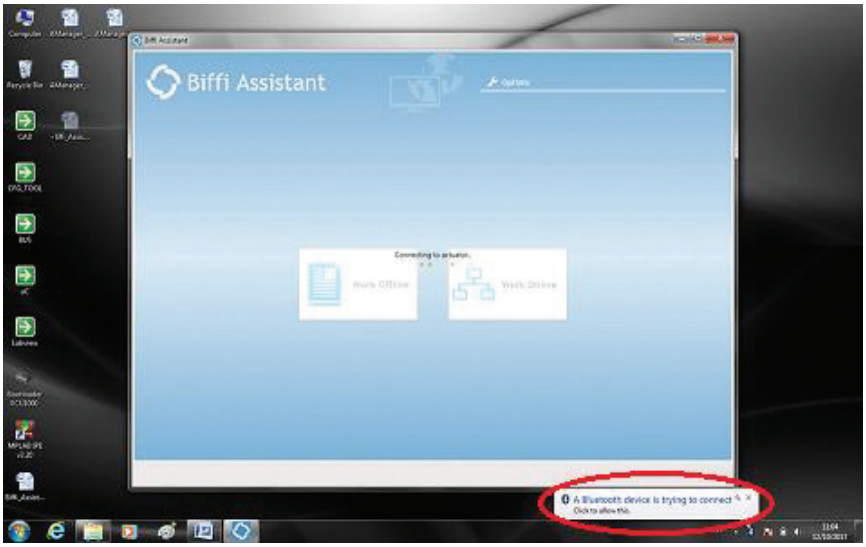
Figure 13.

Go to Section 3.2.2.4.

3.2.2.2 Notice of the Bluetooth Connection Before Device Password Page

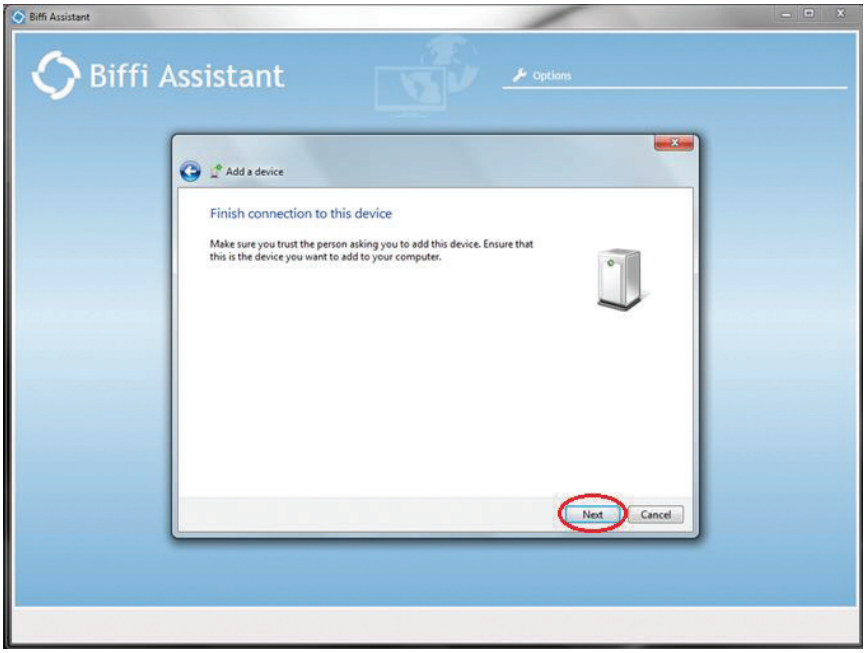
Left-click the mouse on the message that will appear in the bottom-right of the screen.

Figure 14.



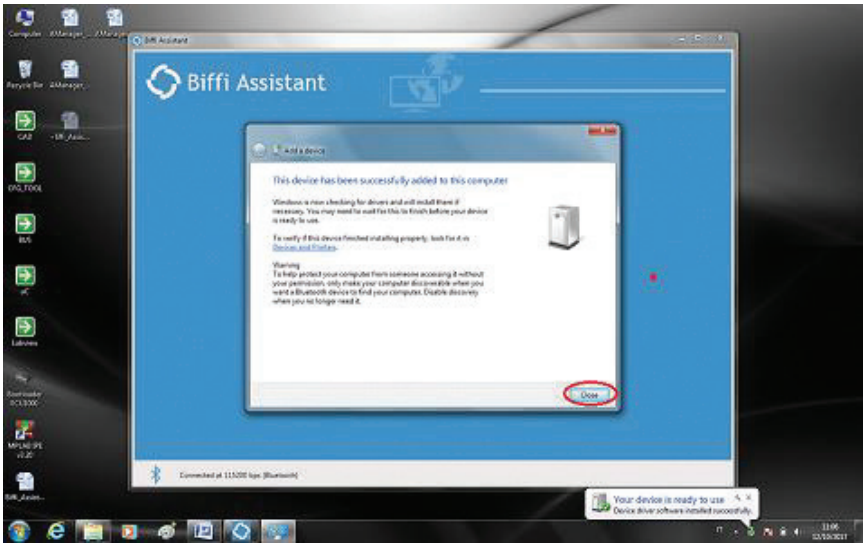
Left-click the mouse on the “Next” button.

Figure 15.



Left-click the mouse on the “Close” button.

Figure 16.

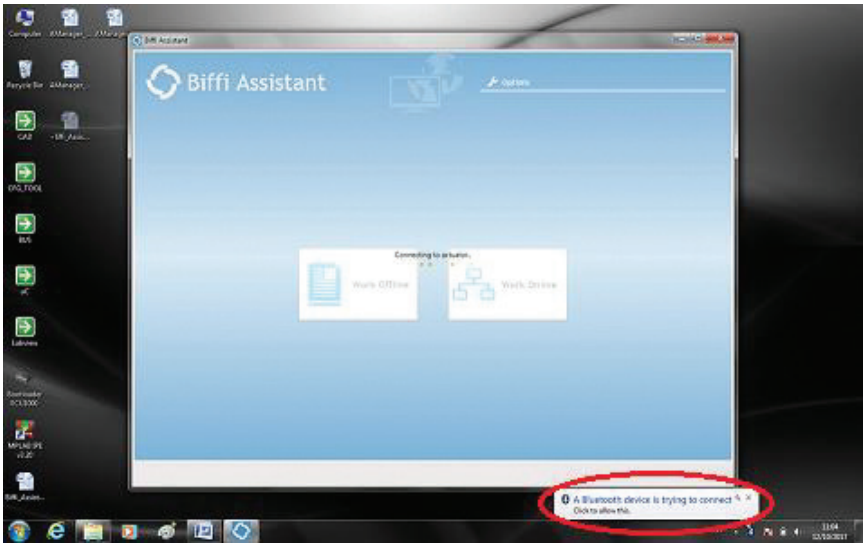


Go to Section 3.2.2.4.

3.2.2.3 Request of Bluetooth Password Before Device Password Page

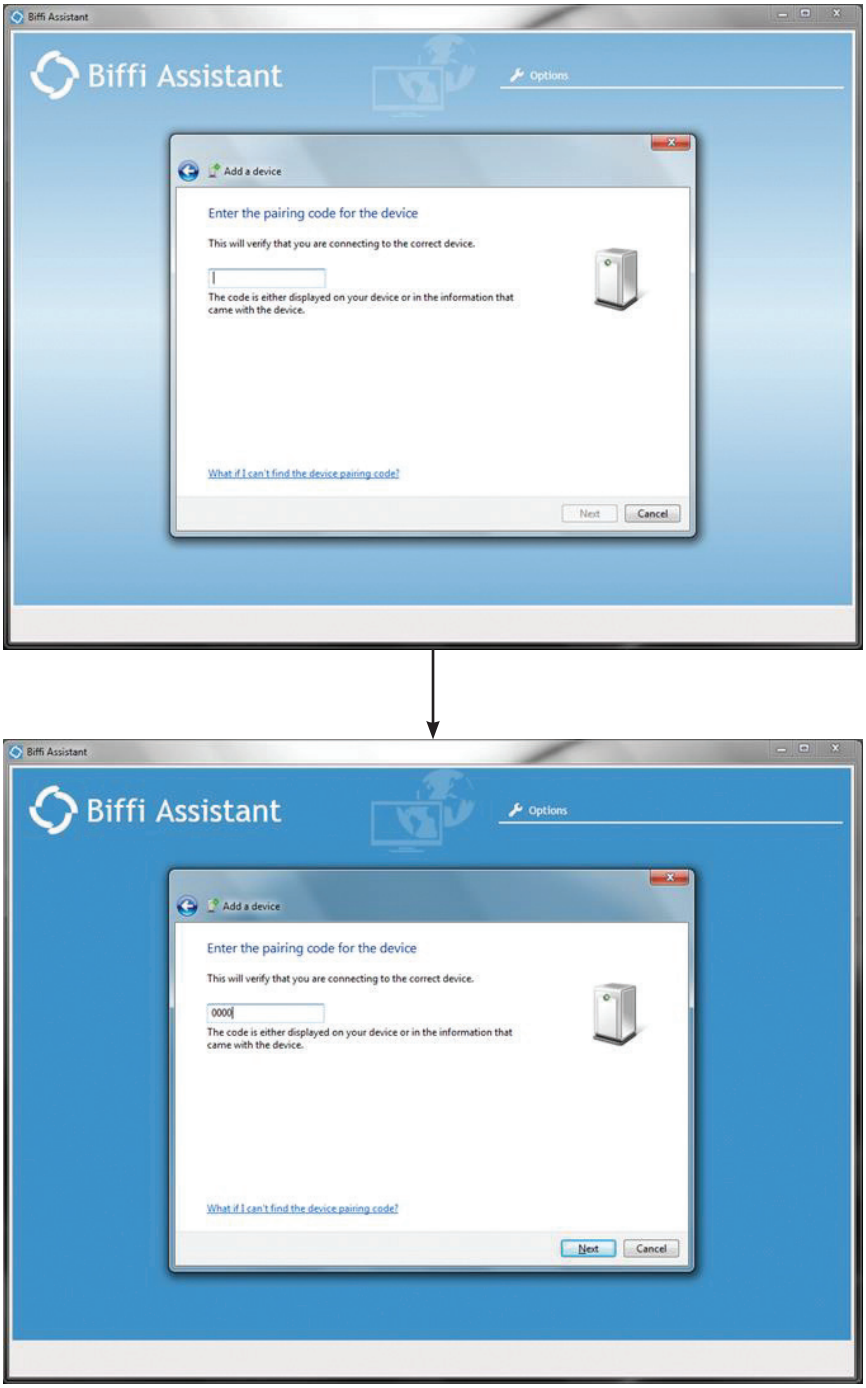
Left-click the mouse on the message that will appear at the bottom right of the screen.

Figure 17.



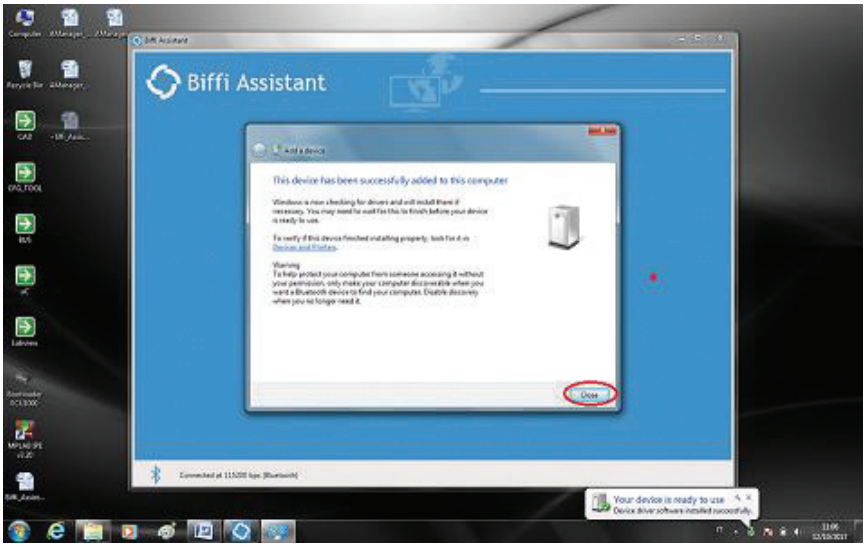
Type the 4-digit password "0000" and then left-click the mouse on "Next".

Figure 18.



After successfully adding the device, left-click the mouse on "Close".

Figure 19.

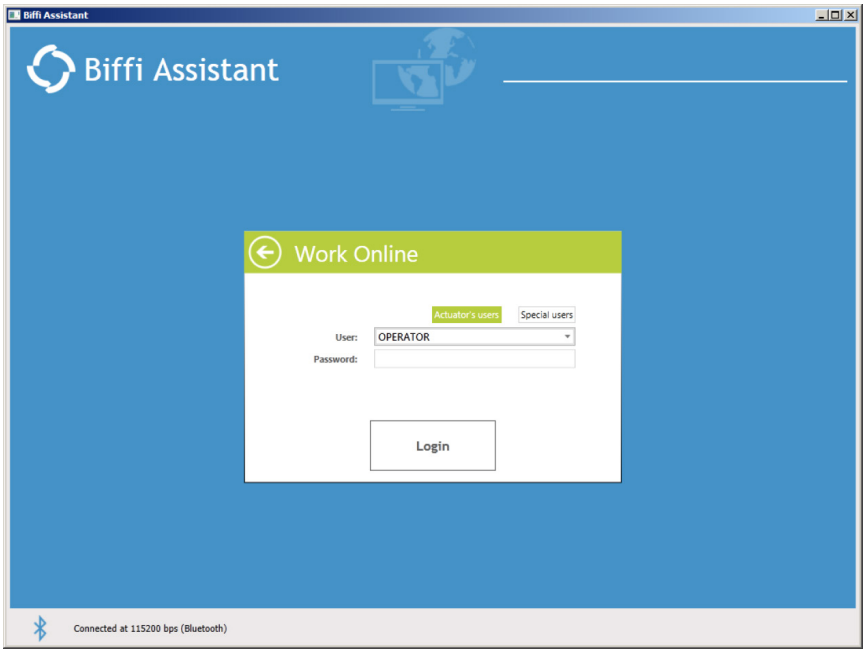


Go to Section 3.2.2.4.

3.2.2.4 Logging In User Credentials

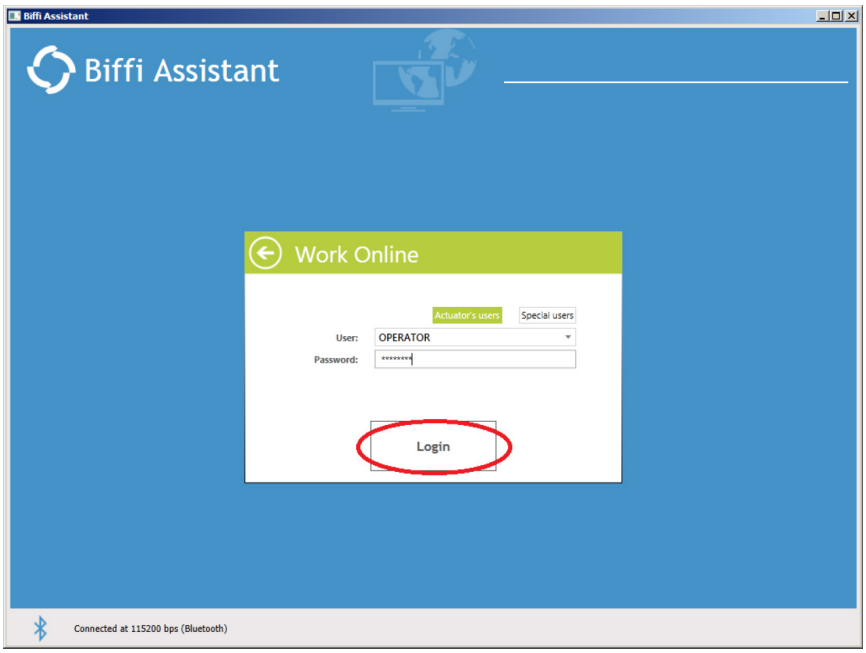
1. Wait for the end of the “preliminary” connection until the Login screen requests the user for a “User” and a “Password”.

Figure 20.



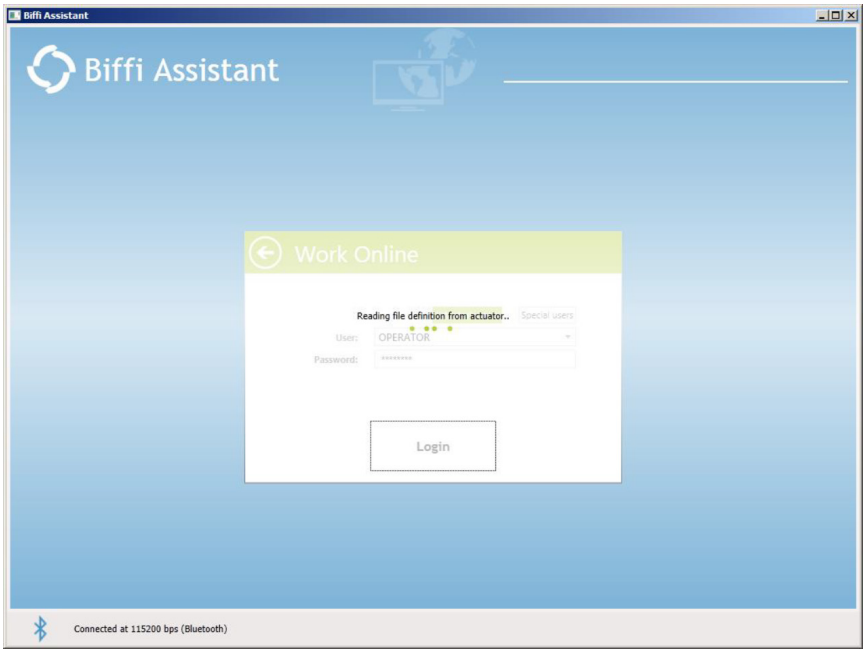
2. To login, select the “User” (see Section 3.3 for details), enter the password then left-click the mouse on “Login” or press ENTER. To cancel the Login, left-click the mouse on the left arrow.

Figure 21.



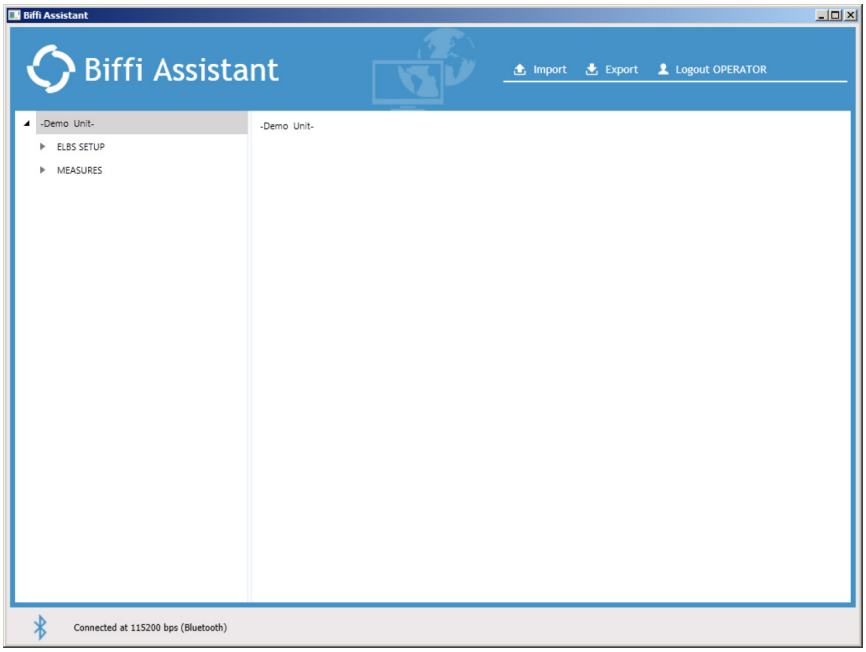
3. If the password is correct, the connection with the ELBS-20 will start.

Figure 22.



4. When the ELBS-20 is connected (“User” = OPERATOR), the following screen will appear.

Figure 23.



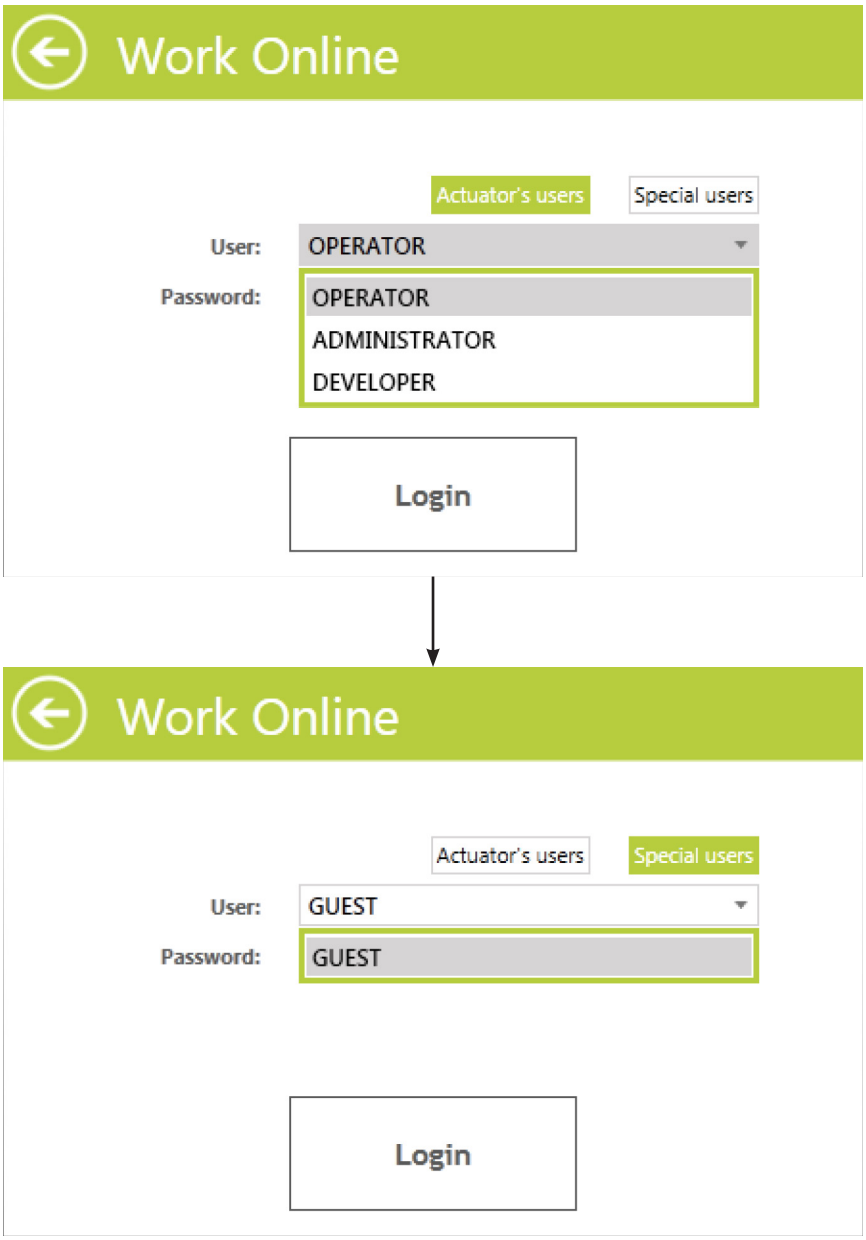
To log out, left-click the mouse on "Logout User Level".

3.3 User Levels (Login)

To log in with the ELBS-20, the "User" can be any of the following:

Actuator's Users: OPERATOR, ADMINISTRATOR, DEVELOPER
Special Users: GUEST

Figure 24.



GUEST:	Guest level may not configure or alter the device in any way but is allowed to export all the configuration parameters stored on the ELBS-20. This authorization level is ideal for technicians with little to no training or authority to change configurations. This is the lowest level of authorization and does not allow the device configuration to be changed.
OPERATOR:	Operator level may configure the device. A subset of parameters is available. User level authority is typically the technician responsible for maintaining and updating ELBS-20 configuration. It is possible to export the configuration parameters (subset) and the graphs stored on the ELBS-20.
ADMINISTRATOR:	Special authorization appropriate for Biffi authorized technician. This level allows a representative of Biffi to modify all the configuration parameters of the ELBS-20.
DEVELOPER:	Special authorization appropriate for Biffi factory personnel. This authorization allows the user to use specific utilities and should never be used by the end customer.

Section 4: Biffi Assistant Functions

⚠ WARNING

It is recommended to use only one Serial Communication Interface (RS232, Bluetooth or RS485) at a time to avoid configuration errors.

It is mandatory to use just one of the following interfaces of the ELBS-20 at a time, during the execution of the "Load Event List" command and the Export operation: RS232, Bluetooth or RS485 (see Section 7).

It is mandatory to not use the Modbus interface to read events data during the execution of the "Load Event List" command (see Section 7).

NOTICE

The ELBS-20 automatically inhibits the use of the Local Operator Interface when one Biffi Assistant connection (RS232, Bluetooth or RS485) is active.

4.1 Navigate through the Biffi Assistant Menus

4.1.1 Main Menu Name

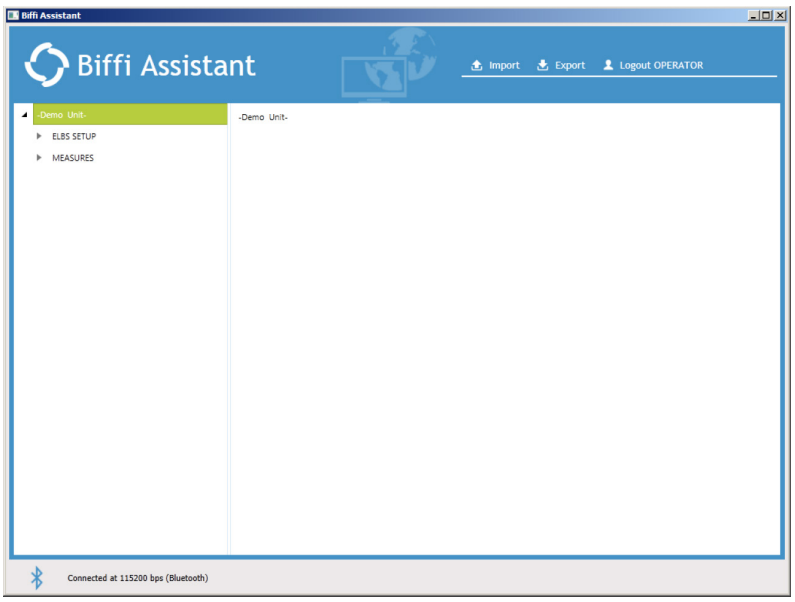
Up to "Interfaces Card FW revision" 2.00.12

The name of the Main Menu is determined by the "Bluetooth Tag Name" parameter (see Section 6 in Reference Document [1]). In the screen below it is "-Demo Unit-".

Starting from "Interfaces Card FW revision" 2.00.13:

The name of the Main Menu assumes the value of "Tag name" or "Serial Number" depending on the setting of the "Bluetooth Name Source" parameter (see Section 6 in Reference Document [1]).

Figure 25.



4.1.2 Minimize/Maximize Menus

To minimize or maximize the Menus of the Biffi Assistant, there are two possible ways:

- Single left-click the mouse on the arrow on the left of the Menu Name
- Double left-click the mouse on the Menu Name

Figure 26.

