Installation, Operation and Maintenance Manual
MDE 185 Rev. 6
September 2020

“A Manager ver. 4” for PC

Revision Details

Rev.	Date	Description	Prepared	Approved
6	09/2020	Migrated to new template		
5	11/02/2019	Added ICON3000	L. Piacenti	A. Battaglia
4	13/10/2017	New Bluetooth	D.Bellinzona	A.Battaglia
3	18-11-2014	Mod F02 new version	D.Bellinzona	A.Battaglia
2	12-05-2010	Mod F02 Operat.	M. Giuliani	A. Affaticati
1	11-02-2009	Mod. Import funct.	M. Giuliani	A. Affaticati
0	21-03-2008	First Issue	G. Riboli	A. Affaticati

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Section 1: Introduction

MDE 185 is the instruction manual of A-MANAGER version 4.x.x. It includes also instruction manual for “A-Manager Conversion Tool”, needed to convert files *.set, *.man, and *.i4k (saved with A-Manager version less than 4.0.0 or prjICON4K.exe) to files *.icon, *.f02, *.mcu, readable by A-Manager version 4.x.x.

For A-MANAGER version less than 4.00 refer to instruction manual MAN 660.

Section 2: Installation Instructions

NOTICE

"A MANAGER" for PC installation software consists of two files:
- AManager_PC_4.x.x.msi
- Setup.exe

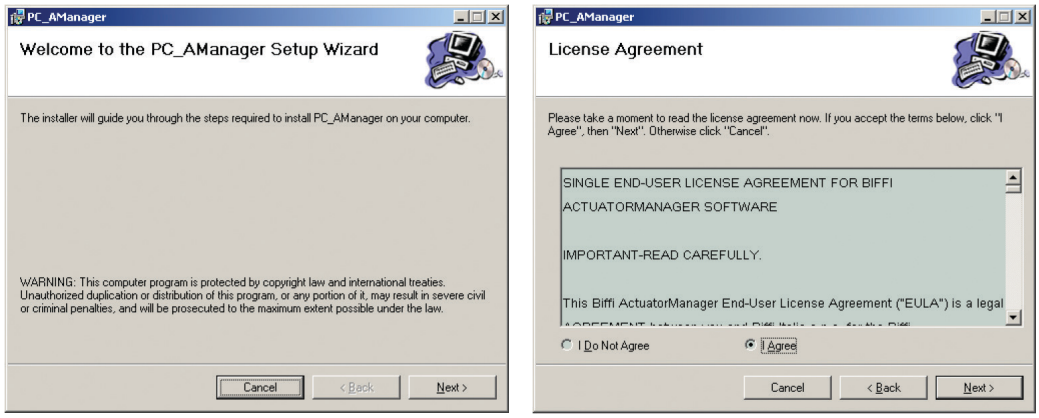
2.1 To Install A Manager PC

Before initiating installation procedure of a new version of A-Manager remove any previously installed version of A-Manager version 4.x.x (see instructions in Section 2.2, To Uninstall A-Manager PC). A-Manager versions less than 4.0.0 do not need to be removed.

To start the installation process, double click on setup.exe file.

A simple wizard will guide you through the installation process:

Figure 1

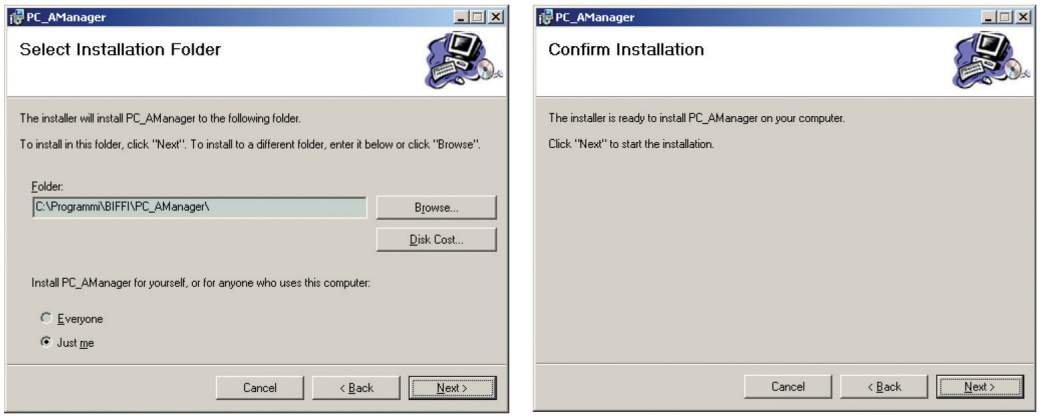


Click Next.

Agree to End User License Agreement

Select installation folder and then click Next.

Figure 2



Click “Next” to begin program installation.

When the message “Installation complete” appears click Close.

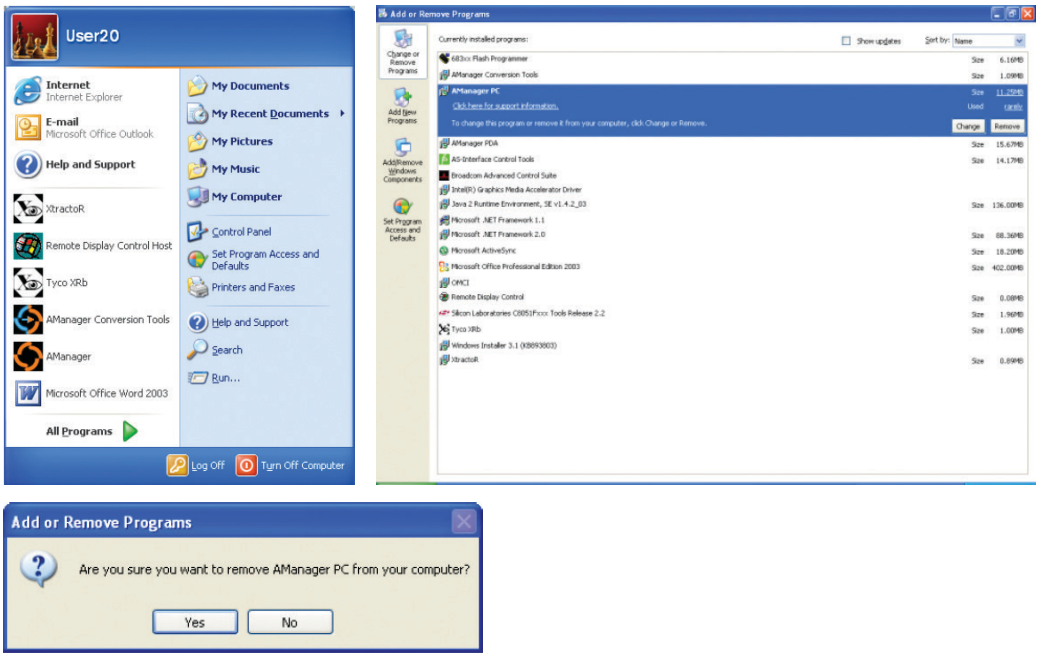
A link (icon with Biffi logo named AManager4) to the executable file (AManager.exe) will be created on the desktop and a new program folder, named “Biffi”, will be added to Start Menu\Program folder.

Double click one of the links to the executable file or the executable file itself (located in: \destination_folder\bin\) to run the program.

2.2 To Uninstall the Manager PC

In the taskbar click “Start”. Click “Control Panel” and then double click “Add or remove programs”. Click AManager PC.

Figure 3



Click “Remove” and then “YES”. A-Manager PC will be removed, and PC is ready to re-install a new A-Manager according to instructions of Section 2.1, “To Install A-Manager PC”.

Section 3: User Manual

3.1 General Notes

⚠ WARNING

For any information regarding actuator parameters or settings please refer to the relevant Biffi Actuator documentation. Wrong parameter settings may cause actuator malfunctions.

⚠ WARNING

All parameters changes which were not saved to 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.