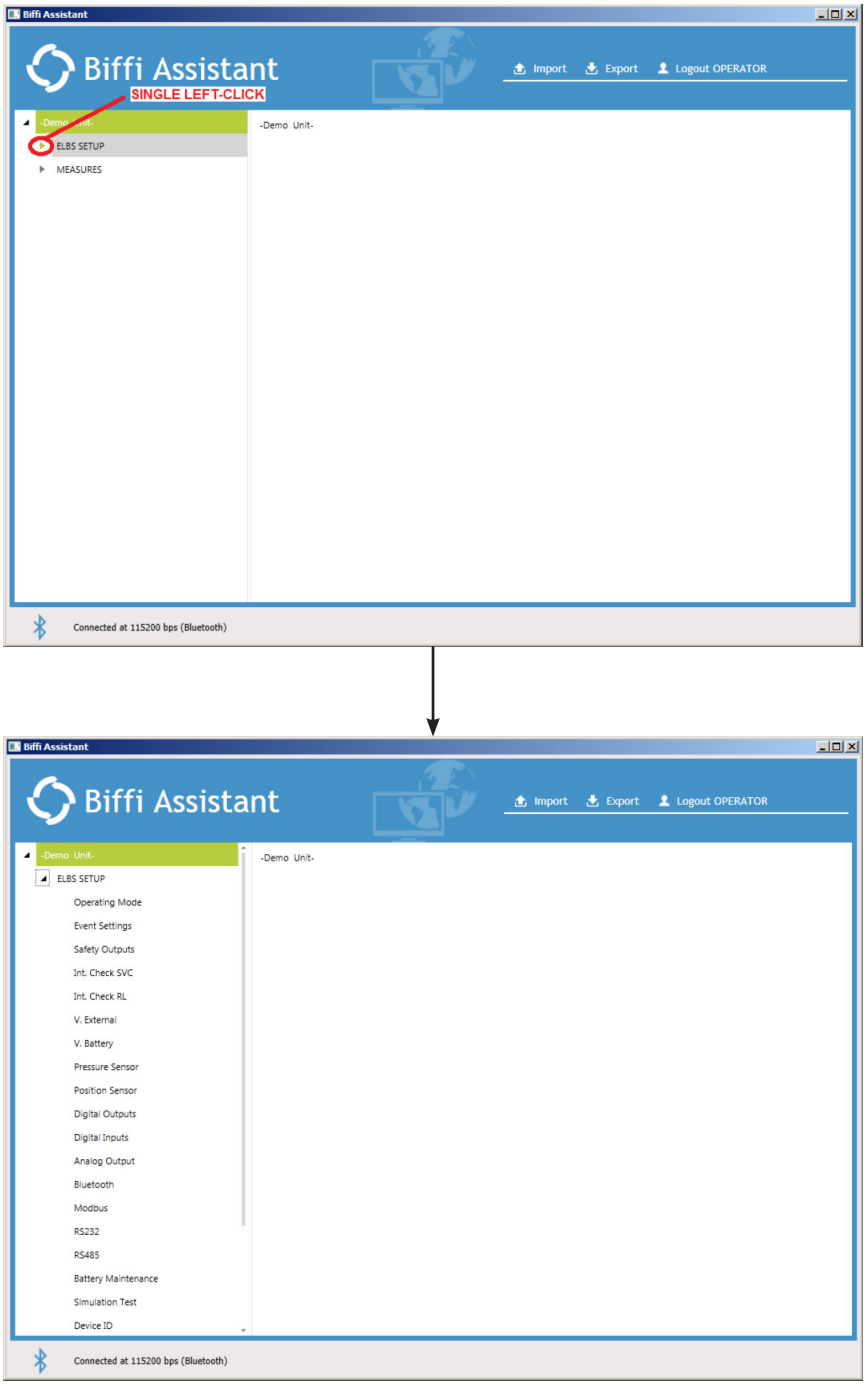
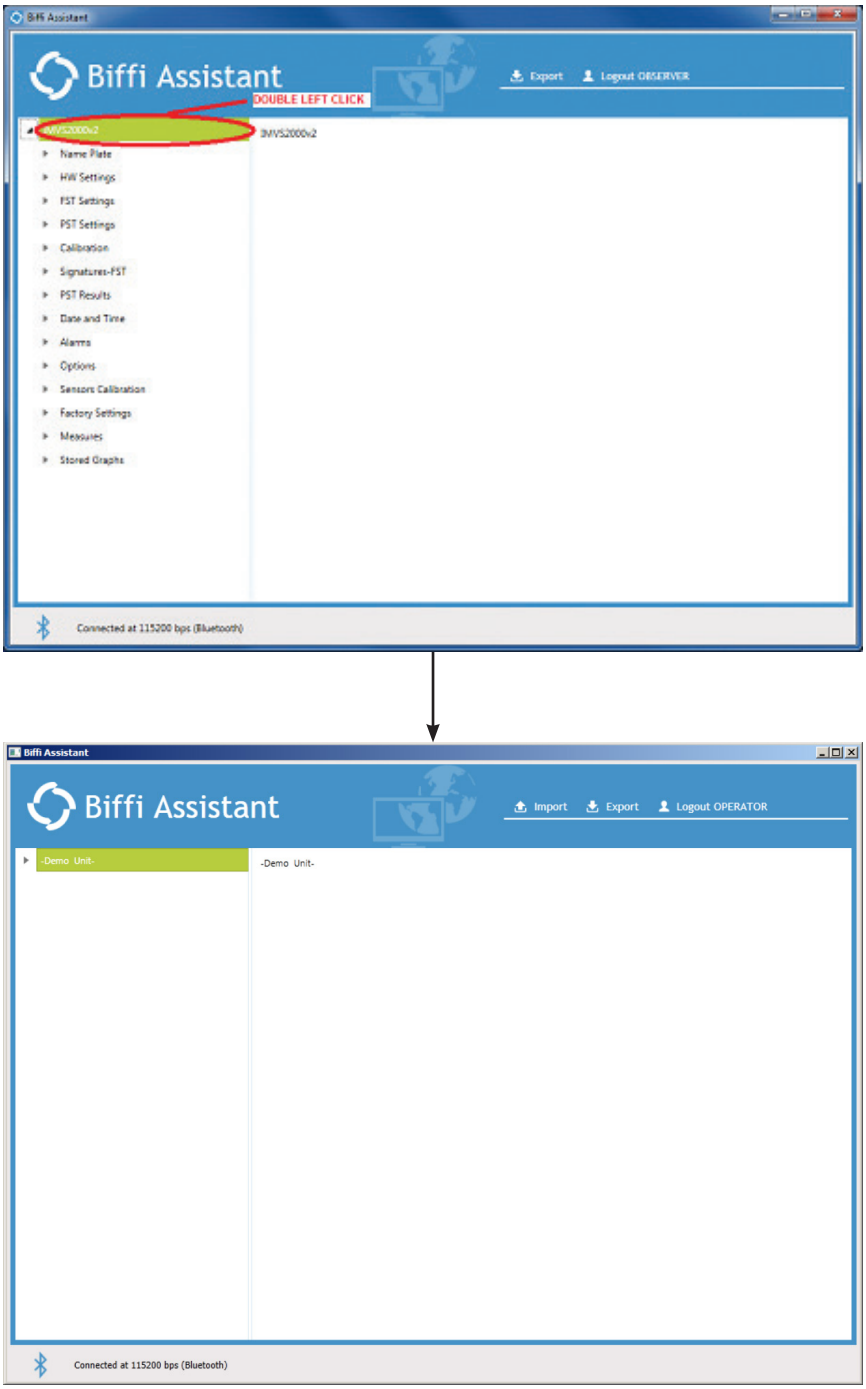
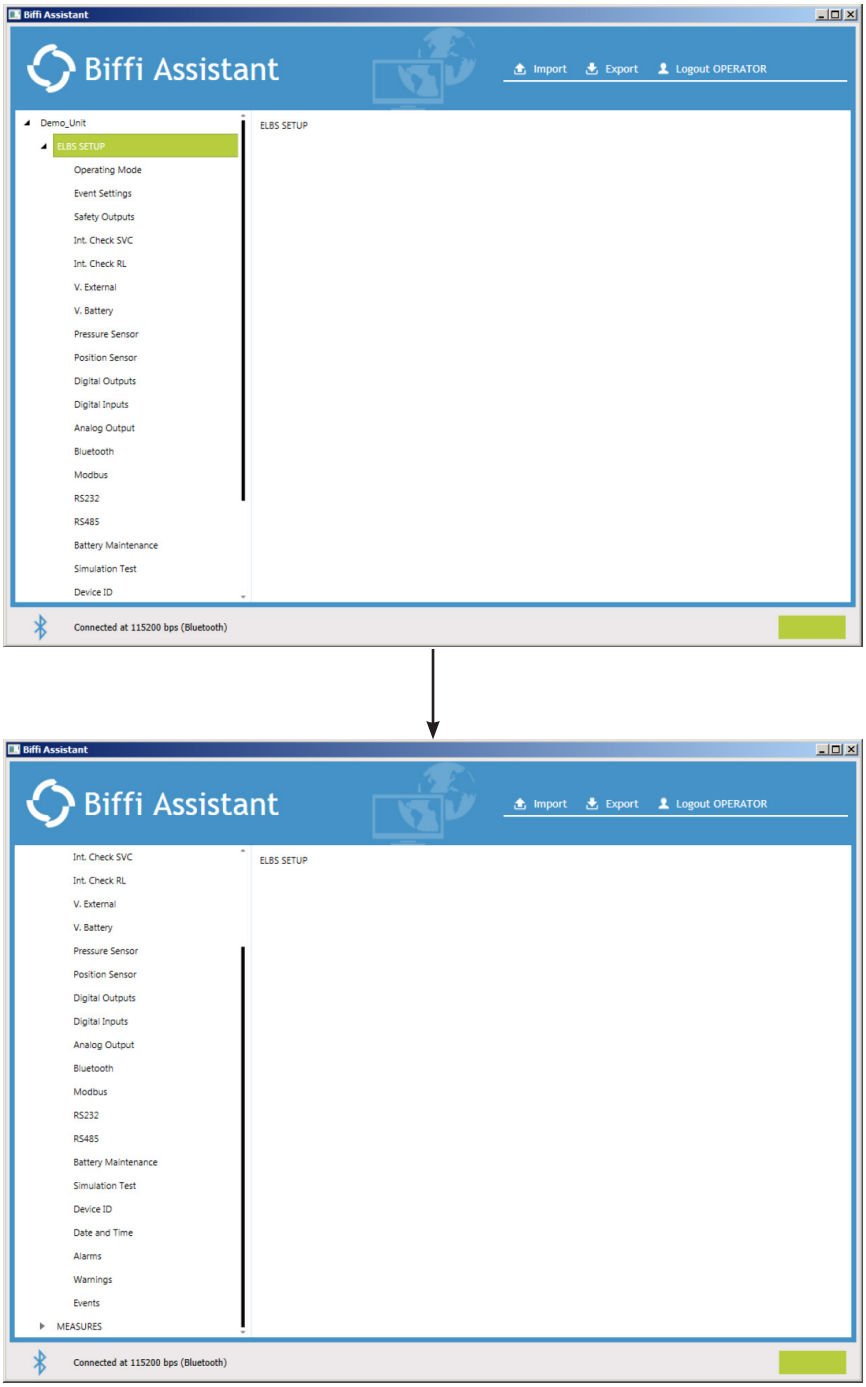


Figure 27.


Biffi Assistant
DOUBLE LEFT CLICK
Export
Logout OBSERVER
3MVS2000v2
Name Plate
HW Settings
FST Settings
PST Settings
Calibration
Signatures-FST
PST Results
Date and Time
Alarms
Options
Sensors Calibration
Factory Settings
Measures
Stored Graphs
Connected at 115200 bps (Bluetooth)
Biffi Assistant
Import
Export
Logout OPERATOR
-Demo Unit-
-Demo Unit-
Connected at 115200 bps (Bluetooth)

To navigate the menu, use the scroll bar.

Figure 28.



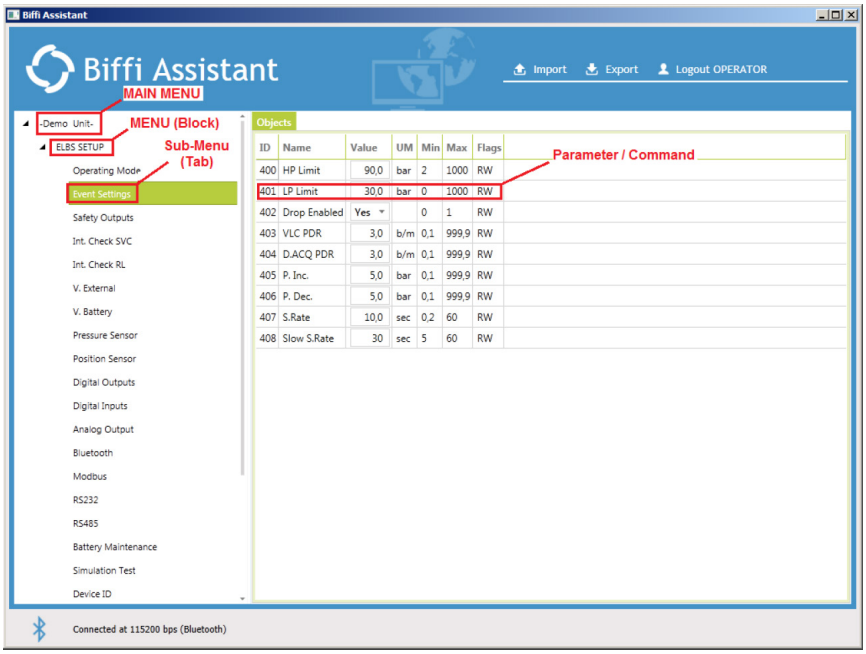
4.1.3 Biffi Assistant's Structure

The Biffi Assistant structure is organized as follows:

- MAIN MENU
  - MENU 1
  - ...
  - ...
  - MENU #N
    - Sub-Menu N_1
    - ...
    - ....
    - Sub-Menu N_x
      - Parameter / Command N_x_1
      - ...
      - ...
      - Parameter / Command N_x_y

The MAIN MENU can contain several MENUs (Blocks).
Each MENU (Block) can contain several Sub-Menus (Tabs).
Each Sub-Menu (Tab) can contain several Parameters / Commands.
In each parameter, the following are defined: Name, Value, UM (Unit Measure), Min (Minimum value), Max (Maximum value) and the Flags (R, R/W).

Figure 29.



See Section 6 and Reference Document [1], Section 1 for details about the parameters.

See Sections 4.2 to 4.4 for reading/writing the parameters and launching commands.

4.2 Read/Update Parameters

During the connection process (see Section 3.2), the value of the parameters is not updated.

The parameters of a single Sub-Menu (Tab) are automatically updated at first access to the Sub-Menu (Tab). For the further access, the update of the parameters must be done manually.

It is possible to manually update all the parameters of a Sub-Menu (Tab) individually (see Section 4.2.1) or simultaneously (see Section 4.2.2), all the parameters of a Menu (Block) (see Section 4.2.3) or the device at the same time (see Section 4.2.4).

The readable parameters are the ones classified as “RW” or “R” into the “Flags” field that are not commands (see Section 6).

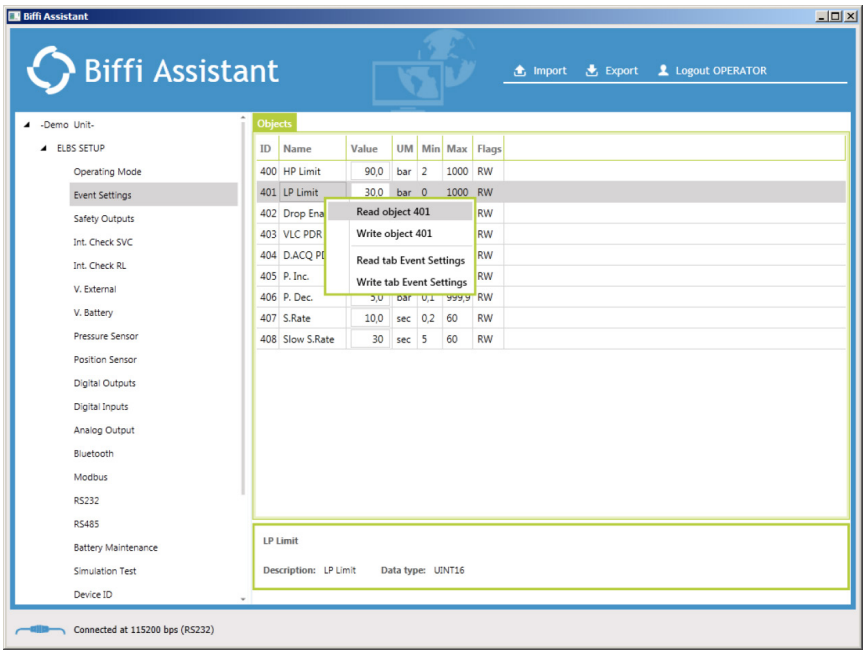
To read the value of the parameters of the “Measures” Menu, see Section 4.2.5.

To launch a command, see Section 4.4.

4.2.1 Read/Update a Single Parameter

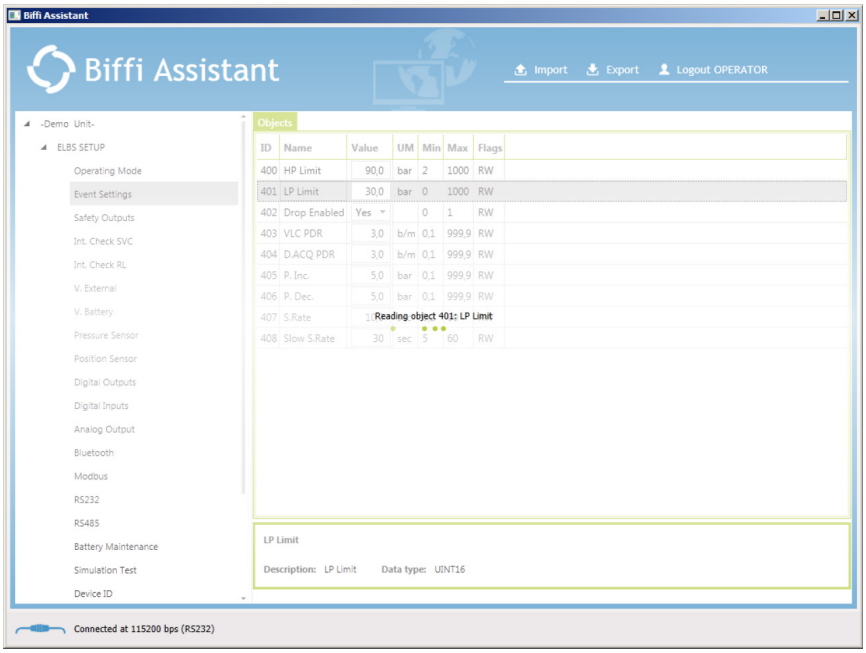
Right-click the mouse on the row of the parameter that must be updated and then left-click the mouse on “Read object <Object ID>”.

Figure 30.



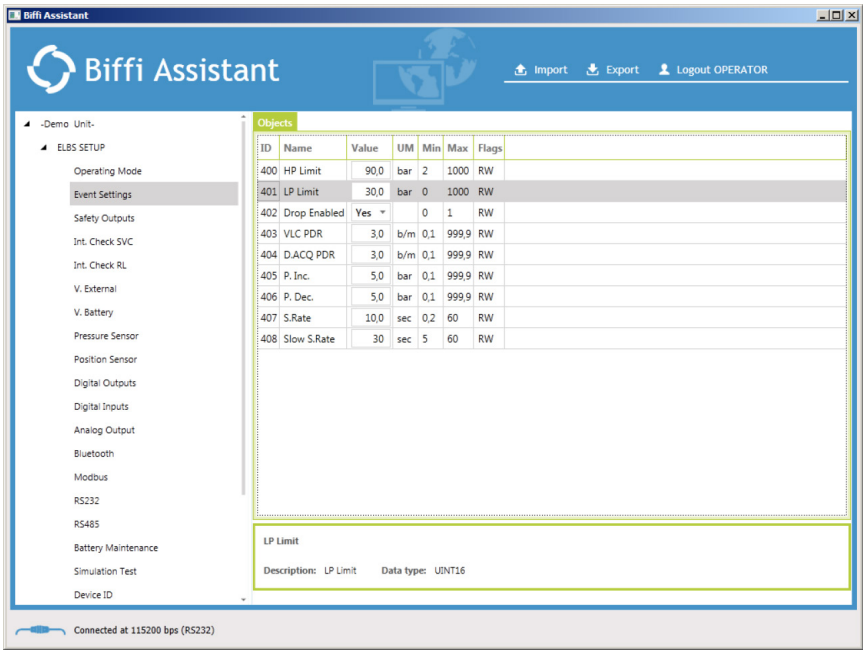
The update of the parameter will start.

Figure 31.



Wait until the updating process stops.

Figure 32.

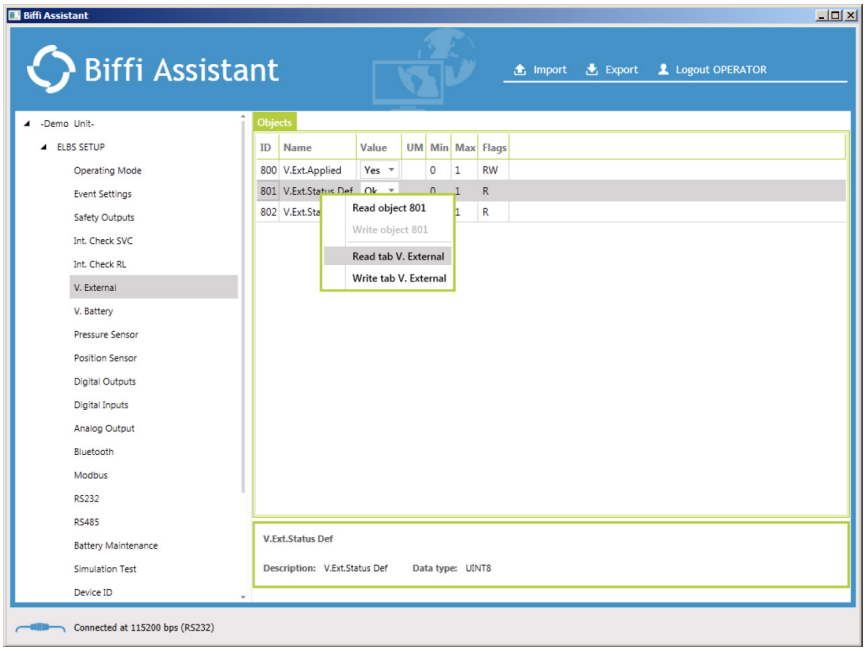


4.2.2 Read/Update All the Parameters of a Single Sub-Menu (Tab)

There are two ways to read/update all the parameters of a single tab:

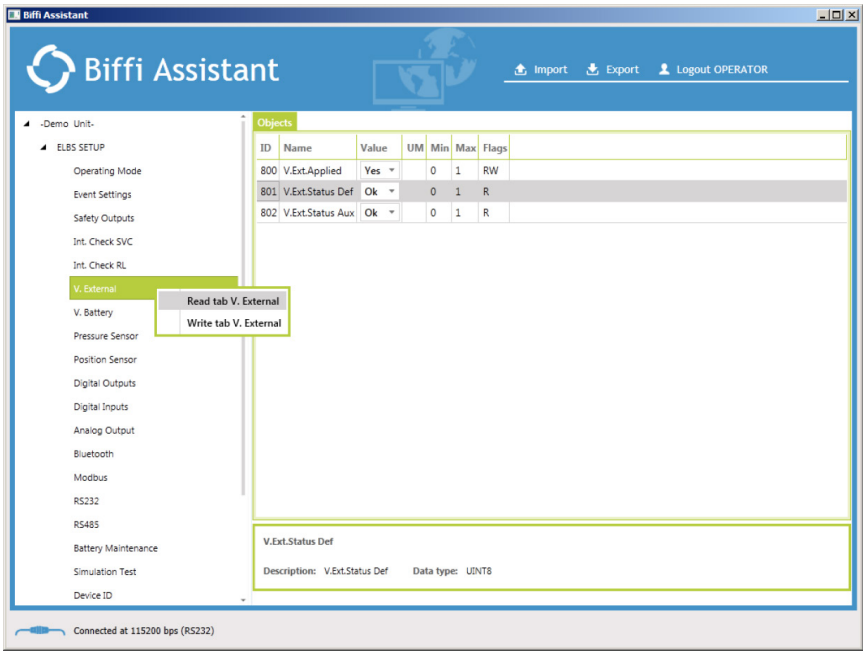
1. Right-click the mouse on the row of any parameter of the Sub-Menu (Tab) that must be updated and then left-click the mouse on “Read tab <Tab Name>”.

Figure 33.



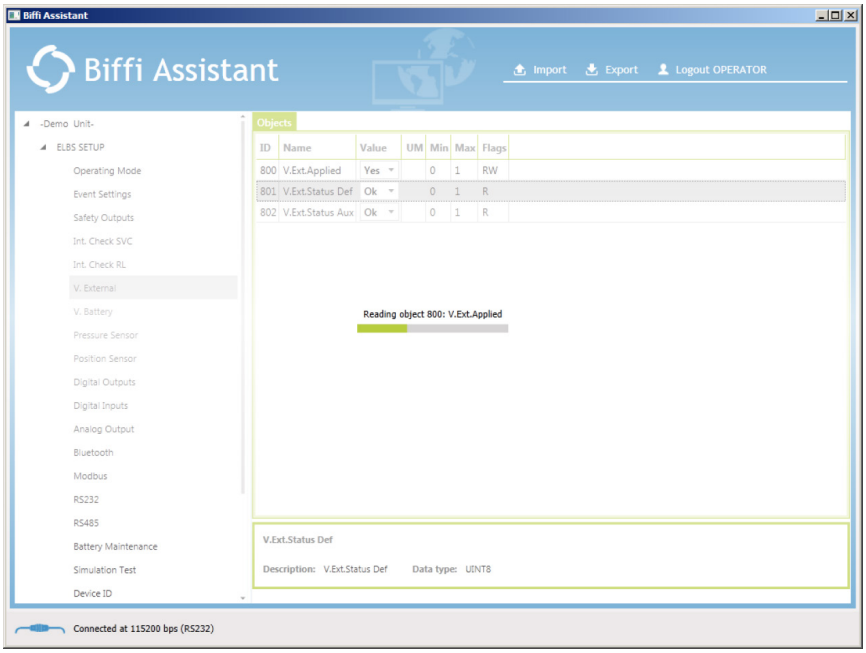
2. Right-click the mouse on the name of the Sub-Menu (Tab) to be updated and then left-click the mouse on “Read tab <Tab Name>”.

Figure 34.



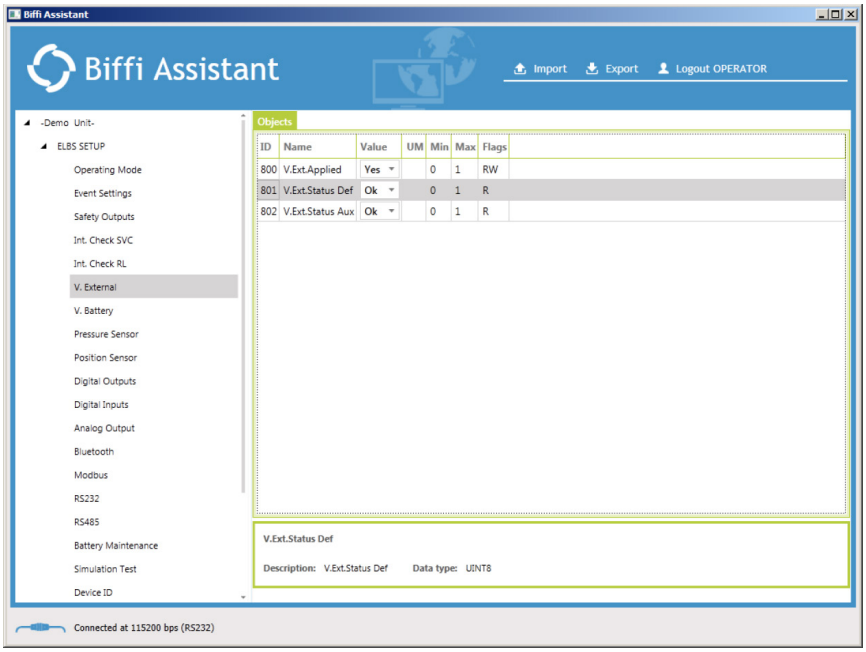
The update of the parameter will start.

Figure 35.



Wait until the updating process stops.

Figure 36.

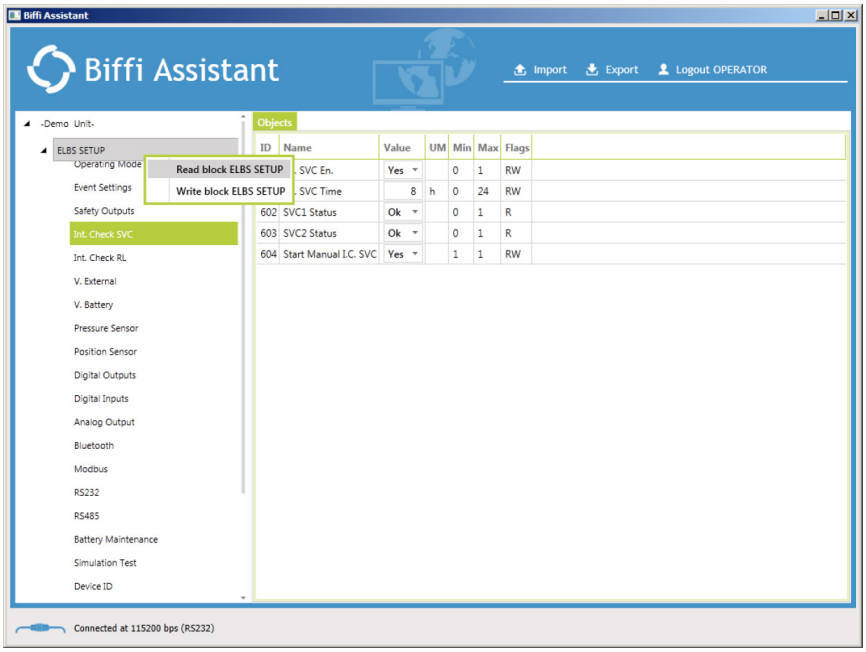


4.2.3 Read/Update All the Parameters of Single Menu (Block)

There are two ways for reading/updating all the parameters of a single tab:

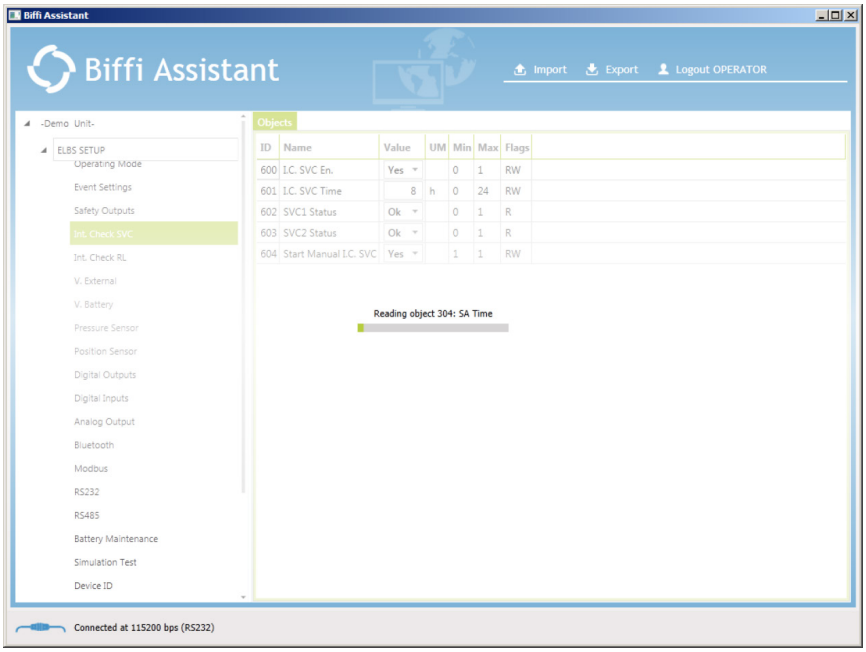
1. Right-click the mouse on the name of the Menu (Block) to be updated and then left-click the mouse on “Read block <Block Name>”.

Figure 37.



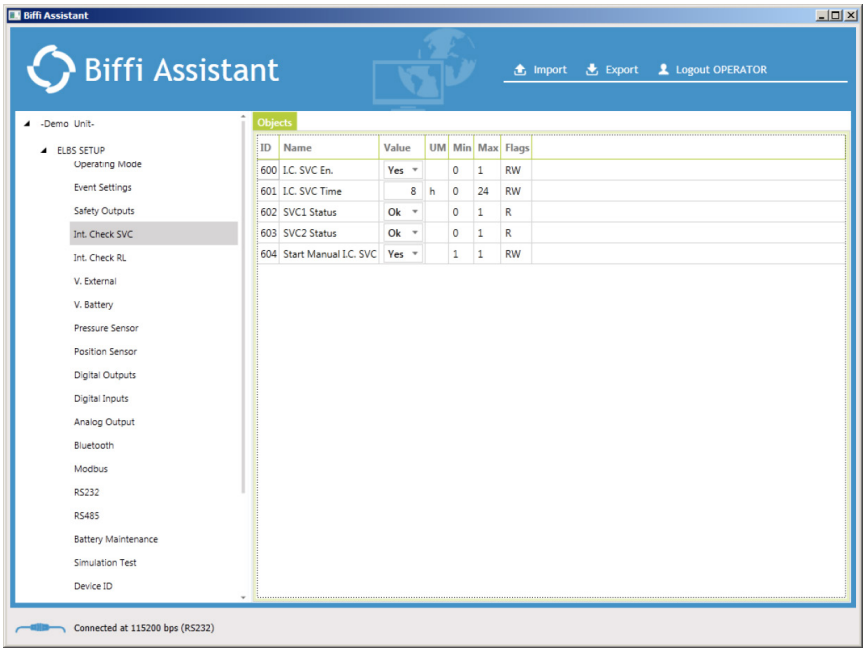
The update of the parameter will start.

Figure 38.



Wait until the updating process stops.

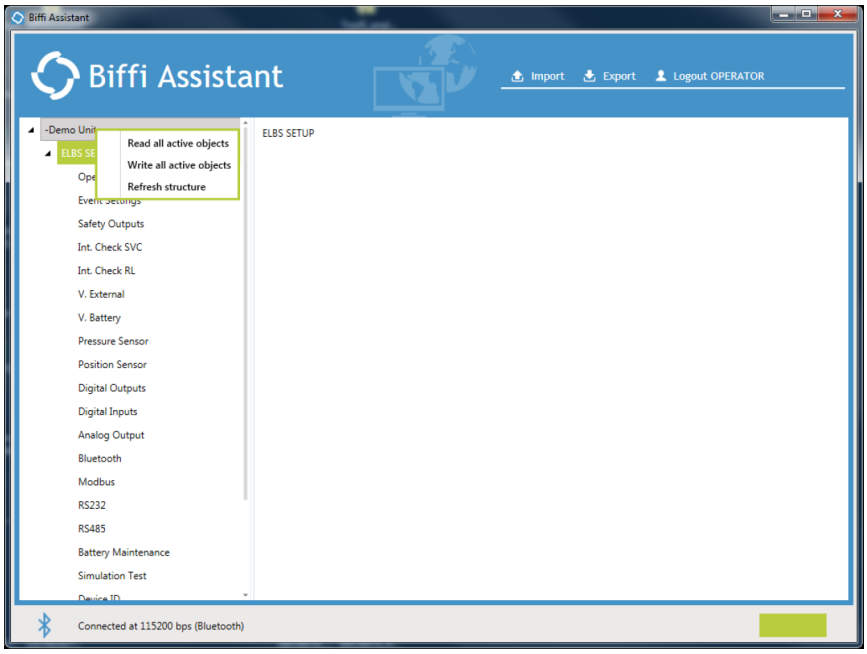
Figure 39.



4.2.4 Read/Update All the Parameters of the Device

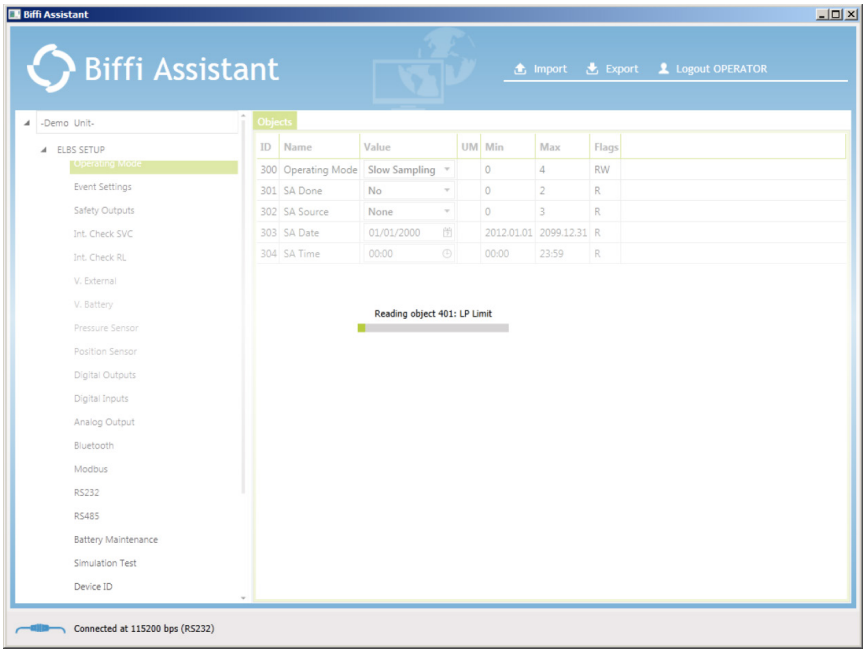
Right-click the mouse on the name of the Main Menu, then left-click the mouse on "Read all active objects".

Figure 40.



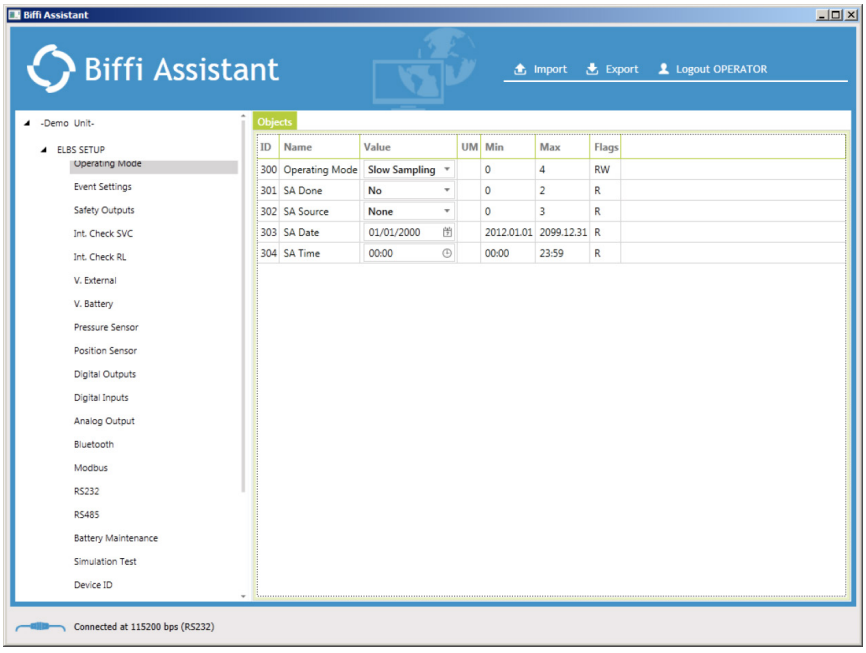
The update of the parameter will start.

Figure 41.



Wait until the updating process stops.

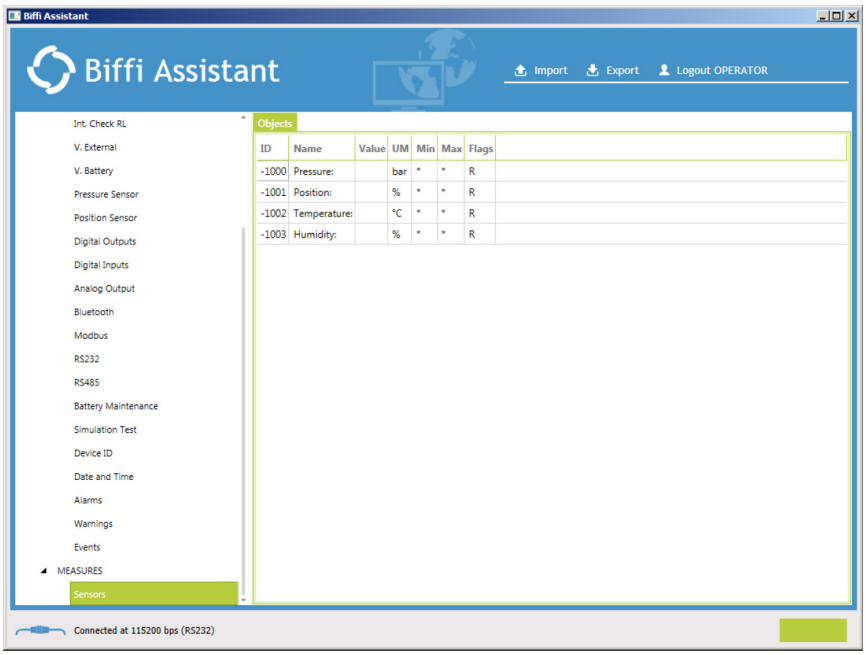
Figure 42.



4.2.5 Read Measures Menu

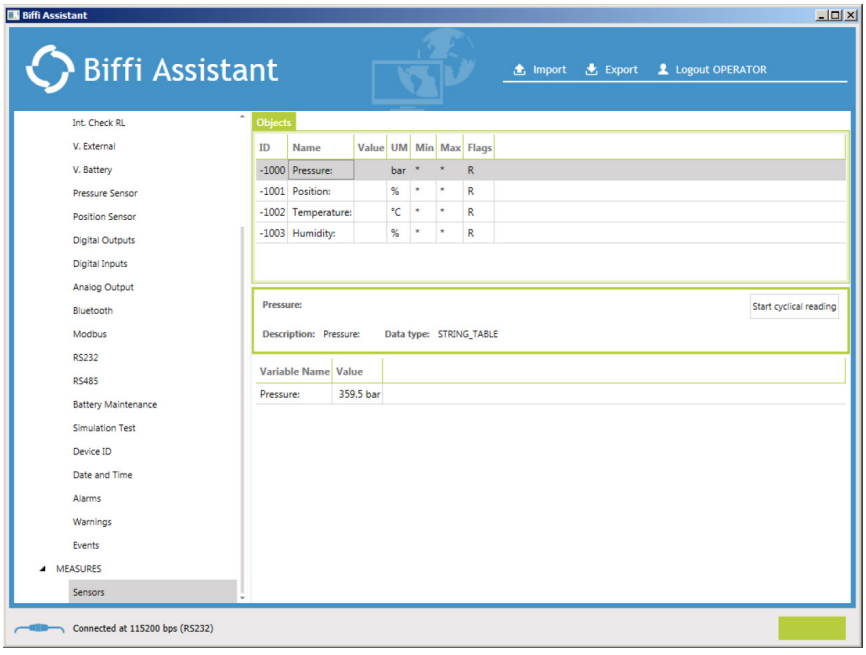
Open the “Measures” Menu (Block) then select the “Sensors” Sub-Menu (Tab).

Figure 43.



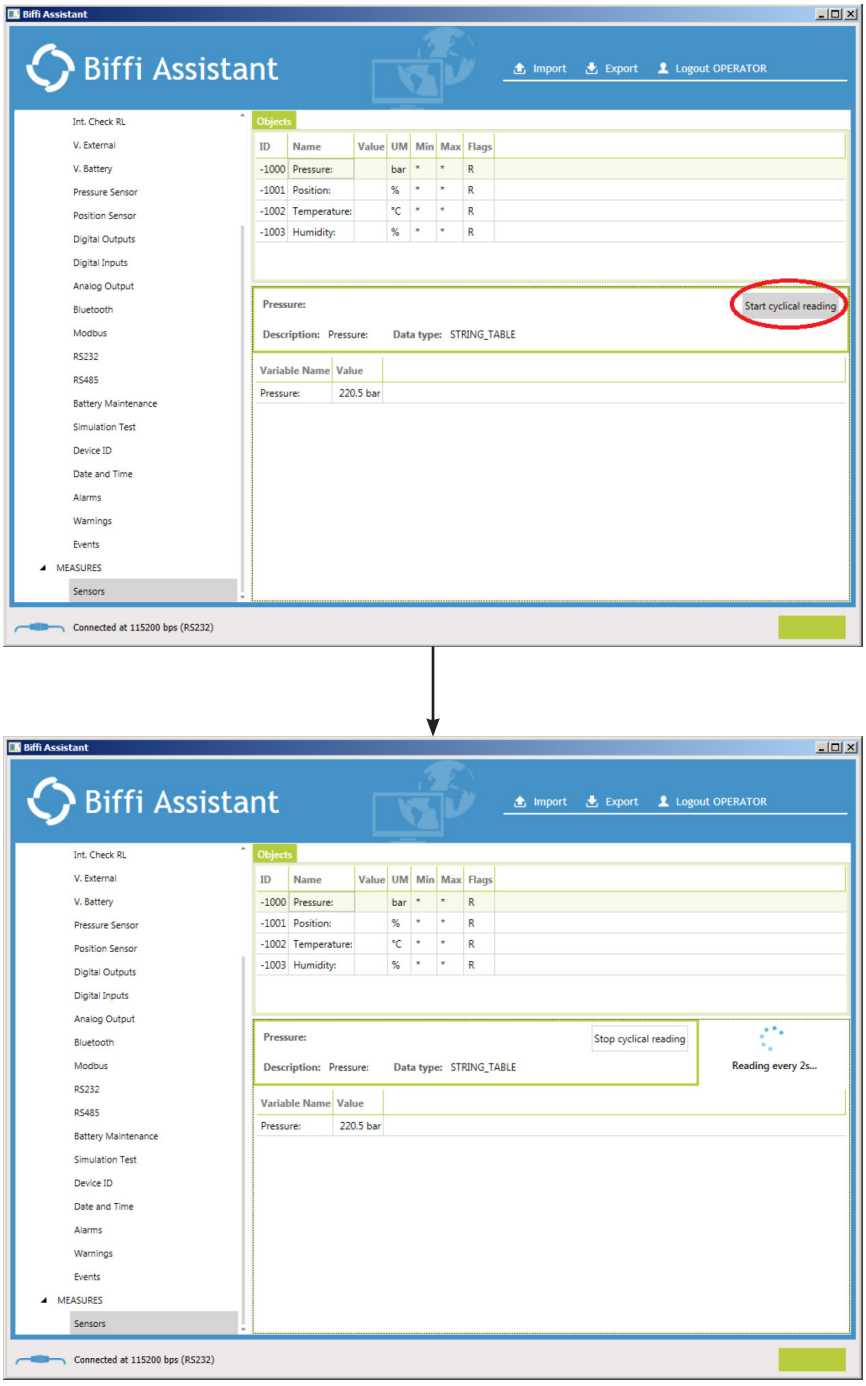
Left-click the mouse on the row of the parameter to be read (“Pressure” in the screen below).

Figure 44.



Left-click the mouse on “Start cyclical reading” to read/update the value of the parameter every two seconds.

Figure 45.



Left-click the mouse on “Stop cyclical reading” to stop the cyclical reading. The cyclical reading is automatically stopped by selecting another parameter or by exiting from the Sub-Menu (Tab).

4.3 Write Parameters

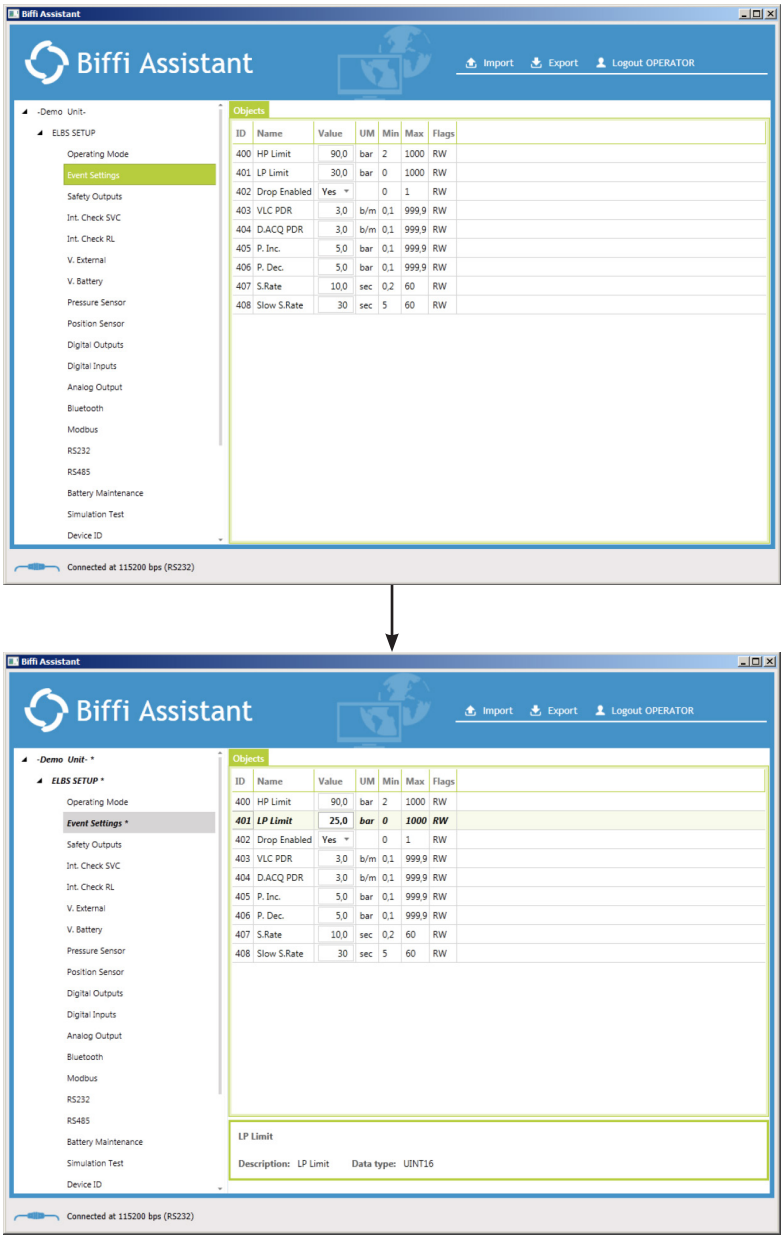
Biffi Assistant allows writing of all the parameters of a Sub-Menu (Tab) individually (see Section 4.3.1) or simultaneously (see Section 4.3.2), all the parameters of a Menu (Block) (see Section 4.3.3) or the device at the same time (see Section 4.3.4).

The writable parameters are the ones classified as “RW” into the “Flags” field that are not commands (see Section 6).

4.3.1 Write a Single Parameter

Left-click the mouse on the “Value” field of the parameter that must be written, then type the new value or select the new value from the available list, depending on the type of parameter.

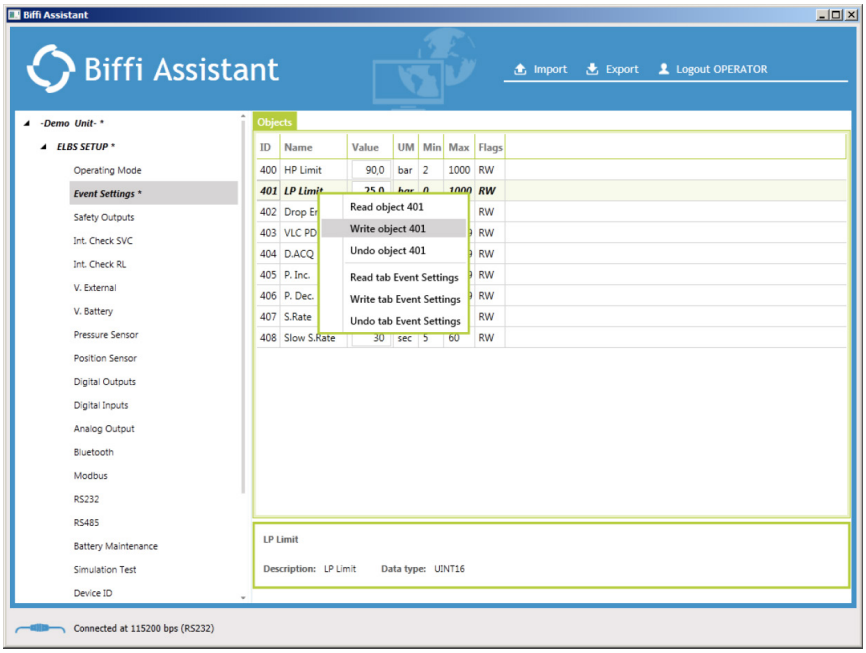
Figure 46.



Right-click the mouse on the row of the parameter to be updated, and then left-click the mouse on “Write object <Object ID>”. Confirm the writing operation when the confirmation window appears.

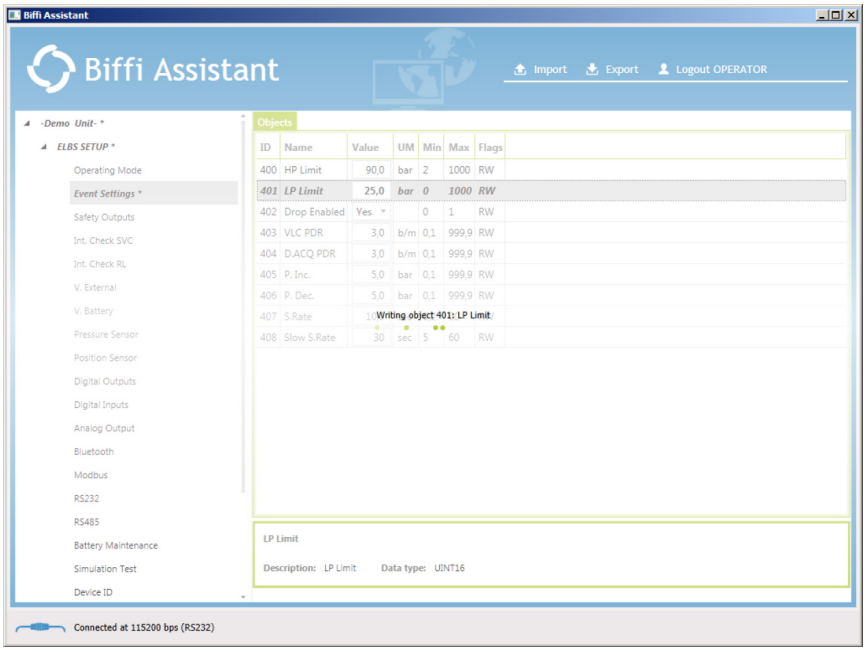
To cancel the writing operation, left-click the mouse on "Undo object <Object ID>".

Figure 47.



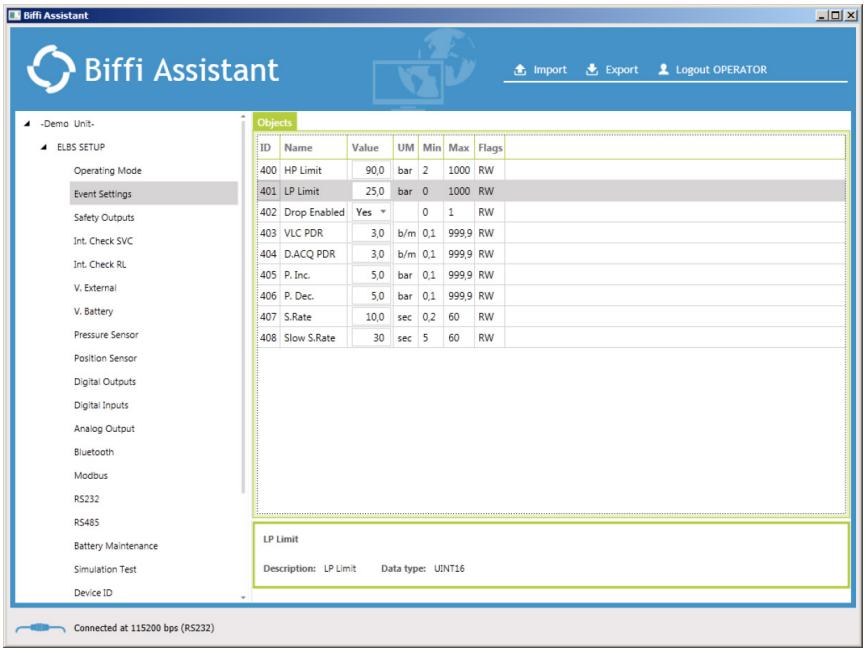
The writing process will start.