⚠ WARNING

Any repair work other than the operations outlined in this manual will be strictly reserved to qualified Biffi Italia personnel or to personnel directly authorised 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.

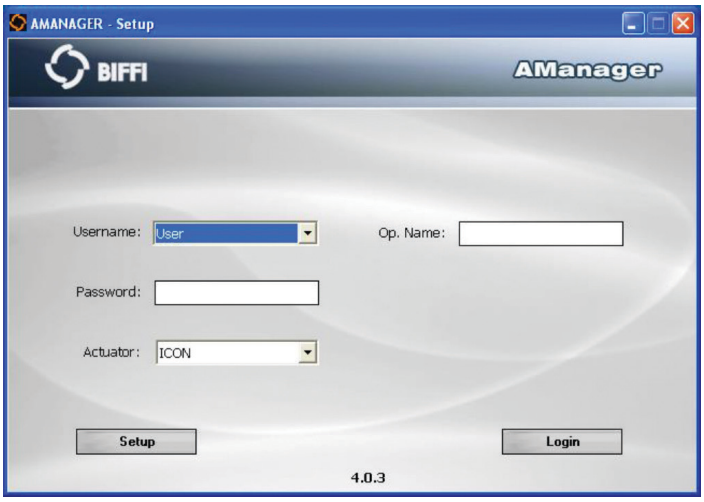
3.2 Start the Program

"A Manager" Software for PC starts with the following screen.

Click "Setup" to select the communication medium.

Enter "Username", "Password", "Actuator", "Operator name" and then click "Login" to run the program.

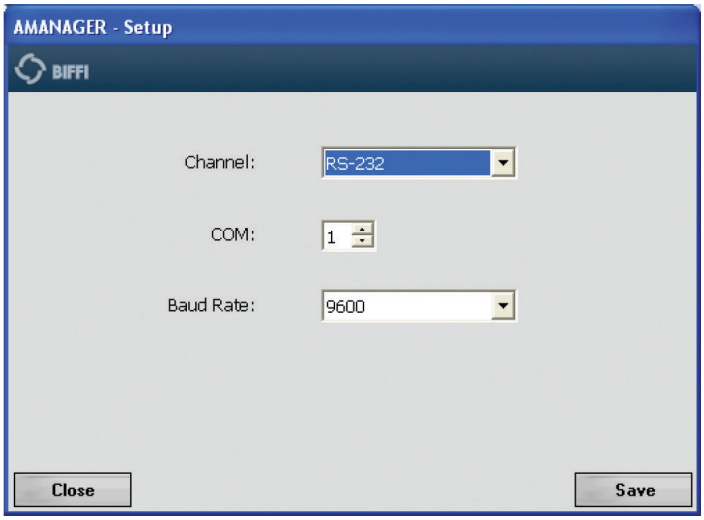
Figure 4



3.3 Setup

The following screen appears. Select "Channel", "COM" and "Baud Rate" according to below instructions.

Figure 5



Channel: RS-232

- Channel RS-232 is not available for F02 (EPI2) actuators. Connection to actuator can be done only by Bluetooth channel
- Select Channel RS-232 if the connection between PC and actuator is made by a RS232 cable. In the line COM select the serial port number of PC. In Baud Rate line select the transmission speed (9600 baud or 115200 baud).

Channel: Bluetooth

- Select Bluetooth if a wireless Bluetooth connection between PC and actuator is available. The baud rate is automatically set at 115200 bit/s. The new A-manager version 4 is provided of “device discovery function” that allows to find the Bluetooth slave devices to be linked to PC. It means that pairing operation needed with A-manager version less than 4 are no longer necessary. The following options are available:
  - If the PC has an “integral Bluetooth device” and Service Pack 2, the included Microsoft Generic Bluetooth Radio Driver is used. The COM number is automatically set.
  - If it is used an “external USB Bluetooth adapter” the following two options are available:
    - The USB Bluetooth adapter can work with standard Microsoft Generic Bluetooth Radio and PC has Service Pack 2, it is not necessary to install any Bluetooth WIDCOMM driver. The Bluetooth adapter can be used without having before installed its own WIDCOMM driver, provided together the USB Bluetooth adapter. If a WIDCOMM driver is already installed, it is suggested to uninstall it and then reboot the PC. The COM number is automatically set.
    - If USB Bluetooth adapter cannot be used with Microsoft Generic Bluetooth Radio but it is necessary to install its own WIDCOMM driver, it needs to follow the relevant instructions to activate the driver. In the above case it needs to set the COM number according to the configuration of WIDCOMM driver.