Figure 48.



Wait until the writing process stops.

Figure 49.



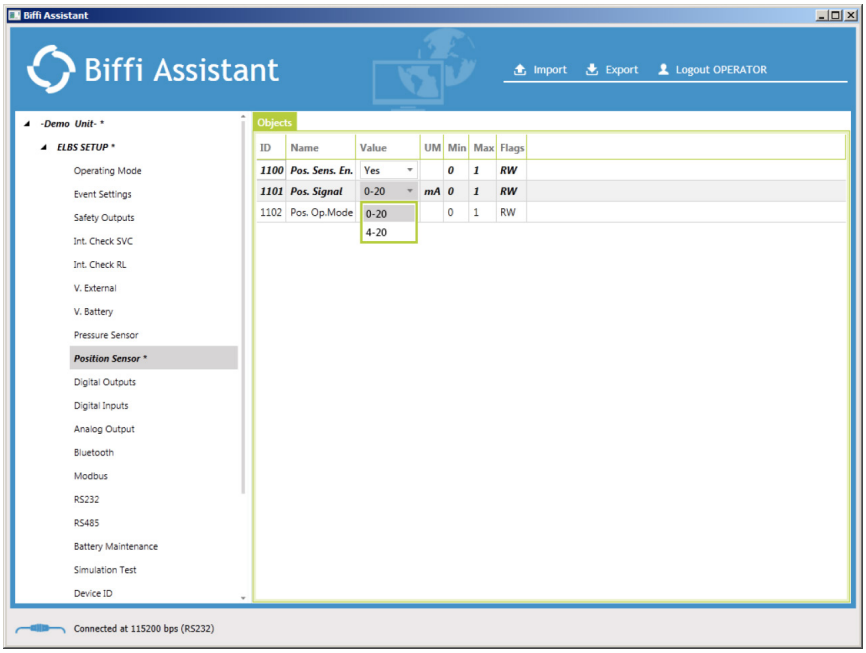
4.3.2 Write All the Parameters of a Single Sub-Menu (Tab)

⚠ WARNING

During the connection process (see Section 3.2), the value of the parameters is not updated. Before performing the writing of all the parameters of a Sub-Menu (Tab), it is necessary to verify that all the parameters of the Tab have the correct value. Before performing the writing command, it is suggested to update the value of all the parameters of the Tab (see Section 4.2.2) or to import a valid file (see Section 5).

Left-click the mouse on the "Value" field of the parameters to be written and type the new values or select the new values from the available list, depending on the type of parameter.

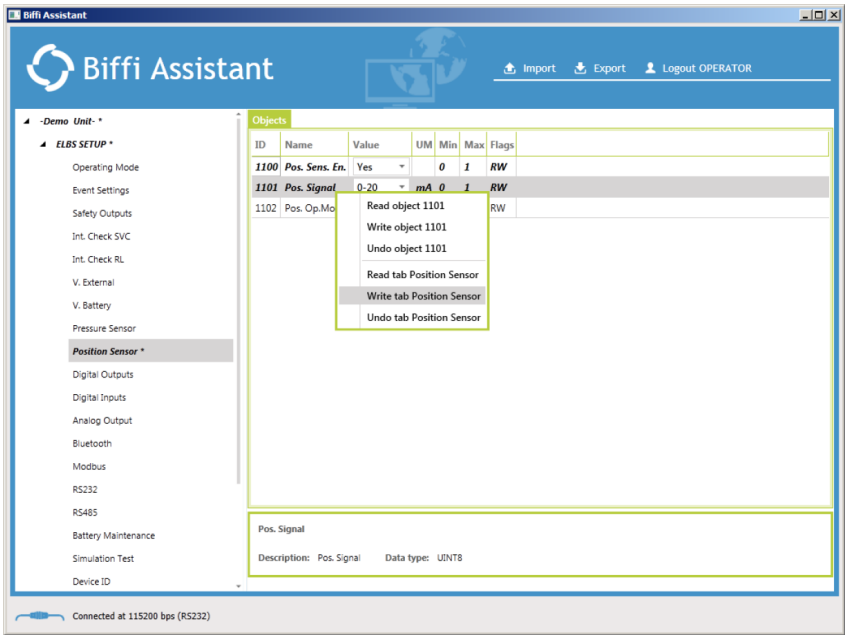
Figure 50.



There are two ways to write all the parameters of a single tab:

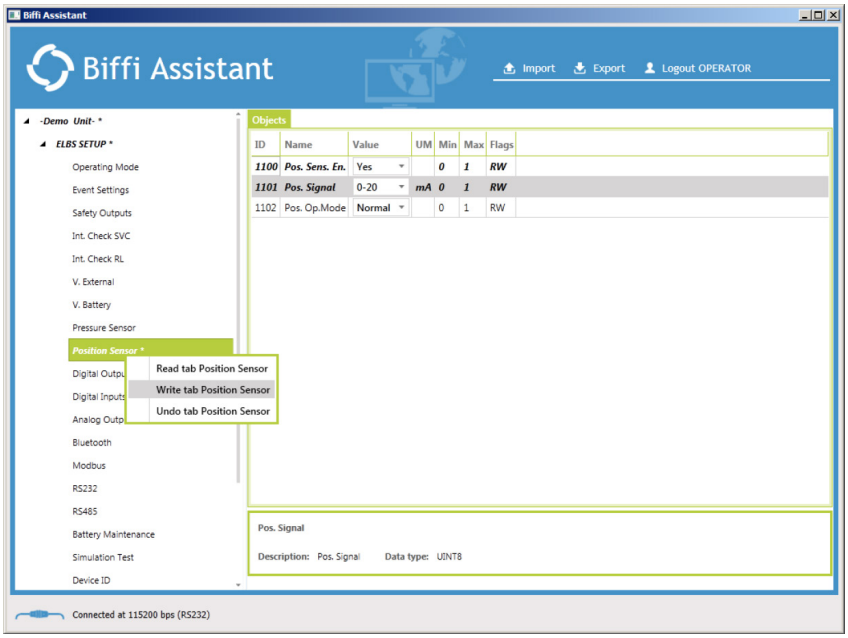
1. Right-click the mouse on the row of any parameter of the Sub-Menu (Tab) to be written, and then left-click the mouse on “Write tab <Tab Name>”. Confirm the writing operation when the confirmation window appears.
   To cancel the writing operation, left-click the mouse on "Undo object <Tab Name>".

Figure 51.



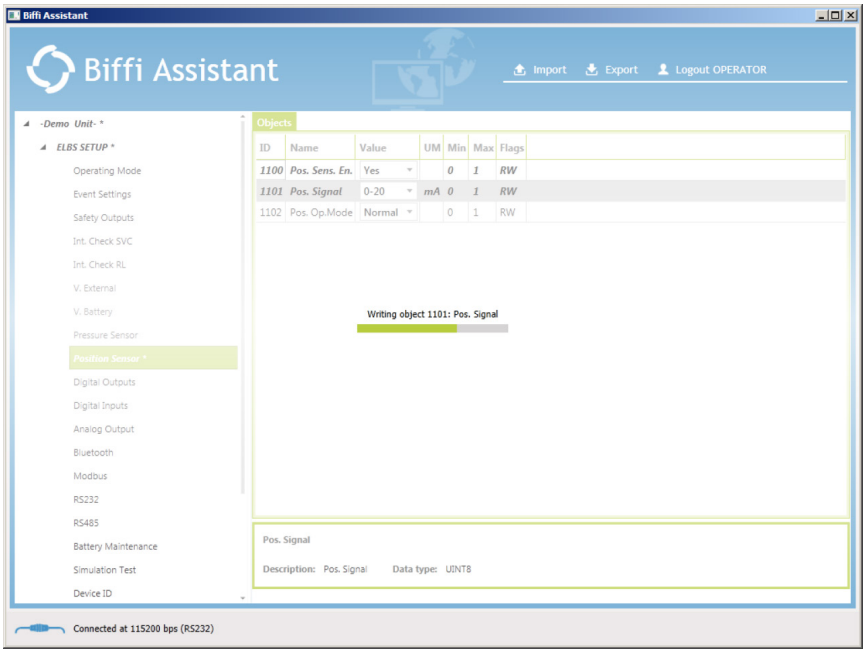
2. Right-click the mouse on the name of the Sub-Menu (Tab) to be written, and then left-click the mouse on “Write tab <Tab Name>”. Confirm the writing operation when the confirmation window appears. To cancel the writing operation, left-click the mouse on "Undo tab <Tab Name>".

Figure 52.



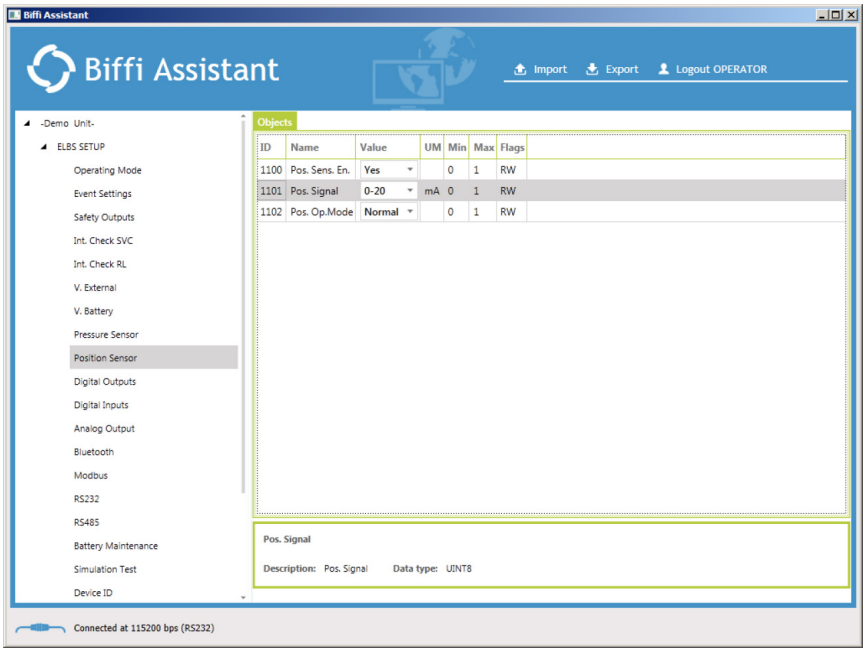
The writing of the parameters will start.

Figure 53.



Wait until the updating process stops.

Figure 54.



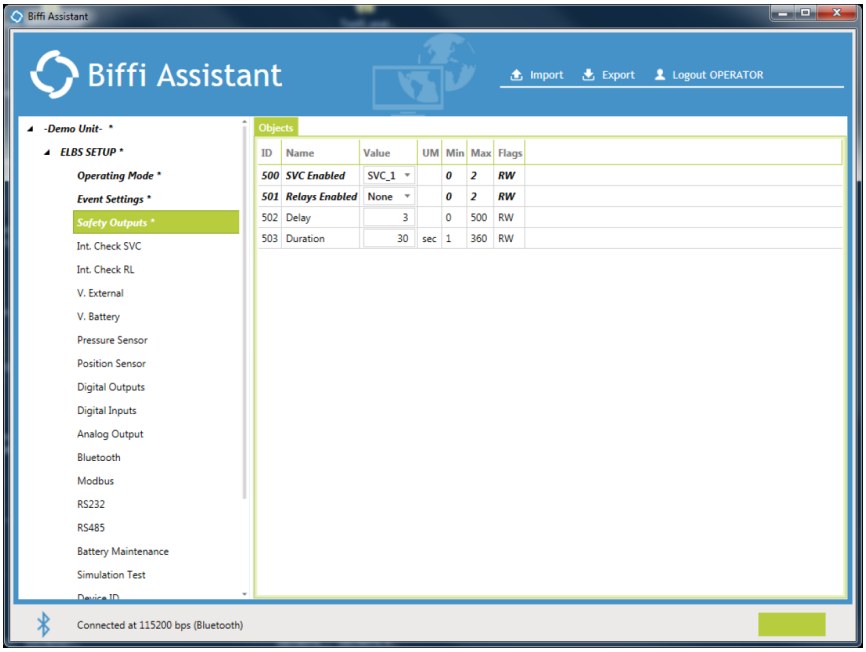
4.3.3 Write All the Parameters of a Single Menu (Block)

⚠ WARNING

During the connection process (see Section 3.2), the value of the parameters is not updated. Before performing the writing of all the parameters of a Menu (Block), it is necessary to verify that all the parameters of the Block have the correct value. Before performing the writing command, it is suggested to update the value of all the parameters of the Block (see Section 4.2.3) or to import a valid file (see Section 5).

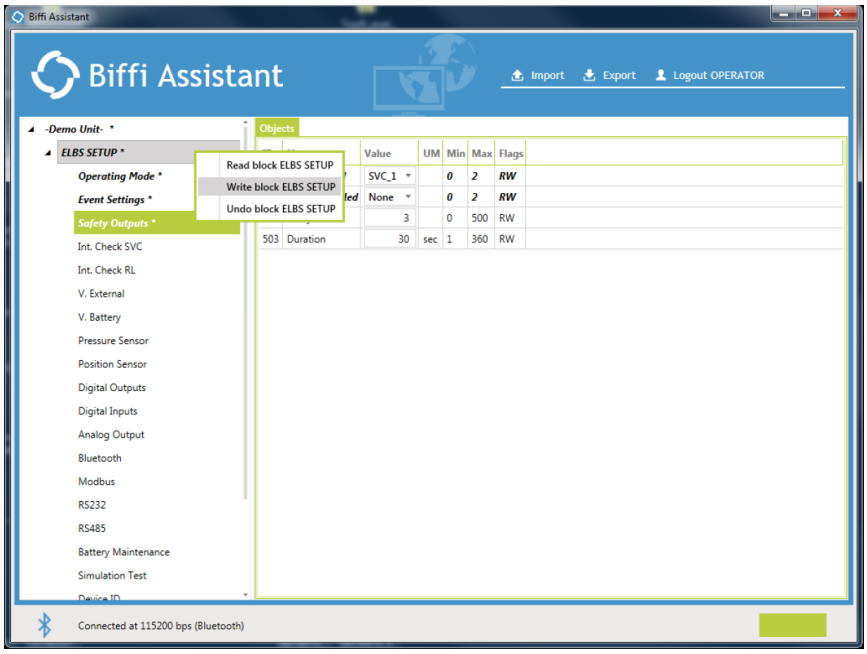
Left-click the mouse on the "Value" field of the parameters to be written and type the new values or select the new values from the available list, depending on the type of parameter.

Figure 55.



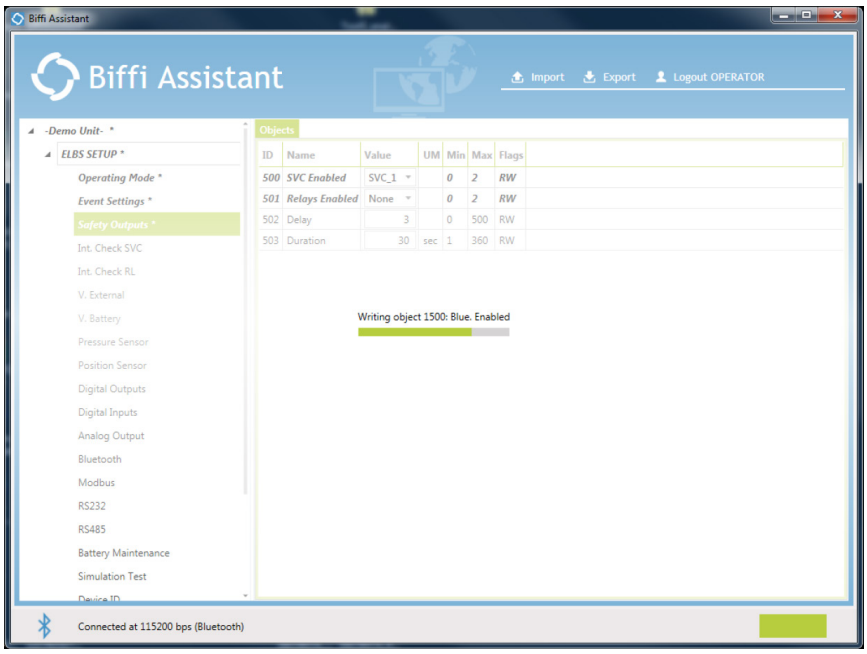
Right-click the mouse on the name of the Menu (Block) to be updated and then left-click the mouse on “Write block <Block Name>”. Confirm the writing operation when the confirmation window appears. To cancel the writing operation, left-click the mouse on "Undo block <Block Name>".

Figure 56.



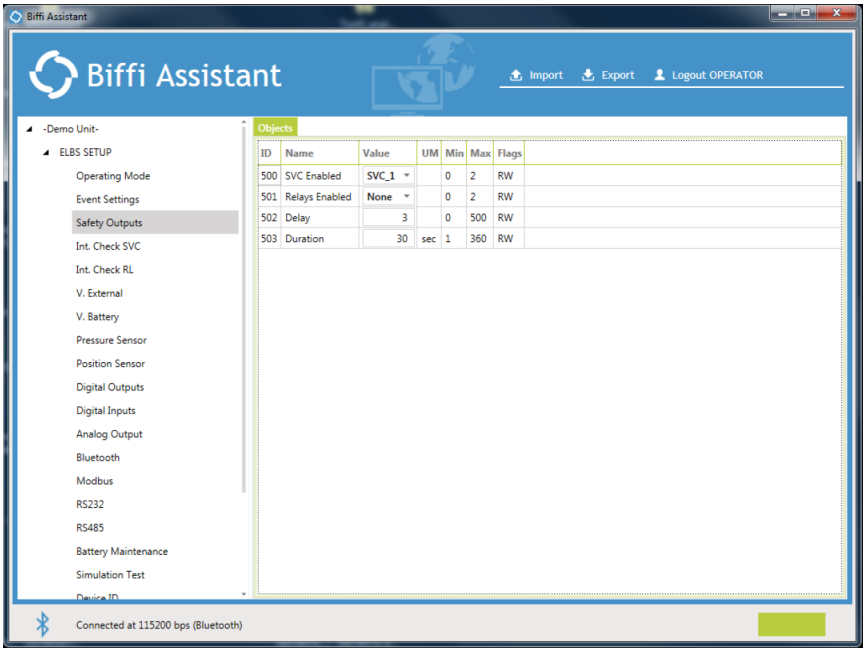
The writing of the parameters will start.

Figure 57.



Wait until the writing process stops.

Figure 58.



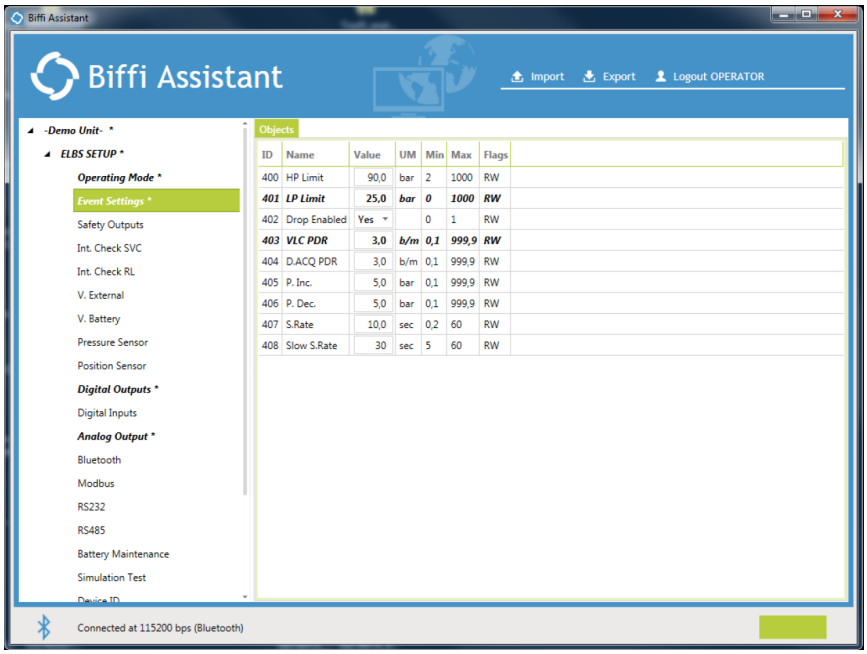
4.3.4 Write All the Parameters of the Device

⚠ WARNING

During the connection process (see Section 3.2), the value of the parameters is not updated. Before performing the writing of all the parameters of the Device, it is necessary to verify that all the parameters of the Device have the correct value. Before performing the writing command, it is suggested to update the value of the parameters (see Section 4.2.4) or to import a valid file (see Section 5).

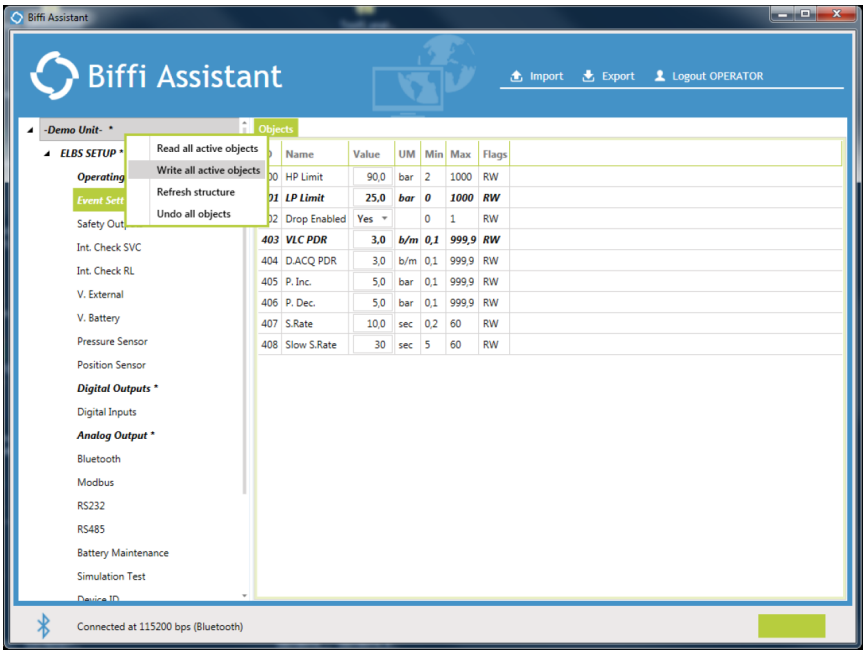
Left-click the mouse on the "Value" field of the parameters that must be written then type the new values or select the new values from the available list (it depends on the type of parameter).

Figure 59.



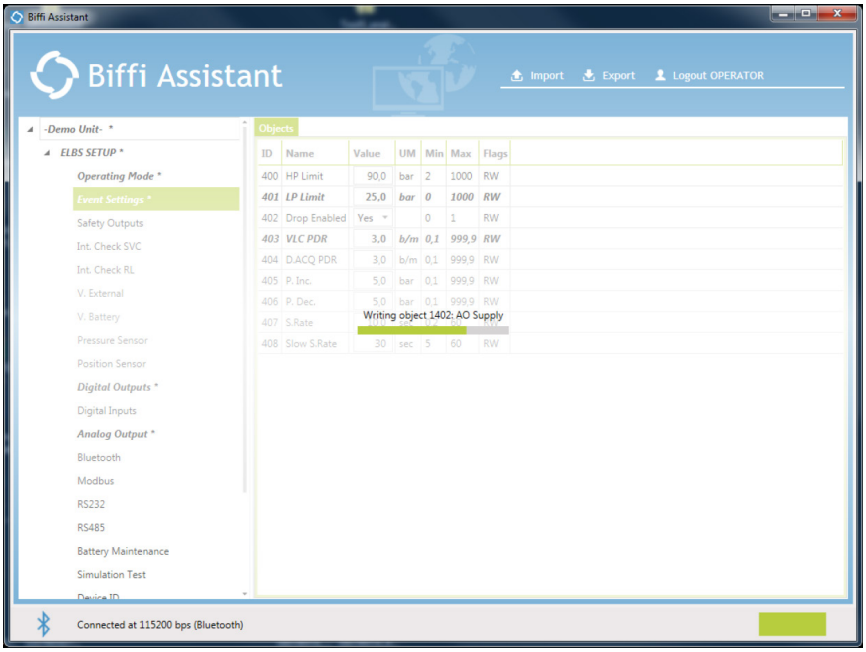
Right-click the mouse on the name of the Main Menu then left-click the mouse on "Write all active objects" then confirm the writing operation (a confirmation window will appear). Left-click the mouse on "Undo all objects" to cancel the writing operation.

Figure 60.



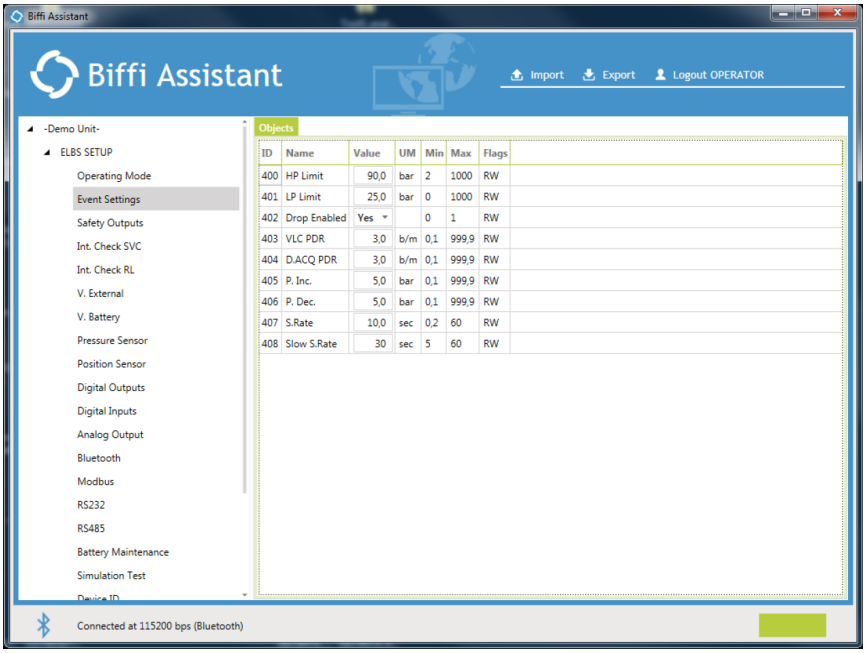
The writing of the parameters will start.

Figure 61.



Wait until the writing process stops.

Figure 62.

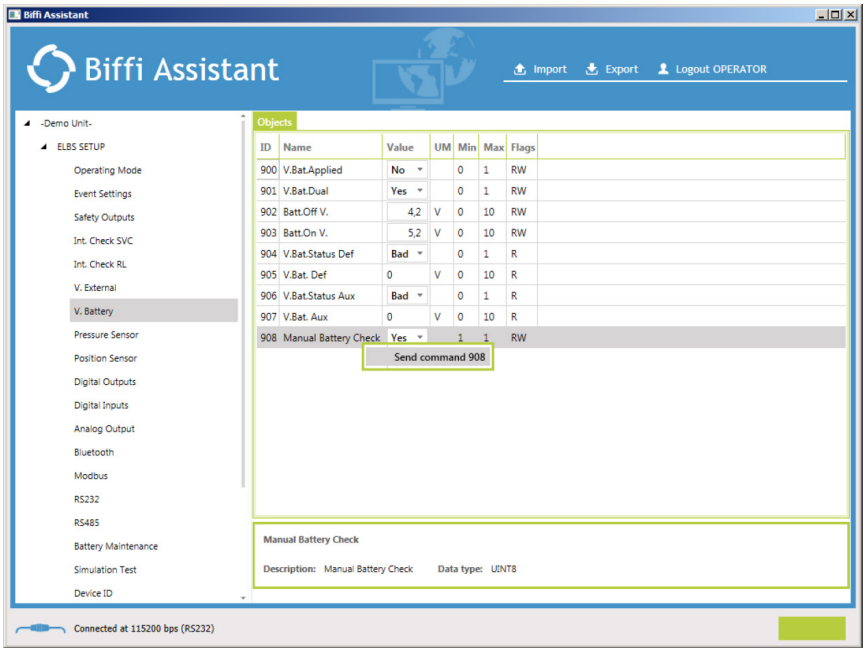


4.4 Launch/Send a Command

The commands are classified as “RW” into the “Flags” field (see Section 6 for the full list of commands).

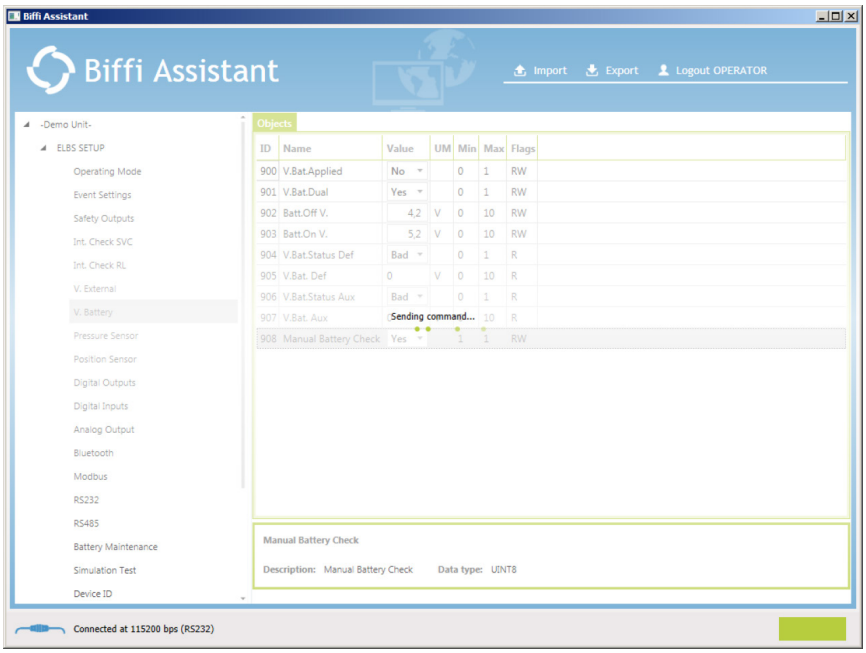
Right-click the mouse on the row of the command that must be sent and then left-click the mouse on “Send command <Command ID>”.

Figure 63.



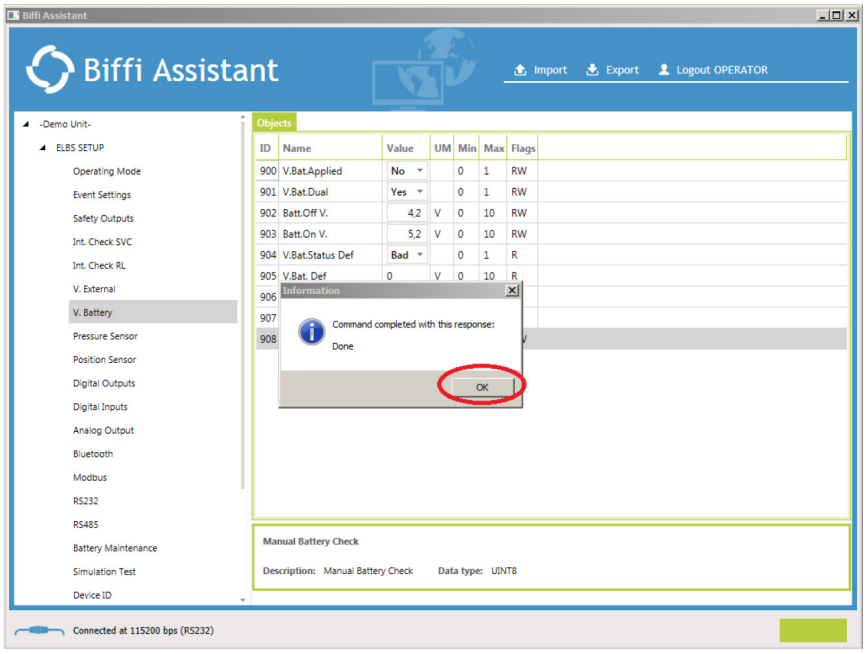
The command is performed.

Figure 64.



Wait until the command is completed. When the Information window appears, left-click the mouse on "OK".

Figure 65.



4.5 Change Password

4.5.1 Change “Online” Password

The ELBS-20 has four levels of Password for working online (see Section 3.3). The only one that can be changed by the User is the “OPERATOR” password.

The ELBS-20 does not allow changing the “OPERATOR” password through the Biffi Assistant; it is necessary to use the Local Operator Interface (see Section 1, Reference Document [1]) to perform this operation.

4.5.2 Change “Offline” Password

See Section 5.1.2.1.

Section 5: Import/Export File

⚠ WARNING

It is recommended to use only one Serial Communication Interface (RS232, Bluetooth or RS485) at a time to avoid configuration errors.

It is mandatory to use just one of the following interfaces of the ELBS-20 at a time, during the execution of the "Load Event List" command and the Export operation: RS232, Bluetooth or RS485 (see Section 7).

It is mandatory to not use the Modbus interface to read events data during the execution of the "Load Event List" command (see Section 7).

NOTICE

The ELBS-20 automatically inhibits the use of the Local Operator Interface when one Biffi Assistant connection (RS232, Bluetooth or RS485) is active.

The Biffi Assistant provides the option to import and export the configuration files (parameters) and to export the stored graph of the ELBS-20.

It is also possible to work offline to analyze/modify the exported files.

The Biffi Assistant allows exporting the files in two different ways:

- Biffi Assistant file (.biffia)
- Text file (.txt)

The Biffi Assistant allows importing only the Biffi Assistant files (.biffia).

5.1 Import File

The Biffi Assistant allows importing a configuration file in two ways:

- Online (see Section 5.1.1)
- Offline (see Section 5.1.2)

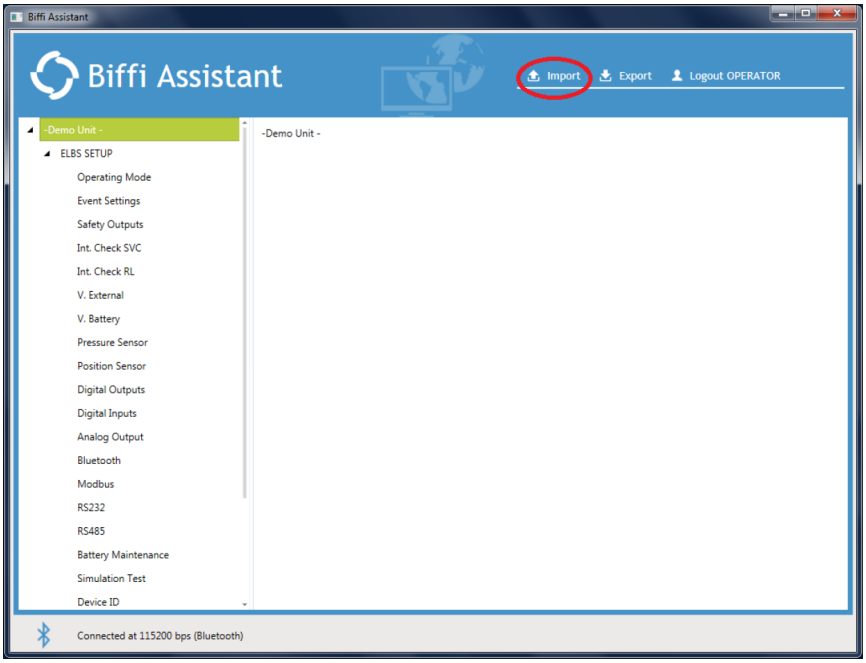
5.1.1 Import File – Online

The importation of a configuration file trough Biffi Assistant is normally used to change some or all the parameters of the device that is connected online.

To import a file online, the following steps must be performed:

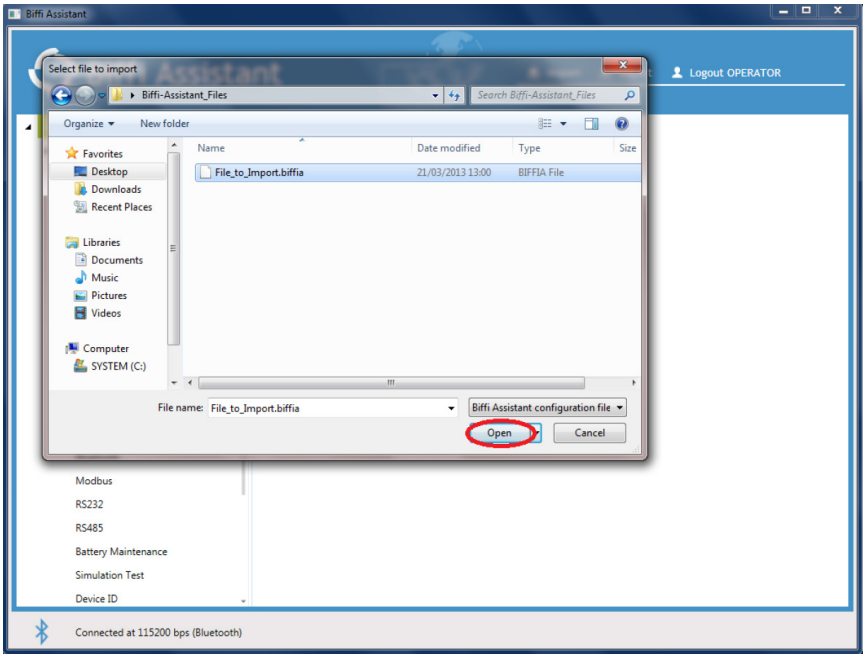
1. Establish a connection with the device (see Section 3).
2. Left-click the mouse on “Import”.

Figure 66.



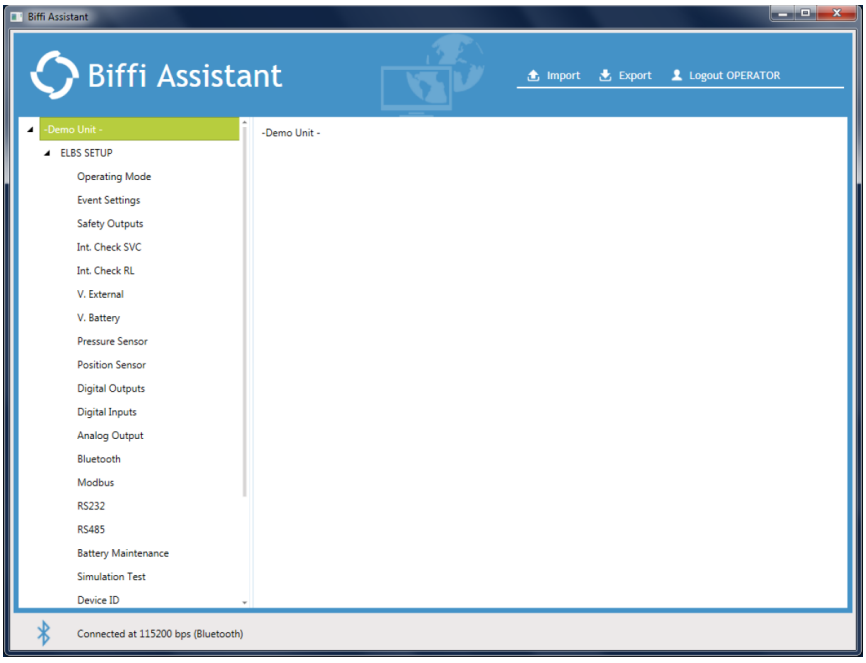
3. A File Explorer window will automatically open. Browse to find the file for import. Select the file to import and left-click the mouse on “Open”.

Figure 67.



4. Wait until the file is imported.

Figure 68.



Now, it is possible to download the data imported to the device by using one of the available writing procedures (see Section 4.3).

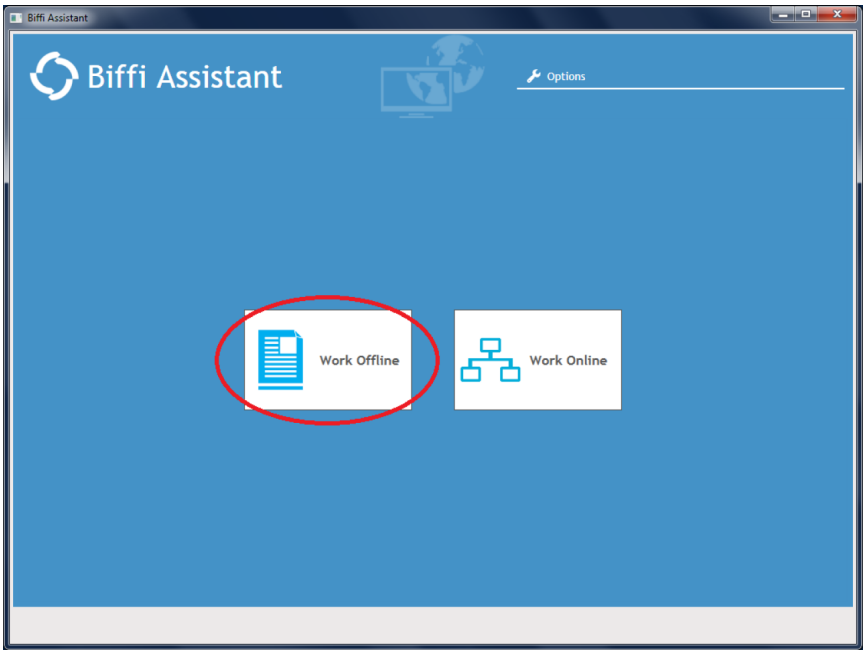
5.1.2 Import File – Offline

The offline importation of a Biffi Assistant file is normally used to analyze/modify the exported files.

To import a file offline, the following steps must be performed:

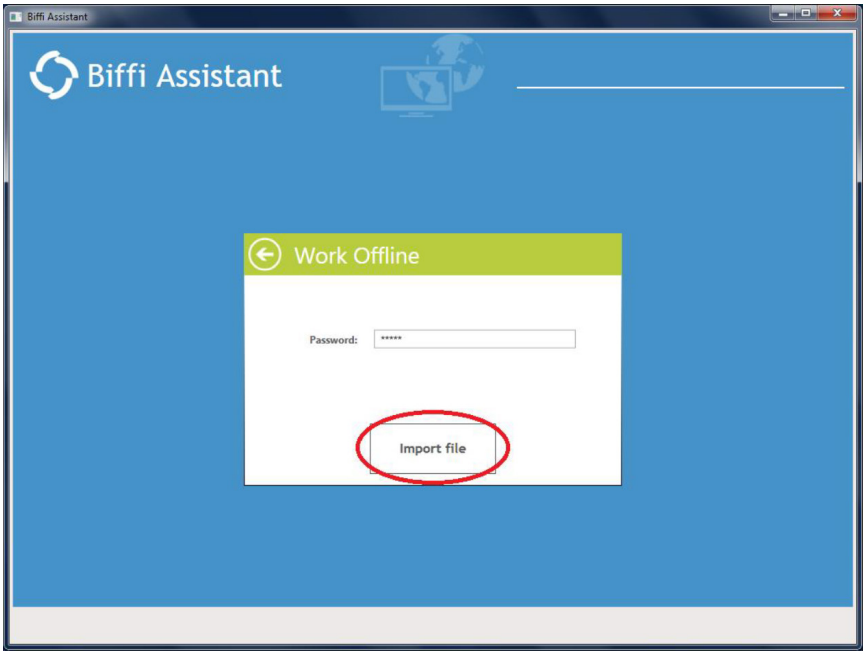
1. Open Biffi Assistant and left-click the mouse on the “Work Offline” button.

Figure 69.



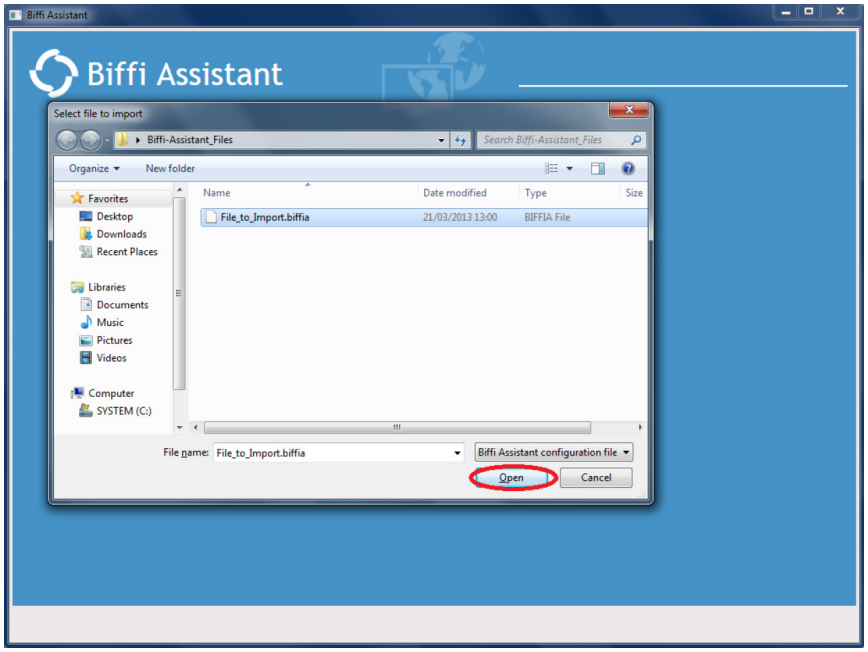
2. Insert the password and left-click the mouse on “Import file”.
   To cancel the importation, left-click the mouse on the left arrow.

Figure 70.



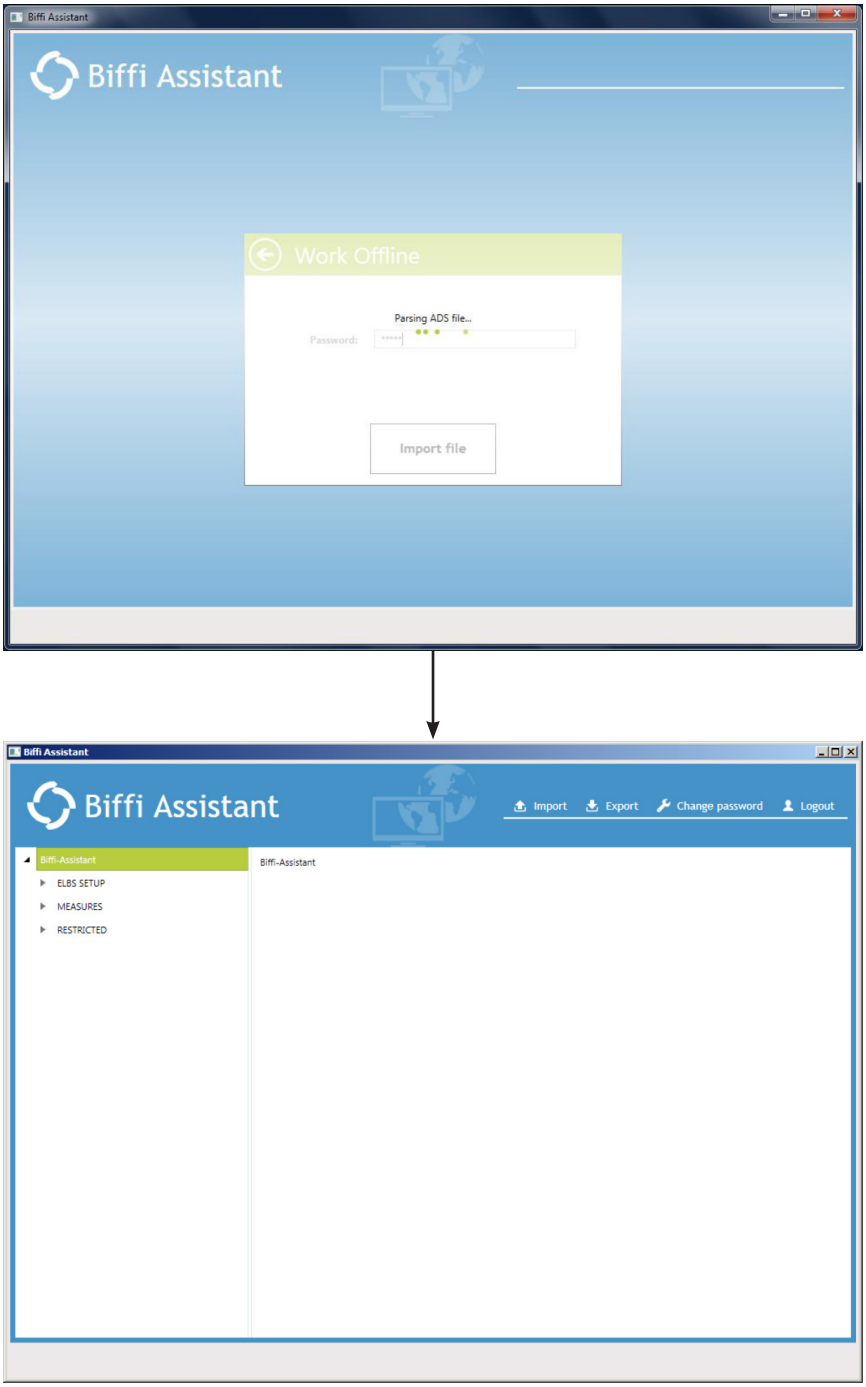
3. A File Explorer window will automatically open. Browse to find the file for import.
   Select the file to import and left-click the mouse on “Open”.

Figure 71.



4. Wait until the file is imported.

Figure 72.



Now, even when offline, it is possible to analyze the imported data and to modify their value to create a new Biffi Assistant file (see Section 5.2.2). To log out, left-click the mouse on "Logout".

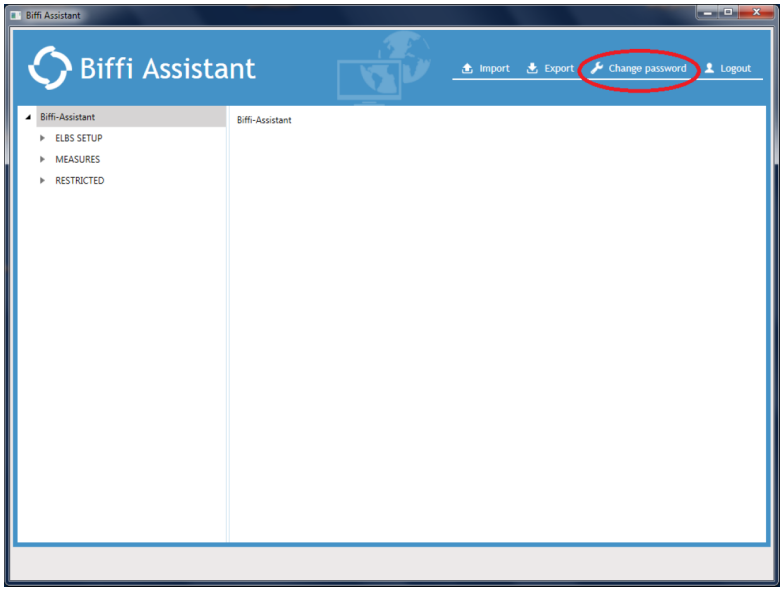
The type of data imported (parameters, graphs and parameters + graph) depends on how the exportation of the file was performed (see Sections 5.2.1 and 5.2.2).

5.1.2.1 Change the Offline Password

To change the offline password, the following steps must be performed:

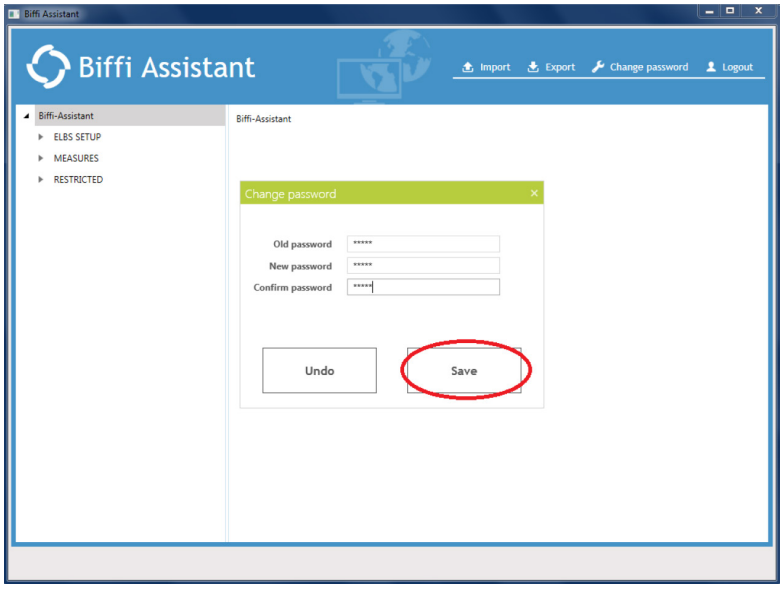
1. Import a file offline (see Section 5.1.2).
2. Left-click the mouse on “Change password”.

Figure 73.



3. Enter the old password then the new one twice before left-clicking the mouse on the "Save" button.

Figure 74.



To re-establish the default offline password, restore the default settings (see Section 3.1).

5.2 Export File

The Biffi Assistant allows exporting the data of the device in two ways:

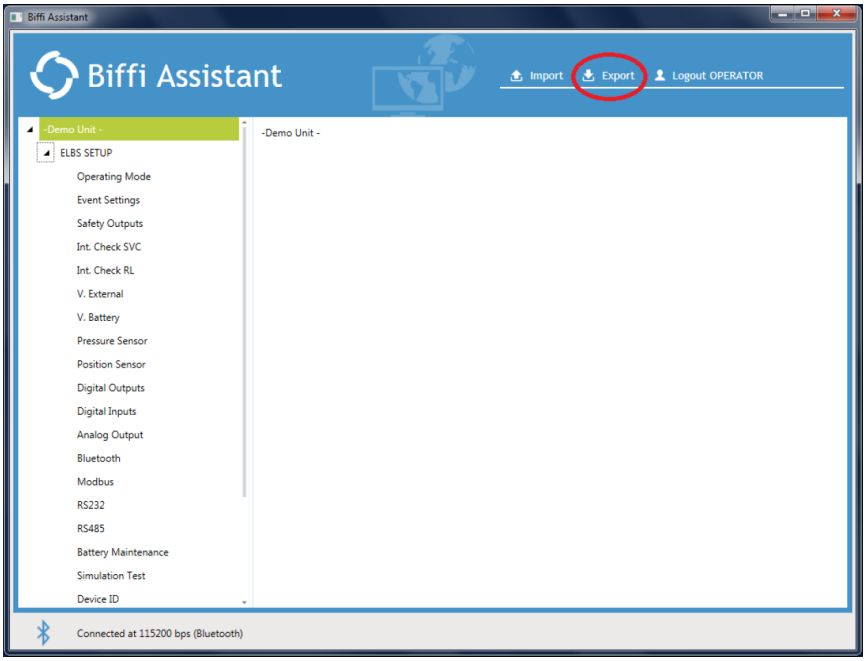
- Online (see Section 5.2.1)
- Offline (see Section 5.2.2)

5.2.1 Export File – Online

To export a file online, the following steps must be performed:

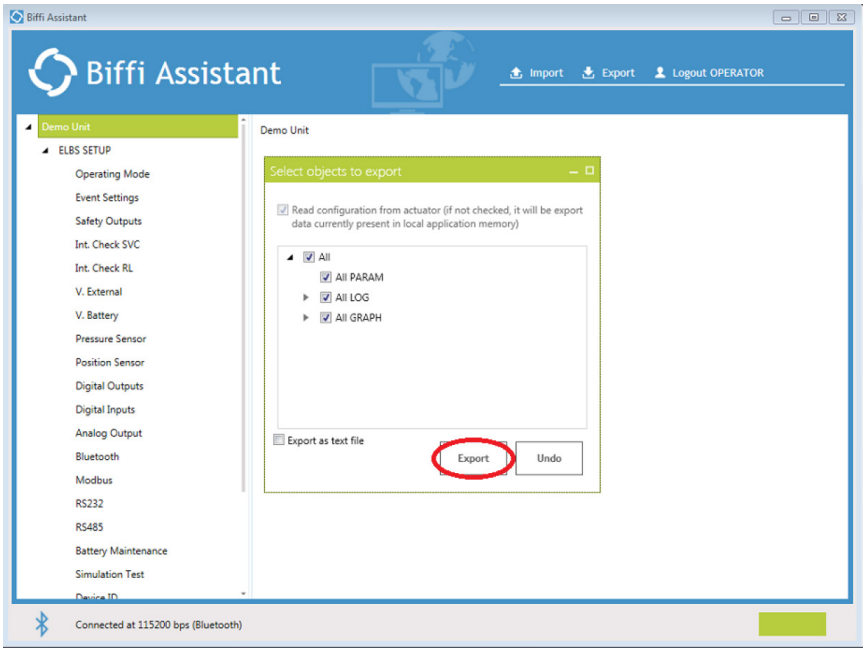
1. Establish a connection with the device (see Section 3).
2. Left-click the mouse on “Export”.