To make easier the Bluetooth use, it is suggested to select USB Bluetooth adapter that can use Microsoft Generic Bluetooth Radio. This is normally indicated in the instruction manual of USB Bluetooth adapter. An alternative way to understand if the USB Bluetooth adapter can work with Microsoft Generic Bluetooth Radio is to insert the adapter in the USB port of PC and then to see if in the right corner of the notification area (low bar of PC screen) appears the blue/white Bluetooth icon. If yes, the adapter is recognized and can work without installing the WIDCOMM driver. If not, remove immediately the adapter from USB port and proceed to install the WIDCOMM driver provided with the adapter.

Note: Right click on the icon “Device manager” and then click “properties”, to view PC resources. Click Hardware, Device manager, Bluetooth Radios to see the active Bluetooth driver.

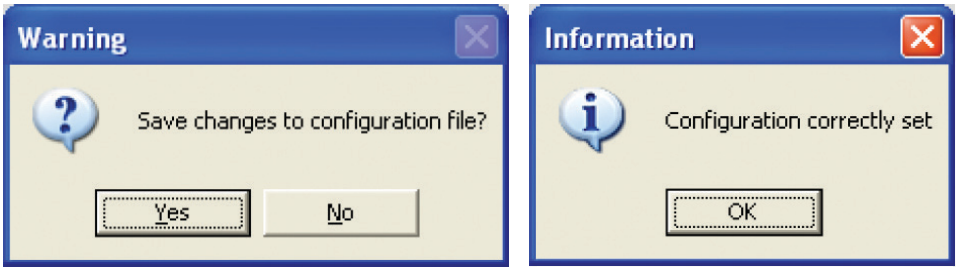
Note: After the disconnection of A-manager from an actuator, it needs to wait at least 30 s. before re-connecting the same actuator.

Note: **IrDA operation**

- This mode is available only if the PC is provided of external RS 232 to IrDA converter/probe (for instance ACTiSYS infrared wireless adapter ACT-IR220L+). No IrDA driver is requested since the A-Manager works in RS-232 mode. The maximum baud rate is 9600 baud.

Click “Close” to exit from Setup without any change or alternatively Click “Save” to enter the new setup. Click “Close”, click Yes.

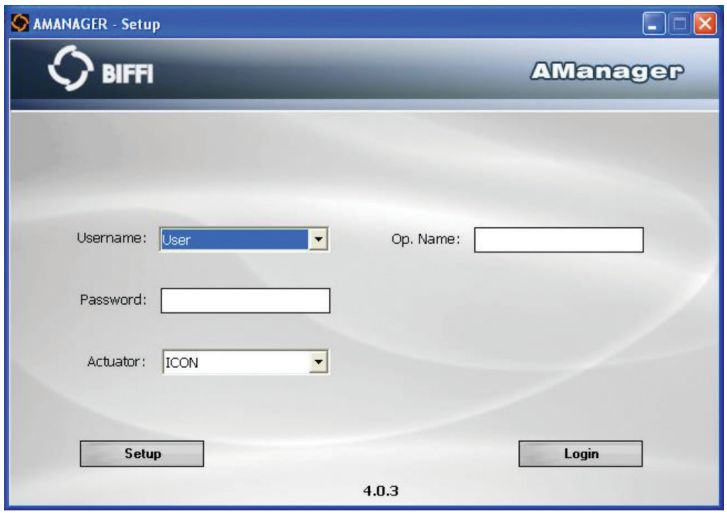
Figure 6



Exit from A-Manger by the red “X” on the right upper corner of the “A-Manager- Setup” screen and then double click the A-Manager icon on the desktop to restart with the new settings.