Figure 75.



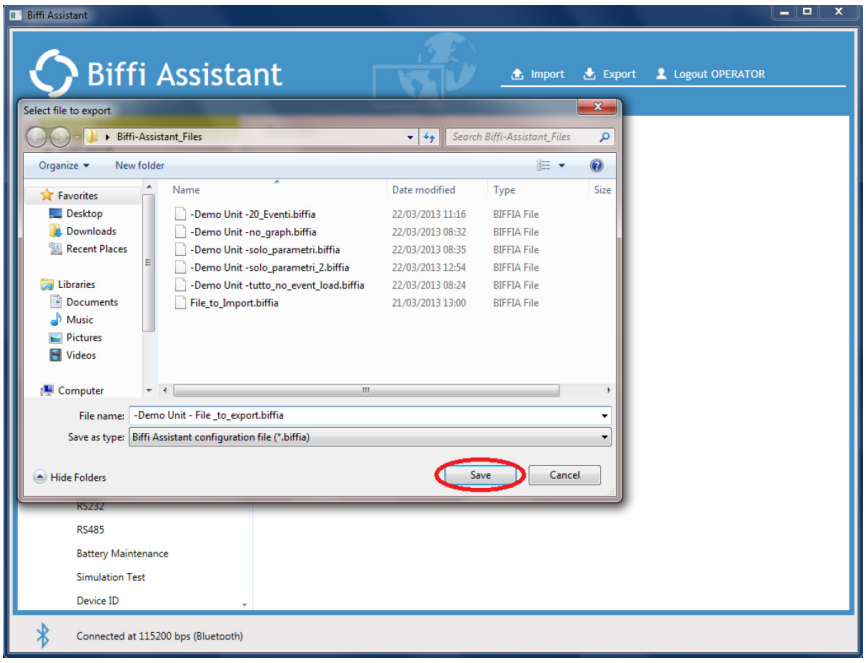
3. Select the Objects to export then left-click the mouse on the “Export” button.
   To cancel the export, left-click the mouse on "Undo" button.
   Objects to export:
   - All PARAM: If checked, all the parameters of the ELBS-20 are exported.
   - All LOG: It does not affect the exportation of the ELBS-20.
   - All GRAPH: If checked, all the loaded graphs are exported (see Sections 7.1.1 and 7.1.2).
   - Export as text file: If checked, the file is exported as a text file otherwise as a Biffi Assistant file.

Figure 76.



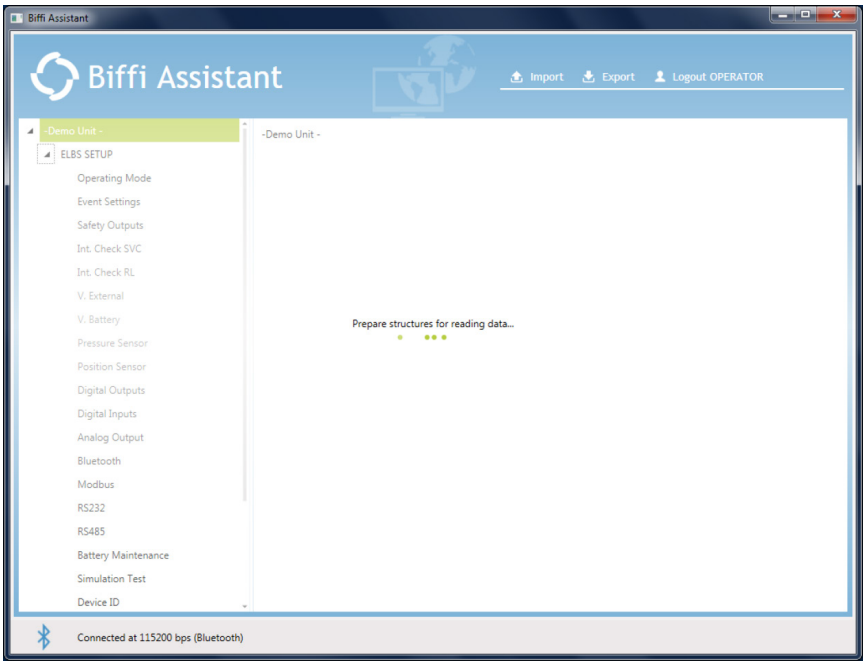
4. A File Explorer window will automatically open. Browse the folder to find the file to export. Type in the name of the file and before left-clicking the mouse on “Save”. The file extension must be “.biffia” or “.txt”.

Figure 77.



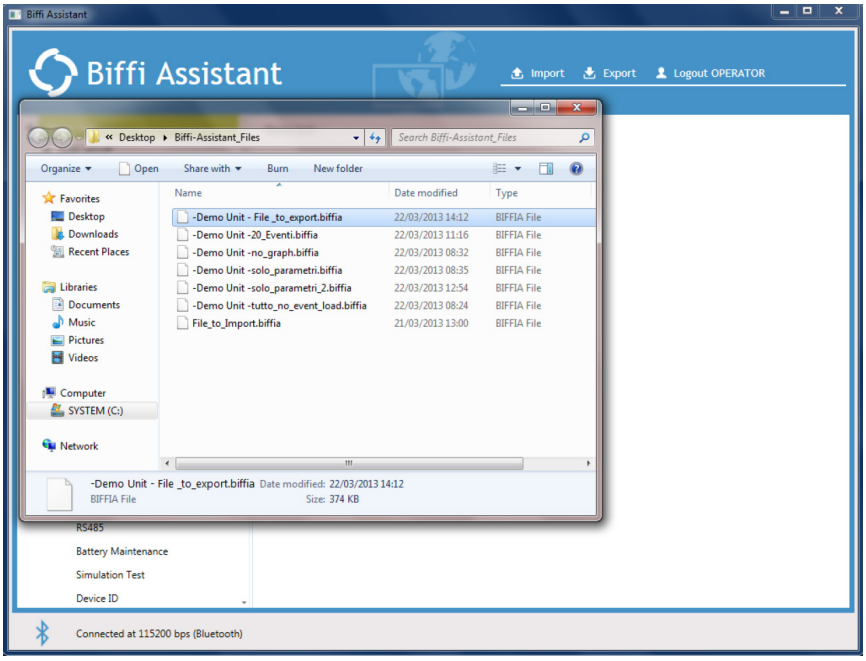
5. The exporting procedure will start.

Figure 78.



6. A File Explorer window will automatically open to verify that the file has been correctly saved. Close the File Explorer window to continue working online.

Figure 79.

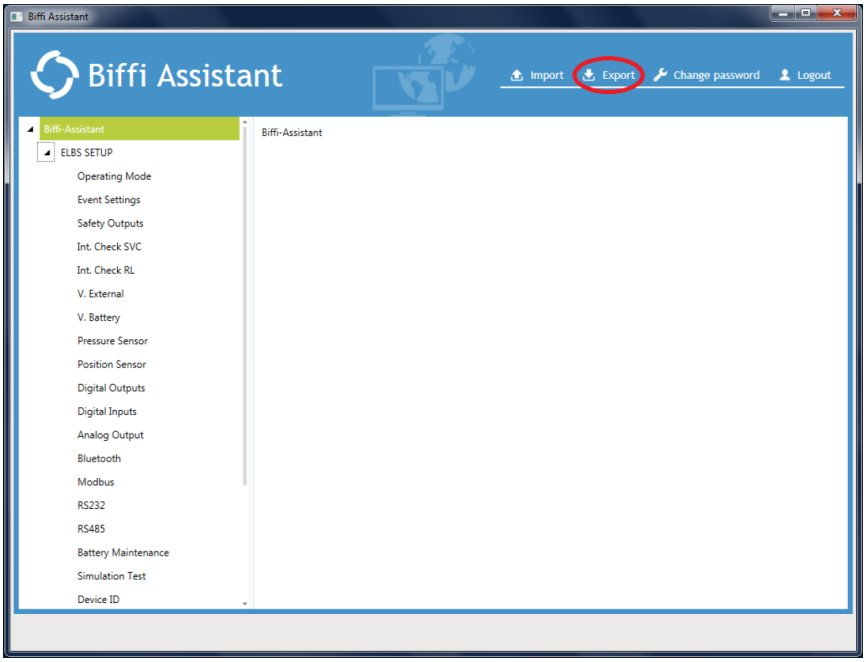


5.2.2 Export File – Offline

To export a file offline, the following steps must be performed:

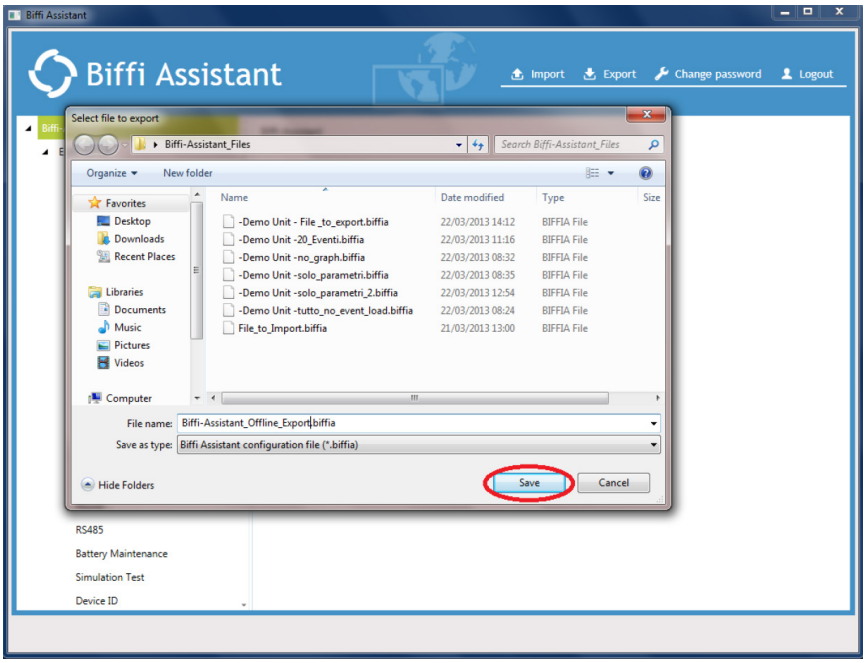
1. Import a file offline (see Section 5.1.2).
2. If necessary, modify the value of some parameters.
3. "Write all the parameters" of the device (see Section 4.3.4).
   This operation must be performed to export the file correctly.
4. Left-click the mouse on "Export".

Figure 80.



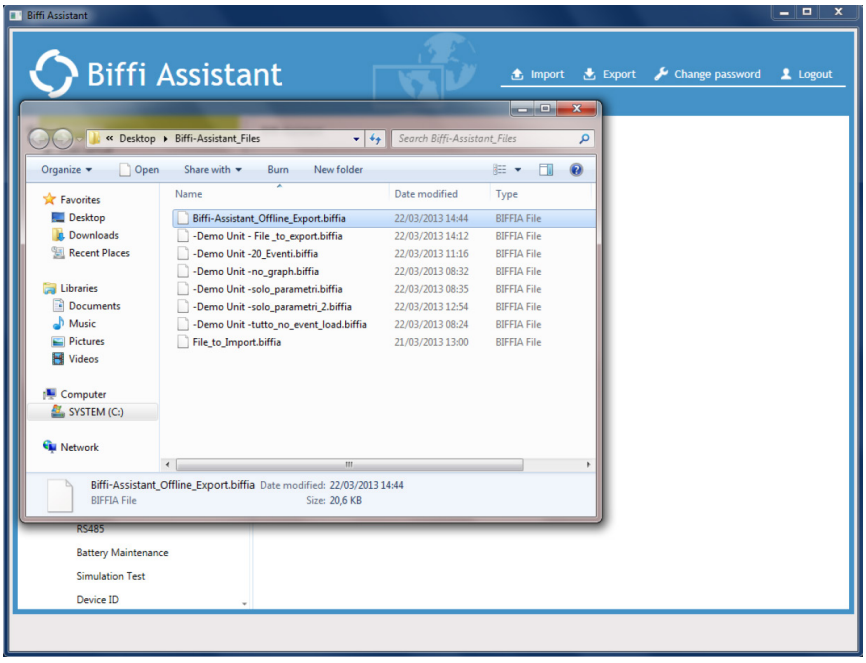
5. A File Explorer window will automatically open. Browse to find the folder to export the file. Type in the name of the file and left-click the mouse on “Save”. The file extension must be “.biffia”.

Figure 81.



6. File Explorer window will automatically open to verify that the file has been correctly saved. Close the File Explorer window to continue working offline.

Figure 82.



To log out, left-click the mouse on "Logout".

Section 6: List of Parameters

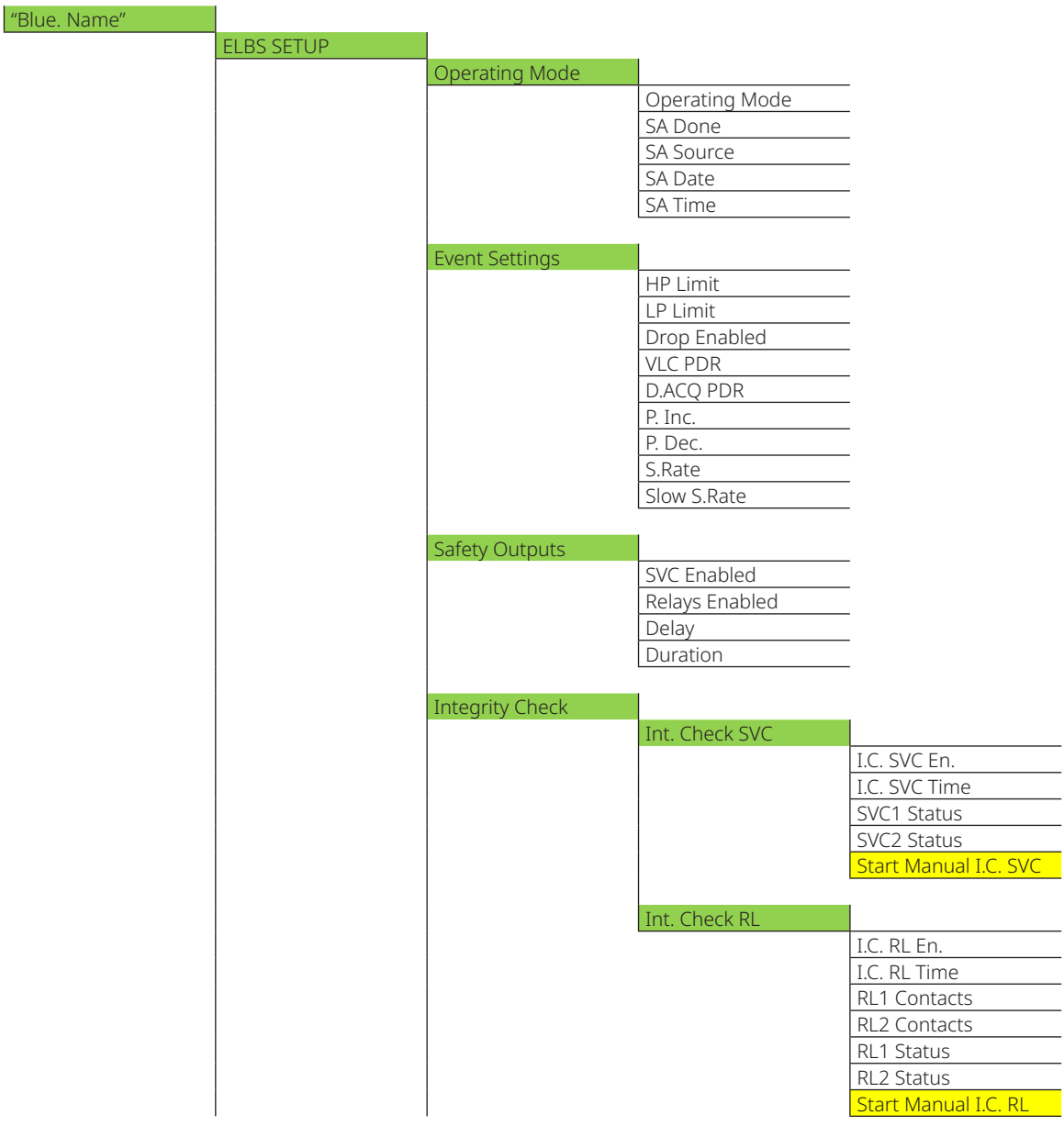
For details about all the parameters except the ones from “Graphs Menu” (see Section 1, Reference Document [1]).

For details about the parameters of the “Graphs Menu”, see Section 7.

6.1 View Graph of the Biffi Assistant Menu

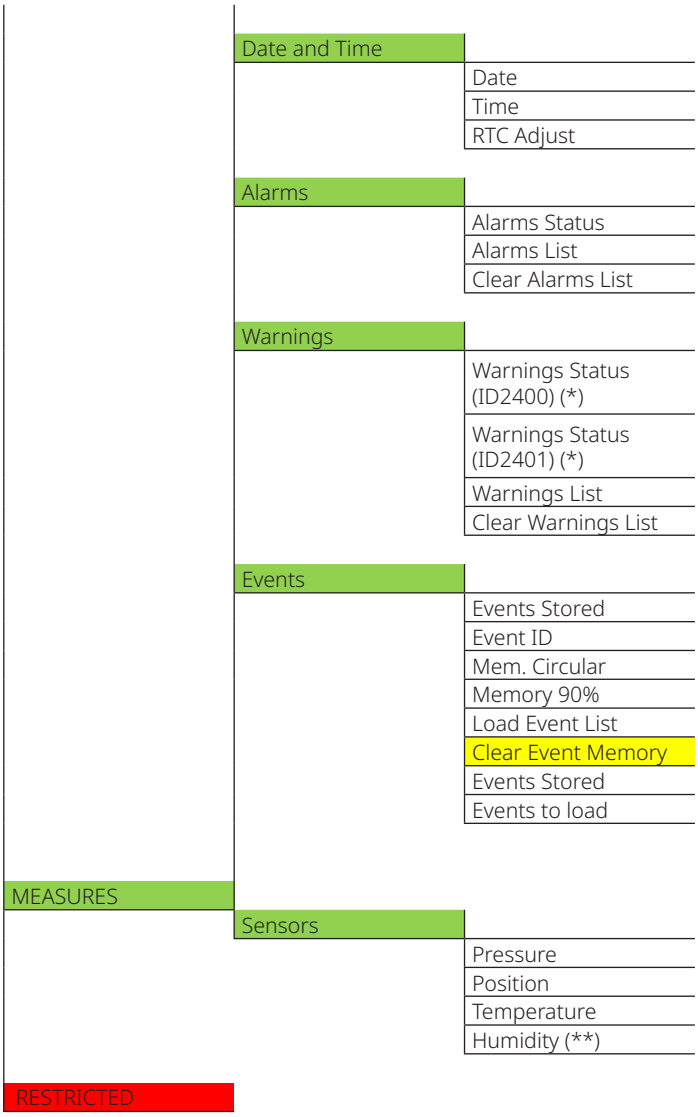
To make it easier to read the View Graph, a different color is associated to the different entries of the menus.

	Menu and Sub-Menu
	Available Parameter
	Available Command/Calibration
	Unavailable Command/Parameter (for Biffi use only)



V. External	
	V.Ext. Applied
	V.Ext. Status Def
	V.Ext. Status Aux
V. Battery	
	V.Bat.Applied
	V.Bat.Dual
	Batt.Off V.
	Batt. On V.
	V.Bat. Status Def
	V.Bat Def
	V.Bat. Status Aux
	V.Bat. Aux
	Manual Battery Check
Pressure Sensor	
	Pres. Signal
	Press. Min.
	Press. Max.
Position Sensor	
	Pos. Sens. En.
	Pos. Signal
	Pos. Op. Mode
Digital Outputs	
	DO1 Function
	DO1 OP. Mode
	DO1 Status
	DO2 Function
	DO2 OP. Mode
	DO2 Status
	DO3 Function
	DO3 OP. Mode
	DO3 Status
	DO4 Function
	DO4 OP. Mode
	DO4 Status
	DO5 Function
	DO5 OP. Mode
	DO5 Status
	DO6 Function
	DO6 OP. Mode
	DO6 Status
	DO7 Function
	DO7 Contact
	DO7 Op. Mode
	DO7 Status

- Digital Inputs
  - DI1 Function
  - DI1 Act. if
  - DI1 Command
  - DI1 Status
  - DI2 Function
  - DI2 Act. if
  - DI2 Command
  - DI2 Status
  - DI3 Function
  - DI3 Act. if
  - DI3 Command
  - DI3 Status
- Analog Output
  - AO Enabled
  - AO Selected
  - AO Supply
  - AO Op. Mode
  - AO Value
- Interfaces
  - Bluetooth
    - Blue. Enabled
    - Blue. Type
    - Blue. Name (**)
    - BT Source Name (***)
  - Modbus
    - Mod. Enabled
    - Mod. Address
    - Mod. Baud
    - Mod. Parity
    - Mod. Term. Active
  - RS232
    - RS232 Enabled
  - RS485
    - RS485 Enabled
    - RS485 Term. Act.
- Battery Maintenance
  - Last Batt. Maint.
  - Next Batt. Maint.
  - Batt. Maint. Period
  - Upd. Batt. Maint.Date
- Simulation Test
  - T. Pr. Drop
  - Start Test Pres. Drop
  - Start Test Safe act.
- Device ID
  - Device Type
  - Manufacturer
  - Serial Number
  - FW Int.
  - FW Pro.
  - Tag Name



NOTE:

(*) The "Warning Status" is split into two parameters.
(**) Available up to Interfaces Card FW Revision 2.00.12.
(***) Available starting from Interfaces Card FW Revision 2.00.13.

Section 7: Events Menu

Figure 83.

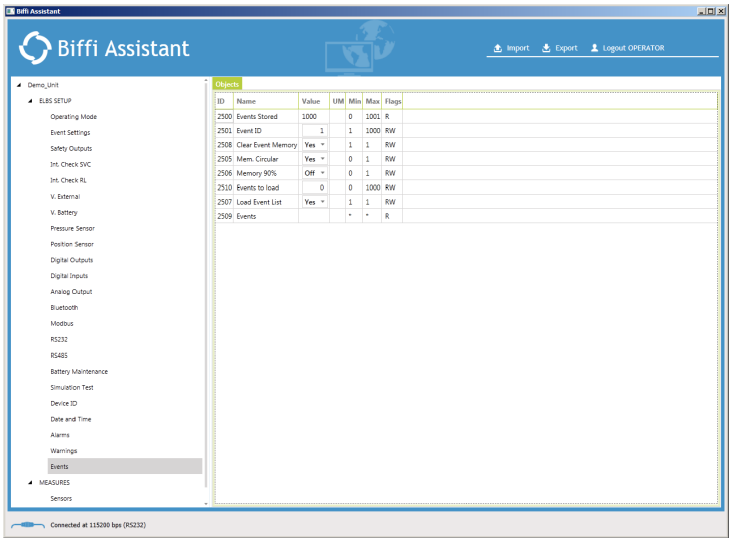


Table 2.

Parameter Name	Description	Range	Default Value
Events Stored	Indicated the number of the stored events	0 to 1000	0
Event ID	When “Events to load” is set to “0”, it indicates the event whose data (event type and date and time) and graph are shown through the “Events” parameter (see Section 7.1.1). When “Events to load” is not set to “0”, this parameter does not affect the “Events” parameter. The last event has the “Event ID” = 1 and the oldest event has the “Event ID” = “Events Stored”. It can be set up to the value of “Events Stored”.	1 to 1000	0
Clear Event Memory	The execution of this command clears the event data memory (every stored event is deleted). Its execution takes up to 40 seconds. It is a command (see Section 4.4).	Yes, No	No
Mem. Circular (Memory Circular)	Circular (Yes) = when the event memory is full the new event takes the place of the oldest (the first). The next one will take the place of the second one, etc. Not circular (No) = when the memory is full the acquisition function stops working. The “Clear Event Memory” command rewill start the acquisition function. Valve control function remains active.	Yes, No	Yes
Memory 90 % (Memory 90% Full Warning)	If “Alarm 90%” is set as “On” and “Mem. Circular” = “Off”, a MEM90 warning is generated when the event data memory content reaches the 90%.	On, Off	Off
Events to load	It is the number of events (starting from the latest one) that are uploaded during the execution of the “Load Event List” command. It can be set up to the value of “Events Stored”.	0 to 1000	0
Load Event List	This command works only if the Operating Mode of the ELBS-20 is set to SLEEP. It is used for viewing more than one event at a time (see Section 7.1.2). Its execution takes up to 1 hour (when “Events to load” = 1000). It is a command (see 4.4).	Send Command	-
Events	It is used for viewing the graphs and data of the stored events (see Sections 7.1.1 and 7.1.2).	-	-

7.1 Load Single Event

⚠ WARNING

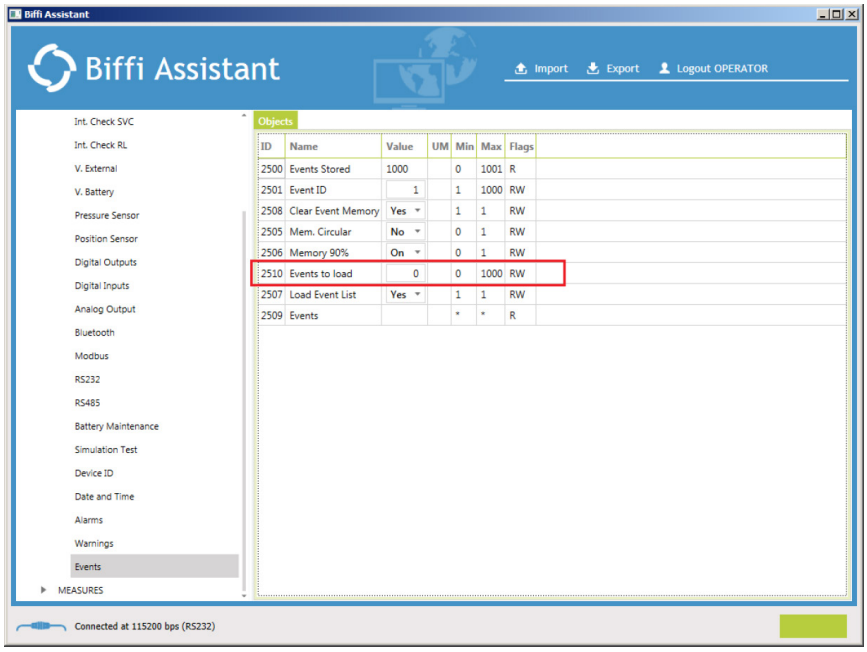
It is recommended to use only one Serial Communication Interface (RS232, Bluetooth or RS485) at a time to avoid configuration errors.

NOTICE

The ELBS-20 automatically inhibits the use of the Local Operator Interface when one Biffi Assistant connection (RS232, Bluetooth or RS485) is active.

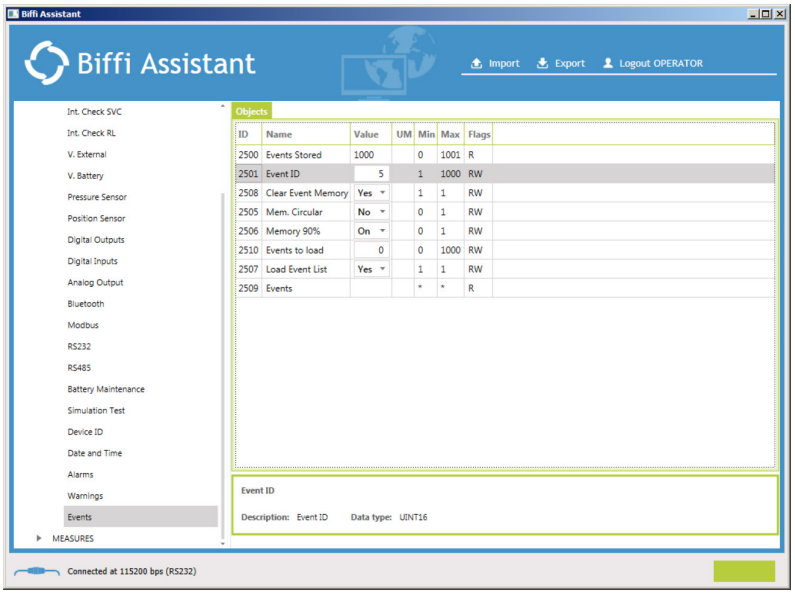
1. Verify that the value of the “Events to load” parameter is equal to 0.

Figure 84.



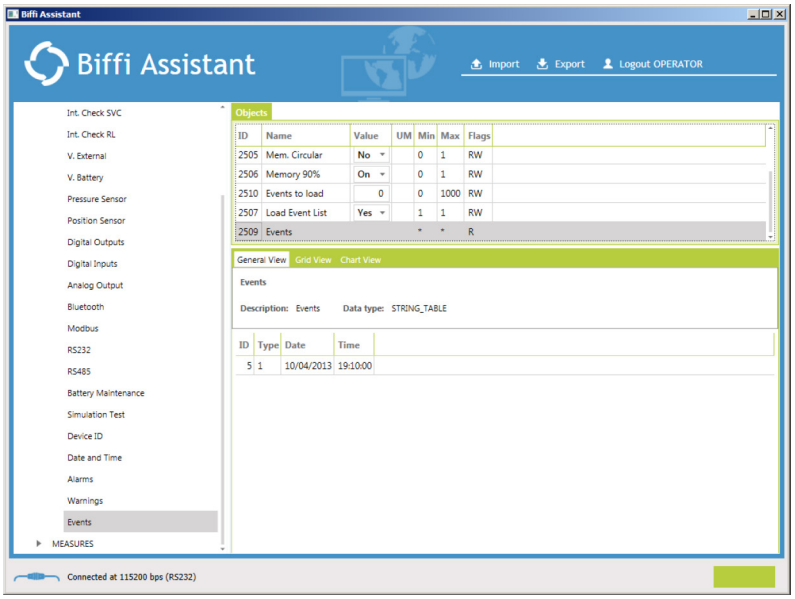
2. Write (see Section 4.3.1) the desired value (5 in the screen below) of the “Event ID” parameter (see Section 7).

Figure 85.



3. Read (see Section 4.2.1) the “Events” parameter and the following screen will appear.

Figure 86.



Now it is possible to view the data and graph relevant to the selected event (see Section 7.1.3).

It is also possible to export the data and the graph of the selected event (see Section 5.2.1).

If the Export operation of the graph is performed the data relevant to the event selected through the parameter “Event ID” are exported (the value of the “Events to load” parameter must be equal to 0).

7.2 Load Multiple Events

⚠ WARNING

It is recommended to use only one Serial Communication Interface (RS232, Bluetooth or RS485) at a time to avoid configuration errors.

It is mandatory to use just one of the following interfaces of the ELBS-20 at a time, during the execution of the "Load Event List" command and the Export operation: RS232, Bluetooth or RS485 (see Section 7).

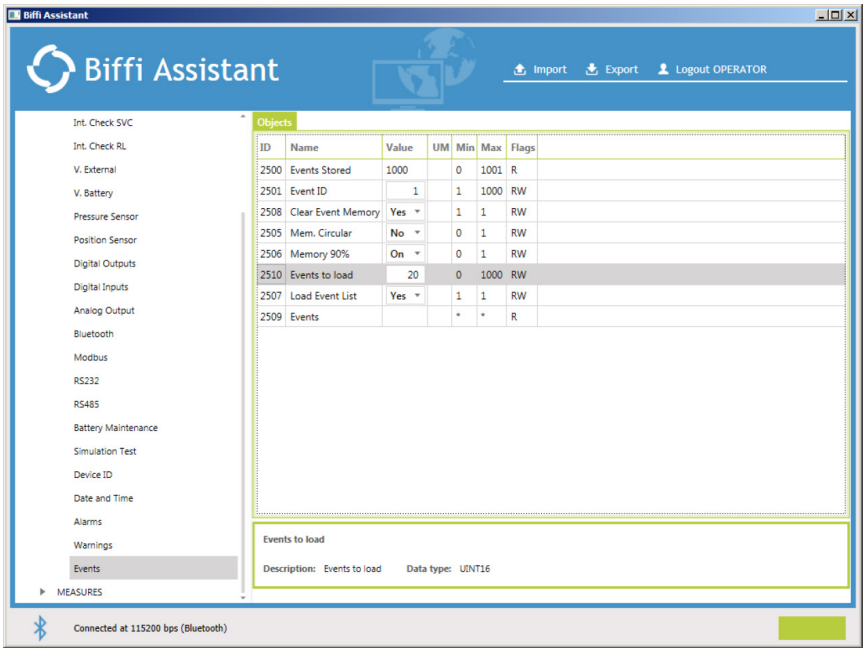
It is mandatory to not use the Modbus interface to read events data during the execution of the "Load Event List" command (see Section 7).

NOTICE

The ELBS-20 automatically inhibits the use of the Local Operator Interface when one Biffi Assistant connection (RS232, Bluetooth or RS485) is active.

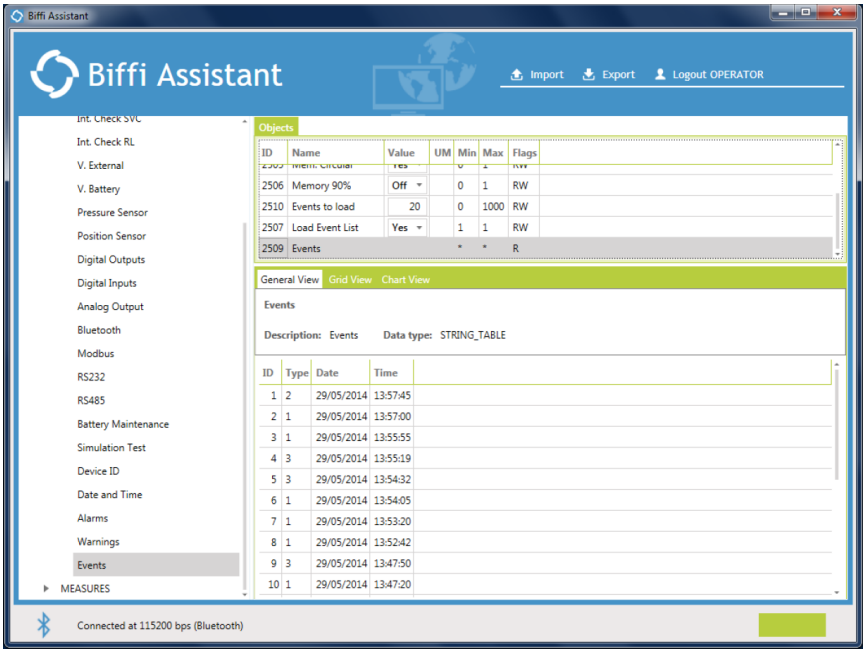
1. Verify that the ELBS-20 is in SLEEP Operating Mode (see Reference Document [1]) otherwise it is not possible to load multiple events.
2. Enter (see Section 4.3.1) the desired value (20 in the screen below) of the "Events to load" parameter (see Section 7).

Figure 87.



3. Send the “Load Event List” command (see Section 4.4). The execution of this command can take up to an hour (when loading 1000 events).
4. Read the “Events” parameter (see Section 4.2.1) then the following screen will appear.

Figure 88.



Now it is possible to view the data and graph relevant to the loaded events (see Section 7.1.3).

It is also possible to export the data and the graph of the loaded events (see Section 5.2.1).

If the Export operation of the graphs is performed, the data relevant to the events loaded through the “Load Event List” are exported.

The Export Operation can take up to 4 hours (RS485) and about 2 hours (Bluetooth and RS232) to export 1000 events.

Remember to restore the desired Operating Mode of the ELBS-20. It can be done by starting from step 3.

If an export operation is performed, it is suggested to restore the Operating Mode at the end of the exportation.

7.3 View Event Data

This paragraph explains how to view the data relevant to loaded events (see Sections 7.1.1 and 7.1.2).

Particularly, it is shown how to navigate into the sub-menus of the “Events” parameter.

The “Events” parameter is organized in three “Views”:

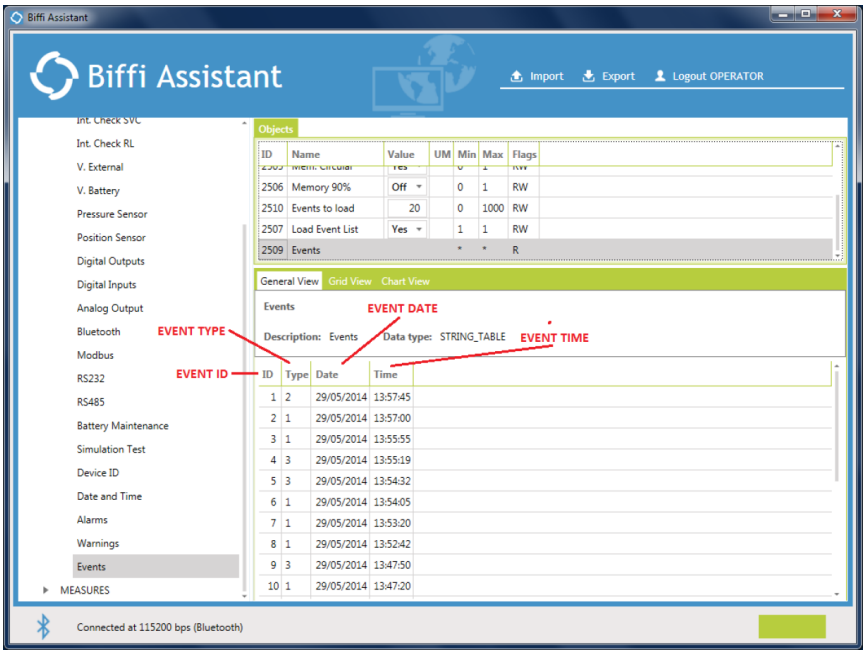
- General View
- Grid View
- Chart View

7.3.1 General View - Event Data

The “General View” lists all the loaded events (see 7.1.1 and 7.1.2) into a tab.
Each row refers to an event and reports:
“Event ID”, “Event Type”, “Event Date” and “Event Time” (see Reference Document [1]).

Use the scroll bar for viewing all the loaded events.

Figure 89.



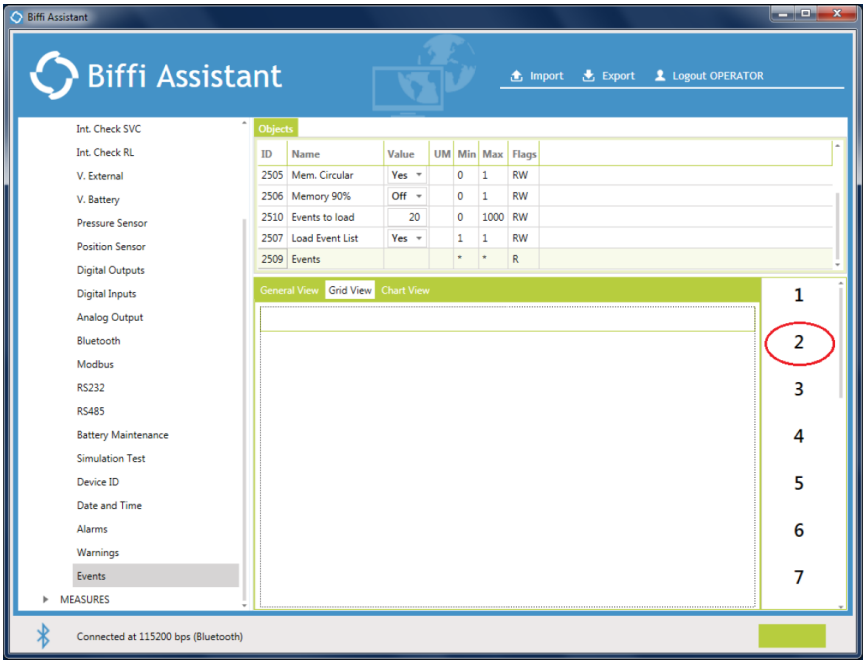
7.3.2 Grid View

The Grid View allows displaying all the stored values (pressure and optionally position) of a single event. See Reference Document [1] for details.

To add an event, left-click the mouse on the button corresponding to the Event ID of the event that has to be loaded (2 in Figure 90).

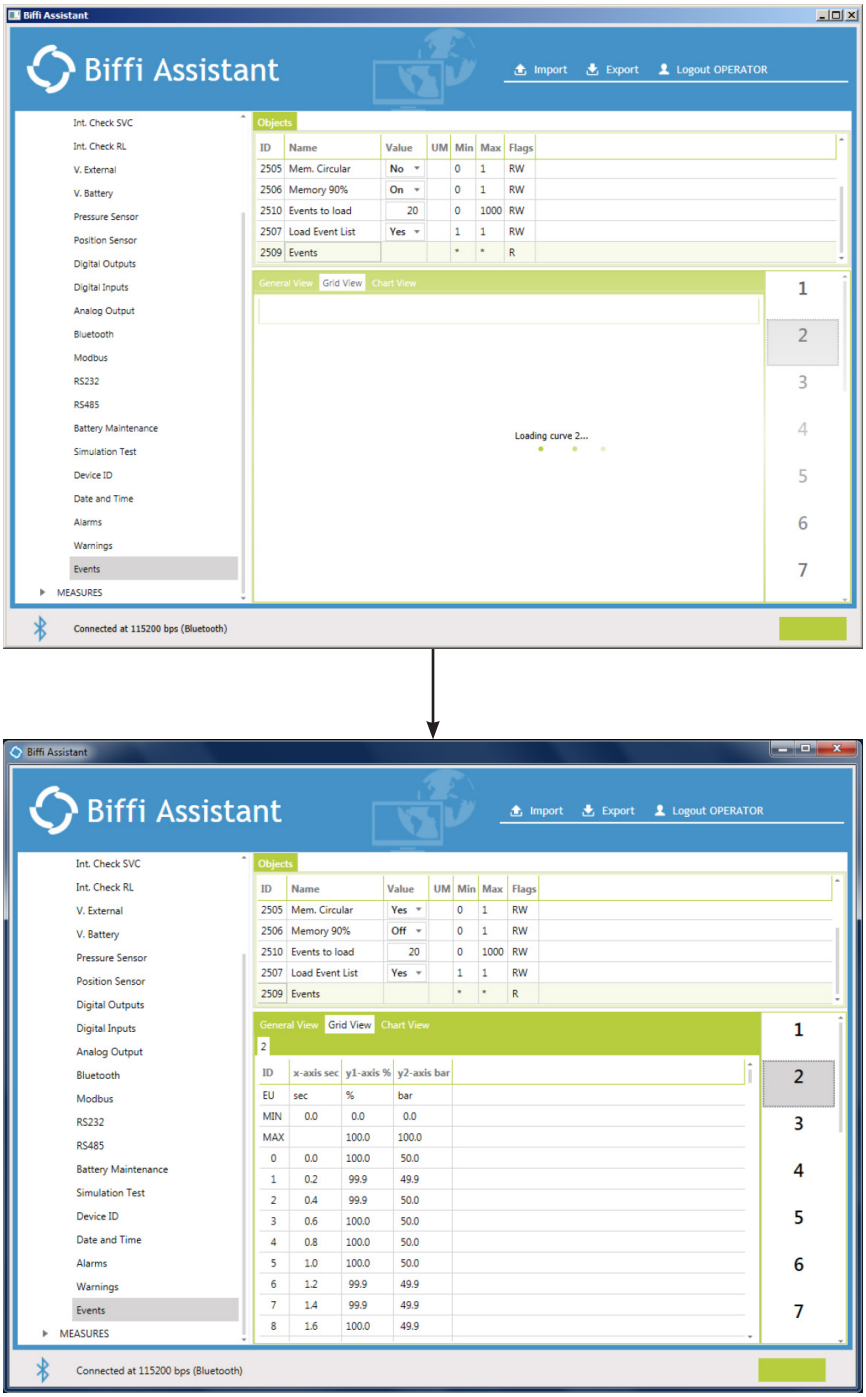
Use the scroll bar to view all the loaded events.

Figure 90.



Wait until the event is loaded.

Figure 91.



On the “ID” column, there is the progressive number of the samples of the event.
On the “x-axis sec” column, the time is reported in seconds.
On the “y1-axis %” column, the position is reported in % if the Position Sensor is enabled.
On the “y2-axis bar” column, the pressure is reported in bars.

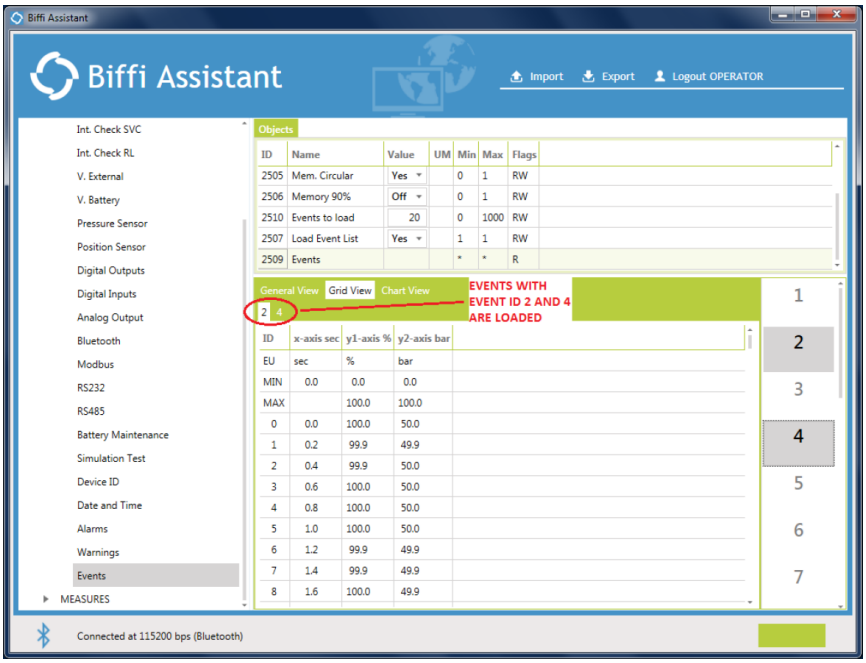
The first three lines of the Tab resumes the general data relevant to the limit values of pressure and position (see Reference Document [1]).

Each row reports the time and the value of a sample of pressure and position (if the Position Sensor is enabled). The time is a progressive value according to the value of the “Sampling Rate” parameter.

See Reference Document [1] for additional details about the events.

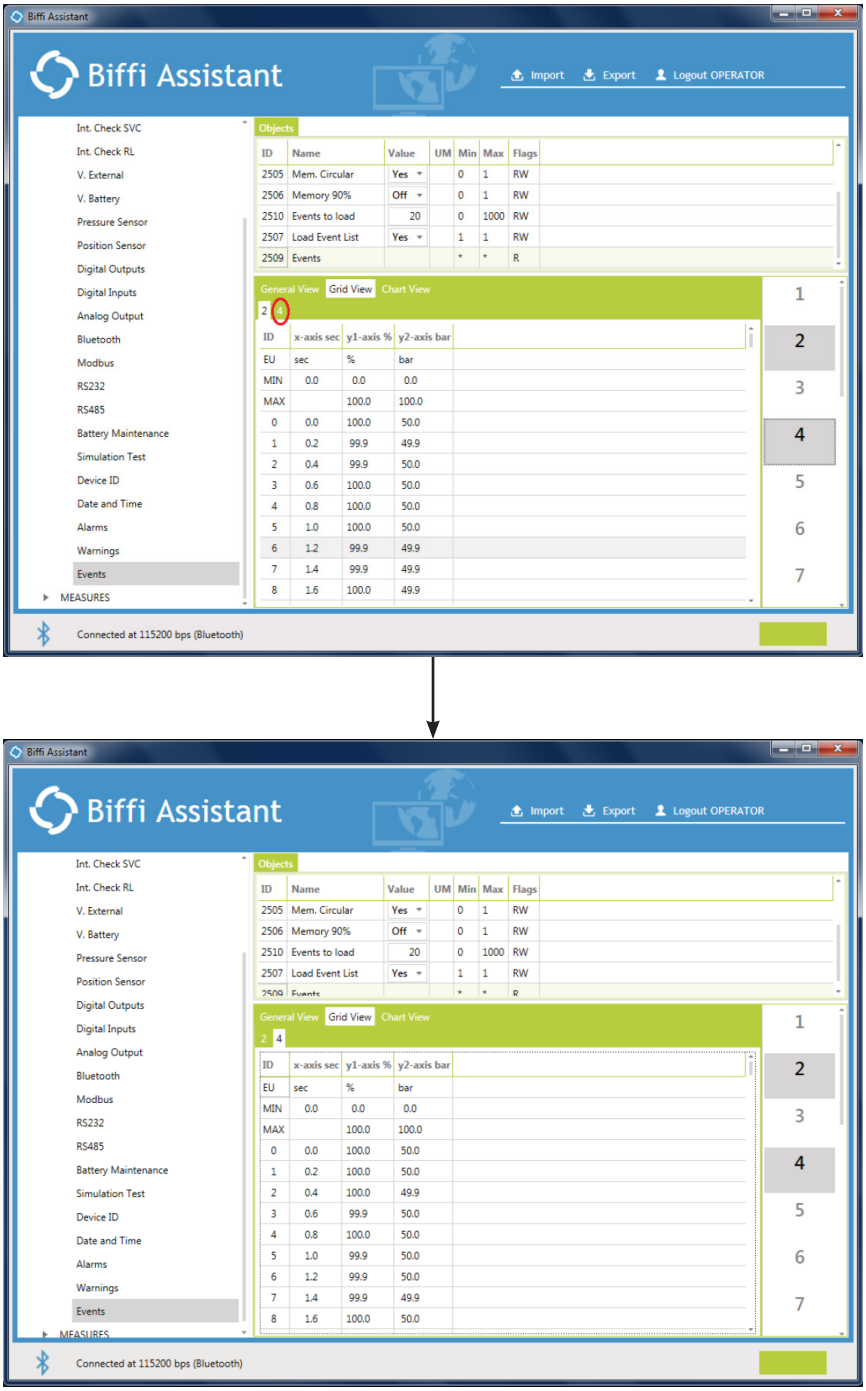
It is possible to load up to two events at a time (2 and 4 in Figure 92) and to view one event at a time.

Figure 92.



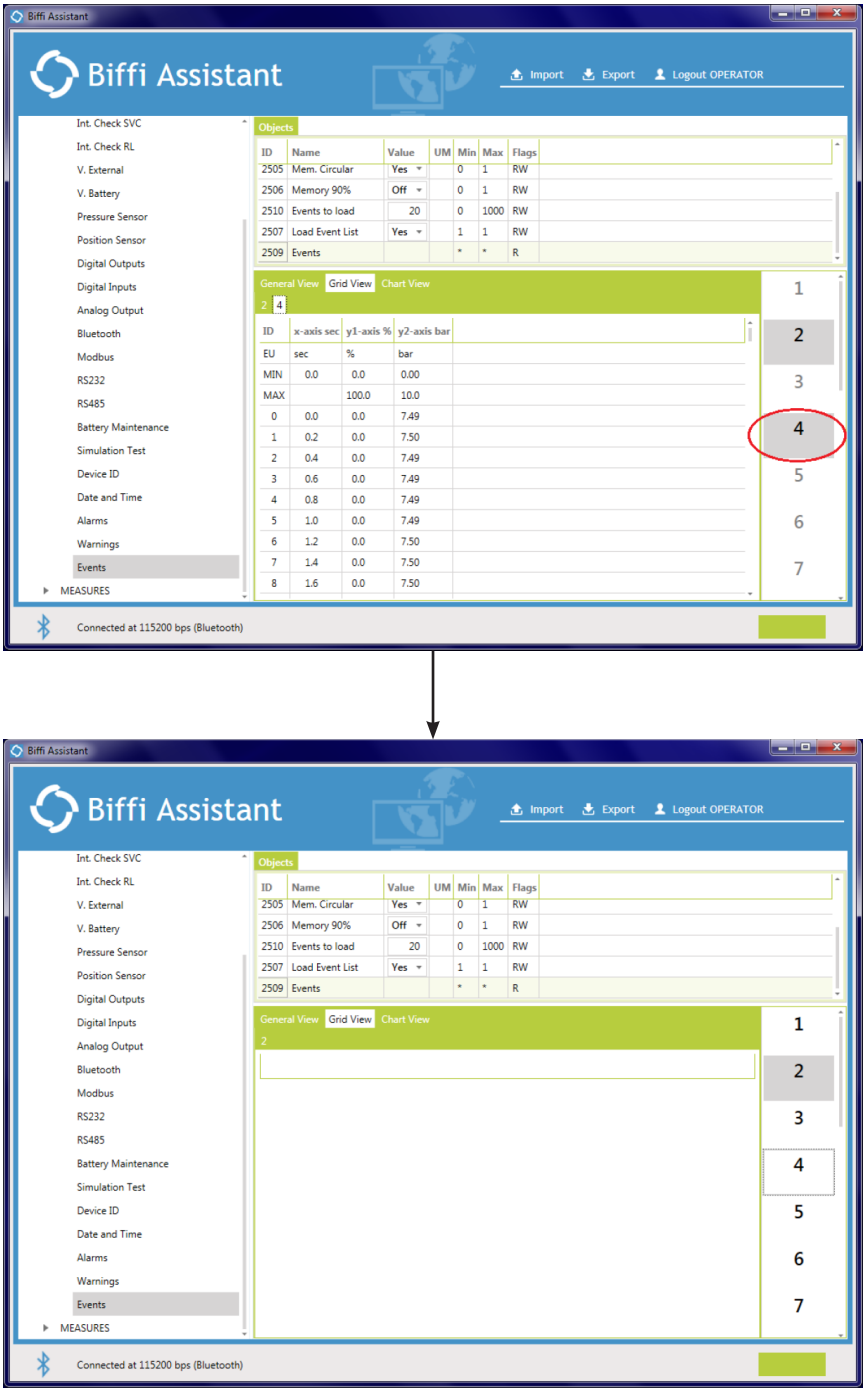
Left-click the mouse on the desired Event ID to view the corresponding event.

Figure 93.



To remove a loaded graph, left-click the mouse on the button corresponding to the Event ID of the event that has to be removed (4 in Figure 94).

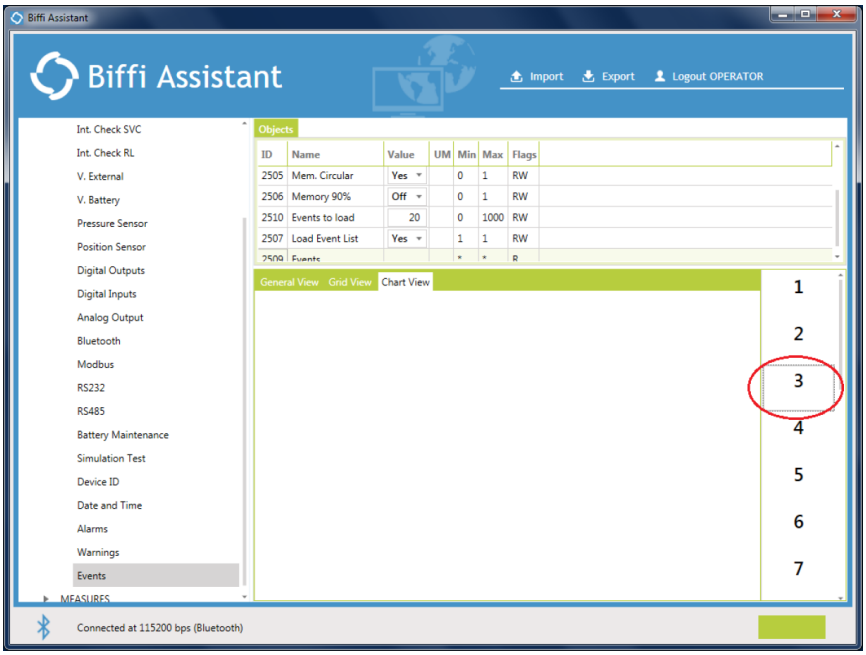
Figure 94.



7.3.3 Chart View

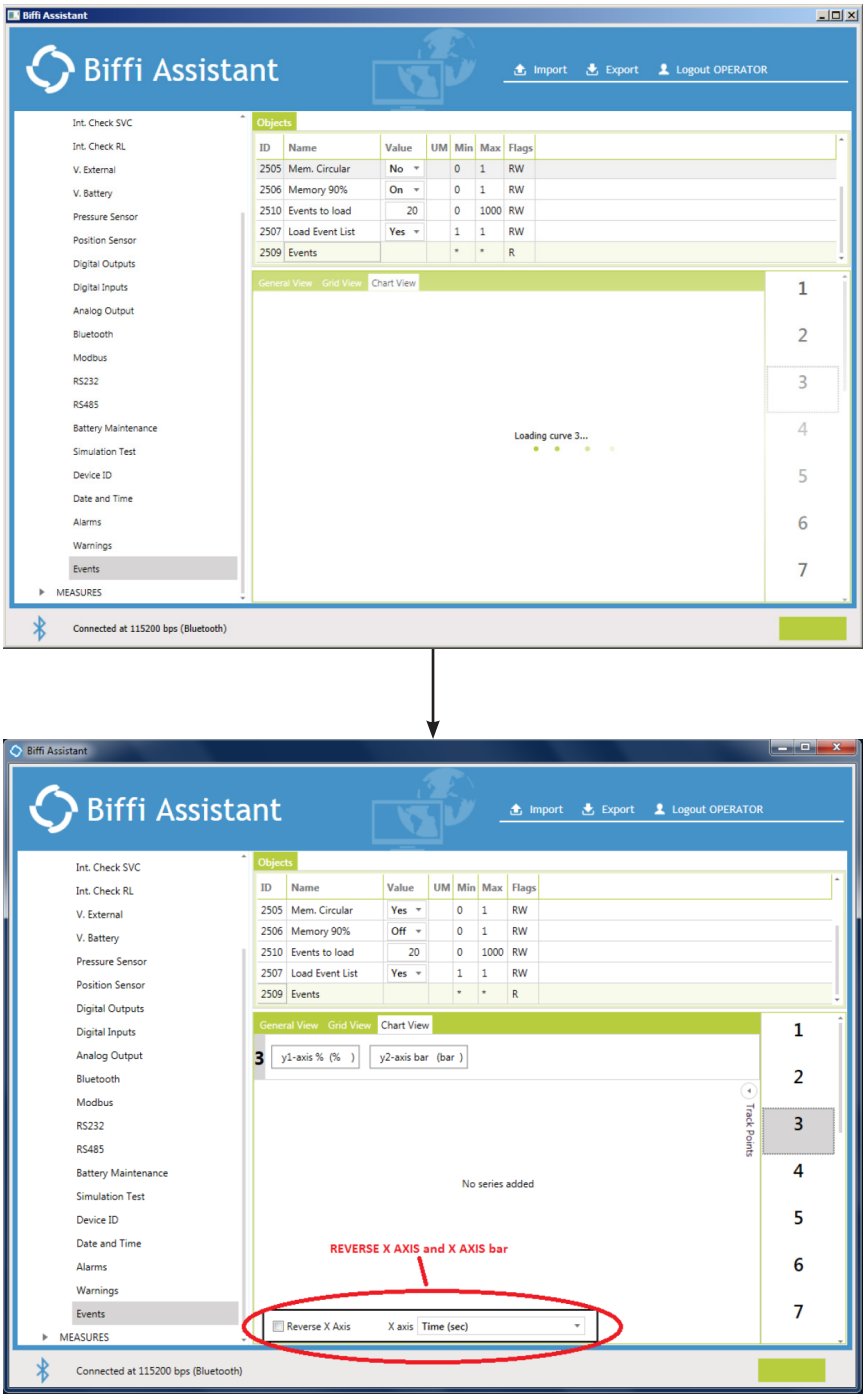
To add an event, left-click the mouse on the button corresponding to the Event ID of the event that has to be loaded (3 in Figure 95).

Figure 95.



Wait until the event is loaded.

Figure 96.

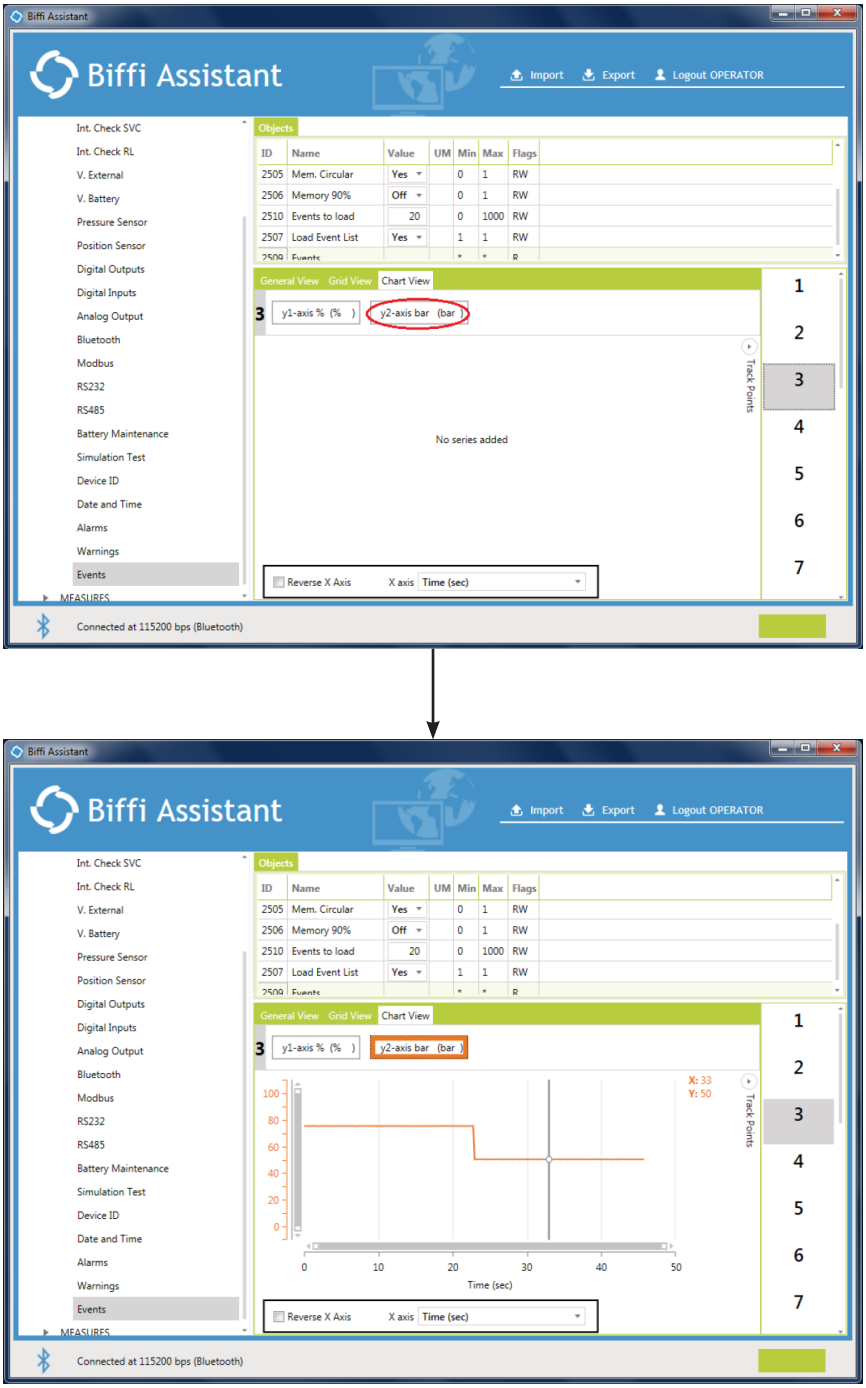


The Reverse X Axis and X axis bar must not be used.

It is suitable for other devices, not for the ELBS-20.
It is present starting from Biffi Assistant 1.03.00.00 or newer versions.

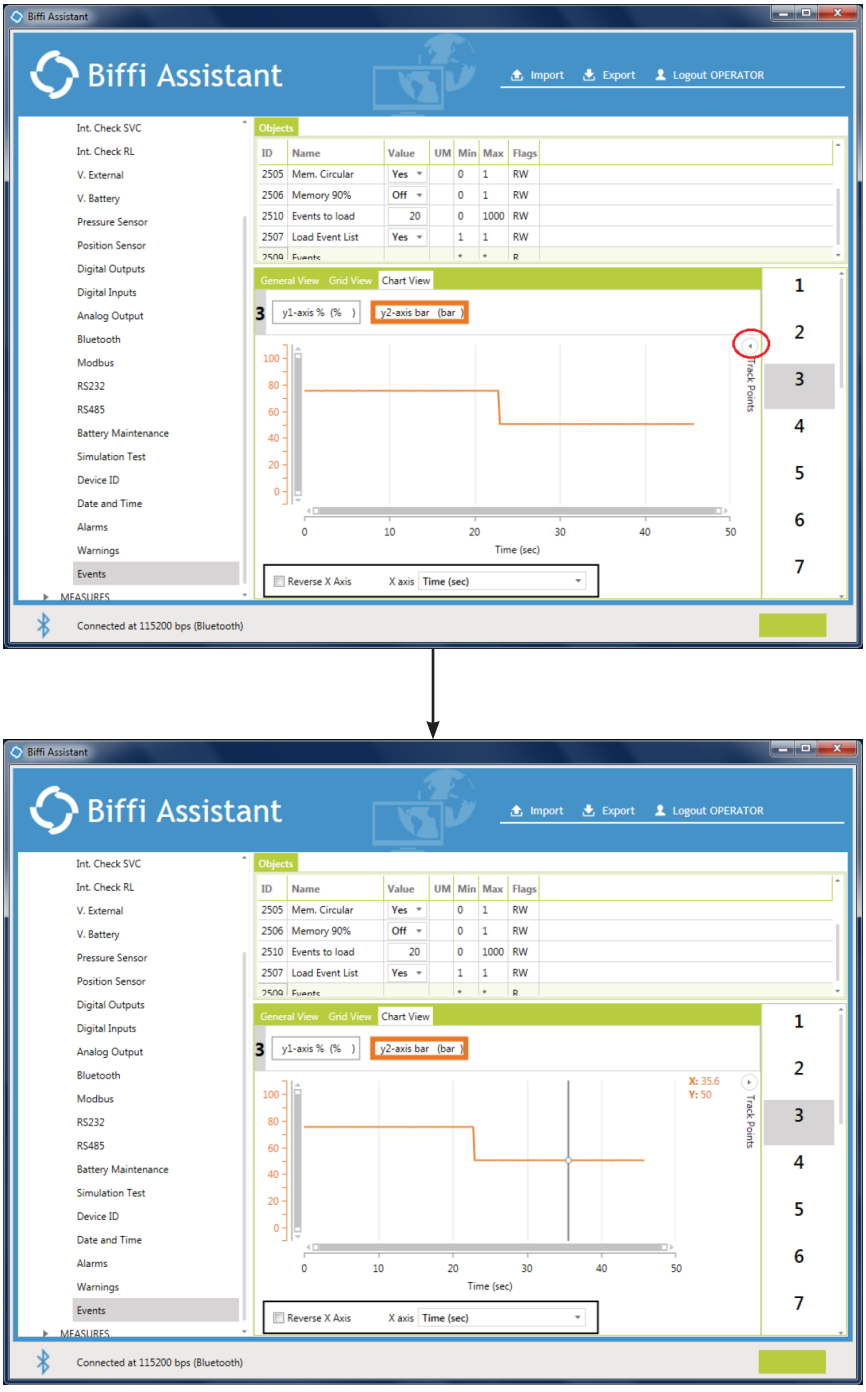
Left-click the mouse on “y2-axis bar (bar)” to load the graph of the pressure (example below) and on “y1-axis % (%)” to load the graph of the position (if the Position Sensor is enabled).

Figure 97.



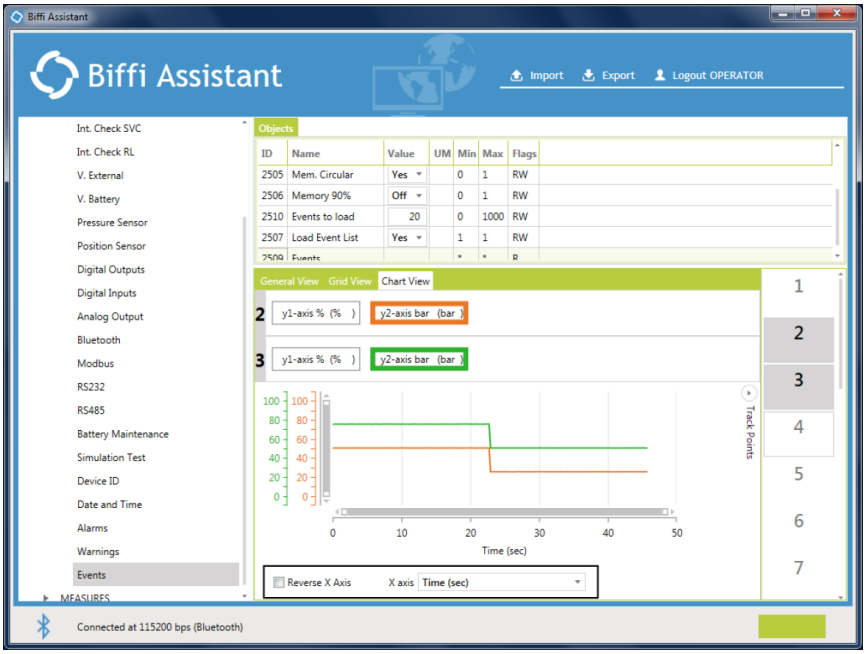
Left-click the mouse on “Track Points” to view the details of each single sample of the graph.

Figure 98.



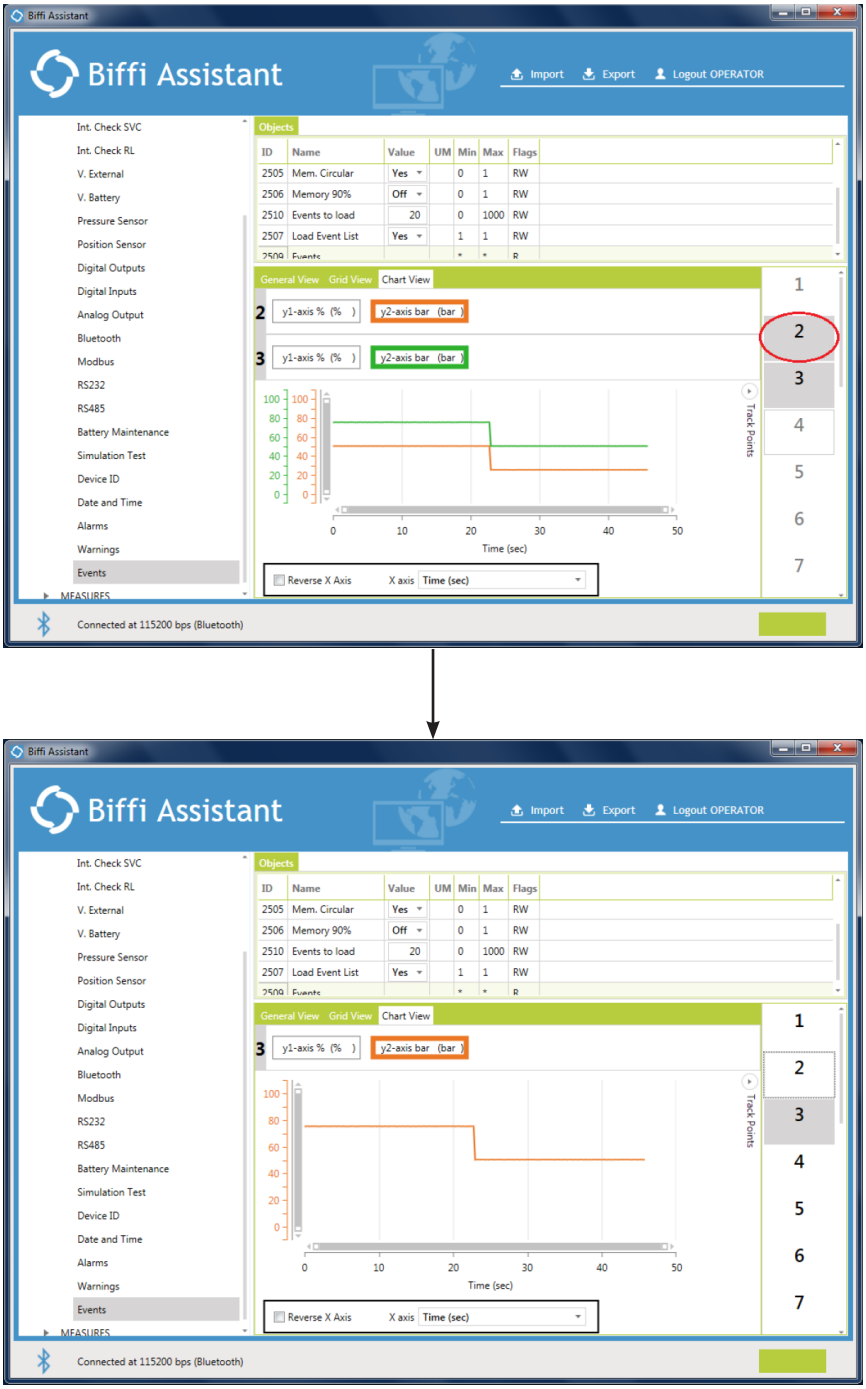
It is possible to load up to two events at a time (3 and 2 in Figure 99) and view the pressure and position graphs of the loaded events.

Figure 99.



To remove a loaded event, left-click the mouse on the button corresponding to the Event ID of the event that has to be removed (2 in the Figure 100).

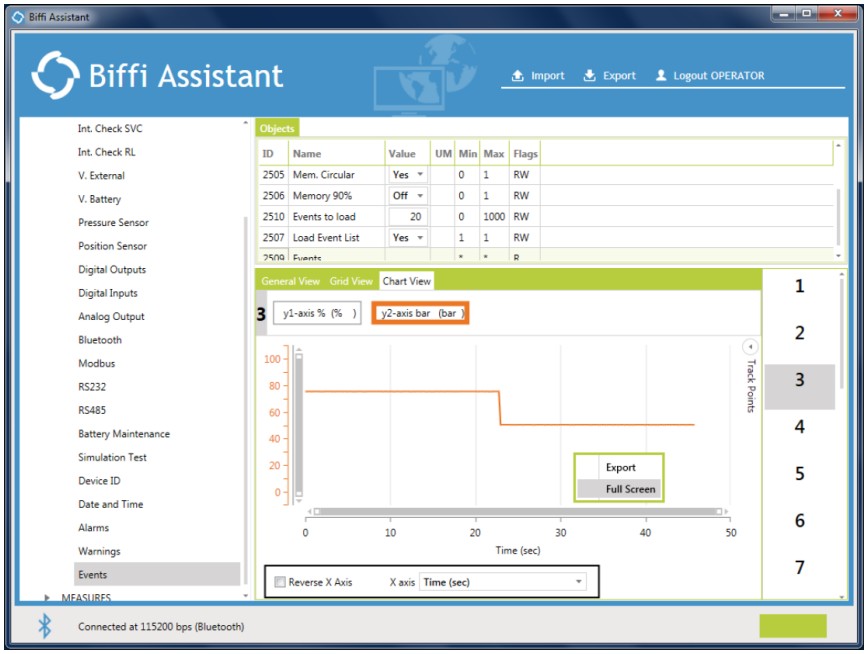
Figure 100.



7.3.3.1 Chart View – Full Screen

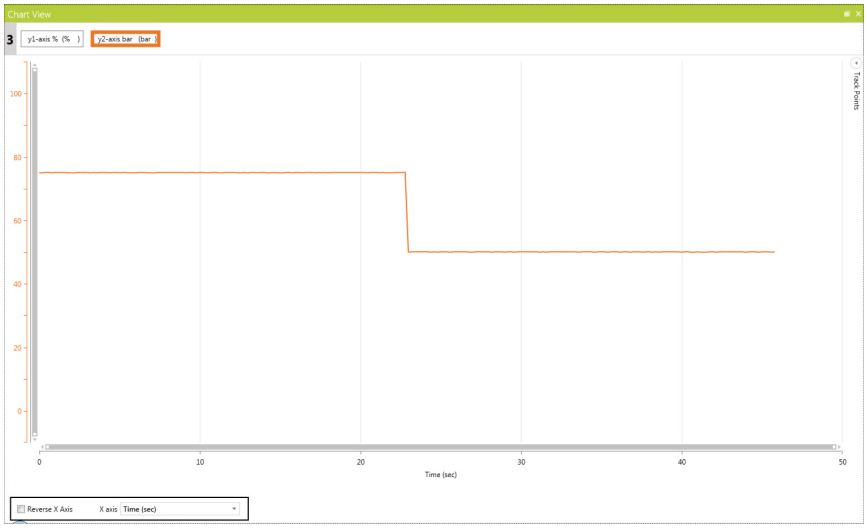
Right-click the mouse on the opened graph and left-click the mouse on “Full Screen” to view the graph in full screen.

Figure 101.



A window dedicated for the graph will open. Now, it is possible to apply all the options of the “Chart View” (see Section 7.1.3.3).

Figure 102.

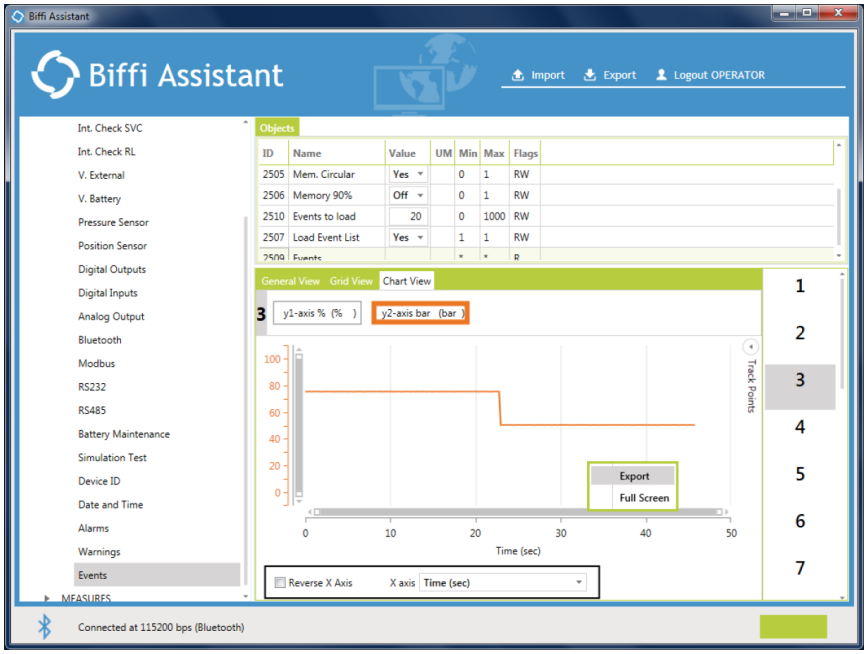


It is possible to minimize, maximize or close the window of the graph by using the buttons on the top right corner.

7.3.3.2 Chart View – Export Graph

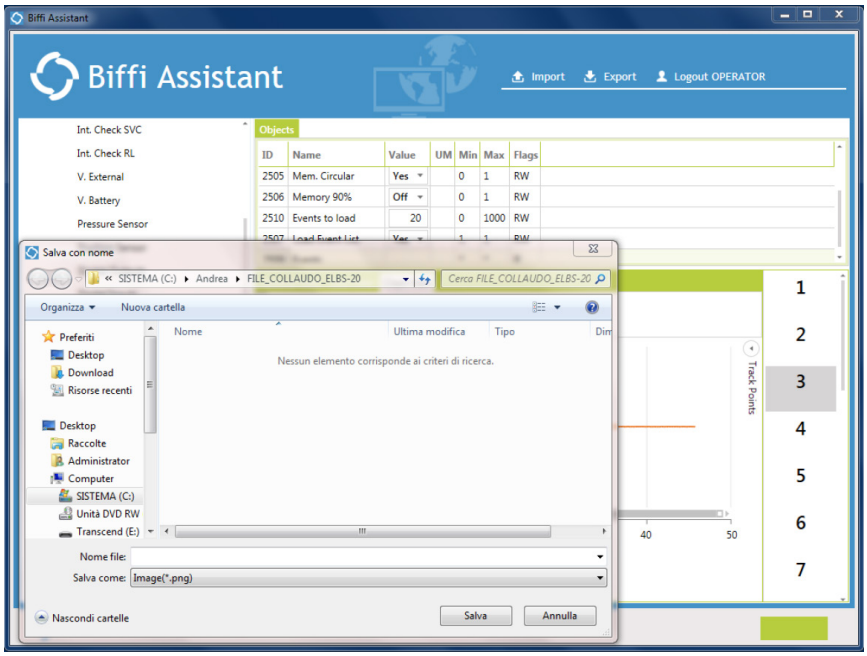
Right-click the mouse on the opened graph and left-click the mouse on “Export” to export the graph into an image file (.png).

Figure 103.



Select the File Name and the folder and then left-click the mouse on "Save".

Figure 104.



Appendix A: RS232 Cable

Biffi P/N: 480CABPROG
Maximum cable length: 10 meters

Table A-1.

9 Pin D-SUB	90156-0143	Pin Function
Pin 1	-	-
Pin 2	Pin 2	RX
Pin 3	Pin 3	TX
Pin 4	-	-
Pin 5	Pin 1	GROUND - SHIELD
Pin 6	-	-
Pin 7	-	-
Pin 8	-	-
Pin 9	-	-

Figure A-1. 9 Pin D-SUB

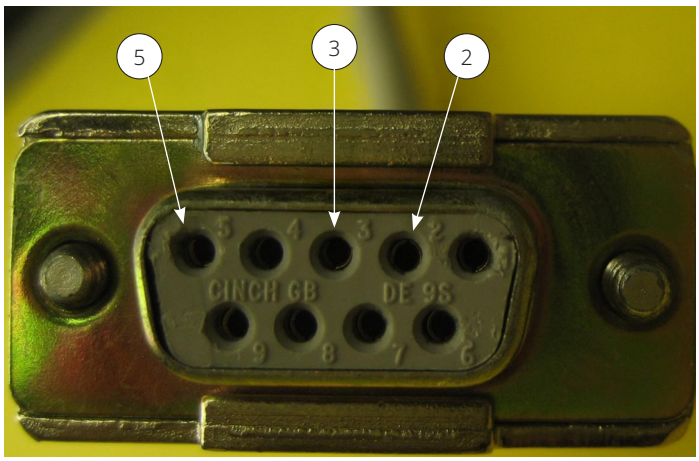
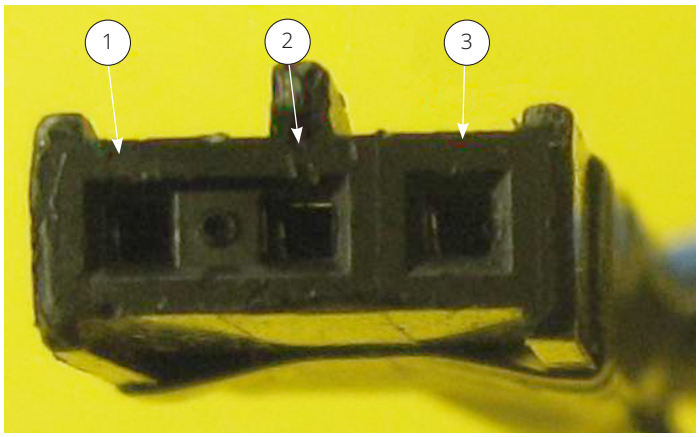


Figure A-2. 90156-0143



Appendix B: Biffi Assistant Install/Uninstall

See Section 1, Reference Document [2] for details about

- PC Requirements
- How to open Biffi Assistant

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https://www.biffi.it/en-us

BIFFI