3.4 Login

Figure 7



- Enter “Username and Password”:
  - Four usernames are available: Observer, User, Service and Manufacturer (Service and Manufacturer username are reserved for Biffi authorized personnel use only).

Observer username allows only to view data, export data to file, import data from file, but change data is not allowed.

Default password supplied by Biffi is “00000000”.

User username allows viewing data, exporting to file and importing from file as Observer can do, in addition the User profile also to modify data in the Actuator Setup, Valve data, Maintenance, and modify “User and Observer” passwords.

Default password supplied by Biffi is “99999999”.

End user can modify the Observer and User password only by entering as User. After entering the new password, the old one ceases to be valid. Therefore, it is mandatory “NOT FORGET THE PASSWORD” after the default one has been modified.

Service username has the User permissions and in addition can modify “Restricted” and “Name Plate” data.

Manufacturer username can modify any data.

Details of permissions relevant to usernames are in the Section 8, “Username profiles and Permissions”

- Enter “Actuator type”:
  - Five Actuator types are available: ICON/F01/EFS, ICON LP, ICON3000, F02/EPI2, MCU

ICON LP is available from AManager Revision 4.8.3.0

ICON3000 is available from AManager Version 4.9.0.0

- Enter “Operator name”:
  - The field is optional. ICON 2000v4, MCU 2000v4, ICON3000 and ICON LP memorize the last 8 operator name in a register with data, time and code of the PC. The data can be read by the Maintenance features of A-Manager.
- Click “Login”

3.5 Working Mode

A-Manager can work in “disconnected” or “connected” mode

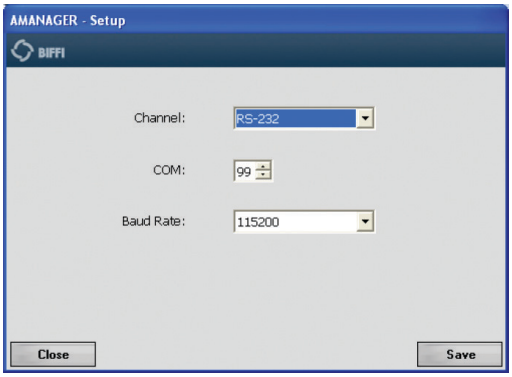
In “disconnected” mode the actuator is not connected. A-Manager can work only with files previously exported.

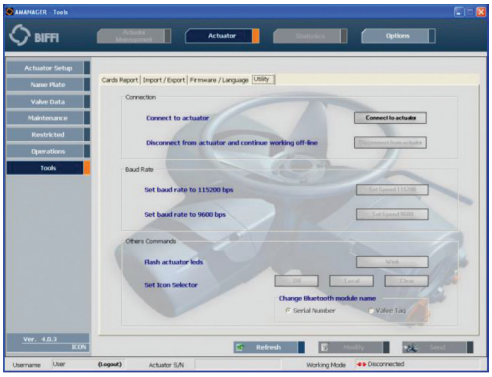
In “connected” mode the actuator is connected to PC and data of actuator can be viewed and changed according to username.

To work in “disconnected” mode the following options are available:

1. Start of A-Manager program
   - In Setup, select Channel RS232, select COM not existing in the PC (for instance 99) or select the available COM for RS-232 but do not connect the cable to actuator, and then click Save and Close, then click Login.
2. A-Manager already working in “connected” mode
   - In Actuator environment, section Tools, TAB Utility, click Disconnect from actuator.

Figure 8



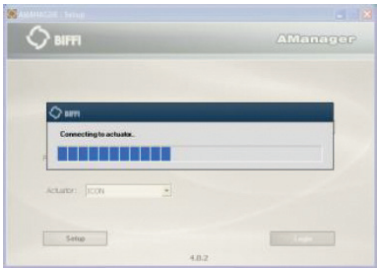


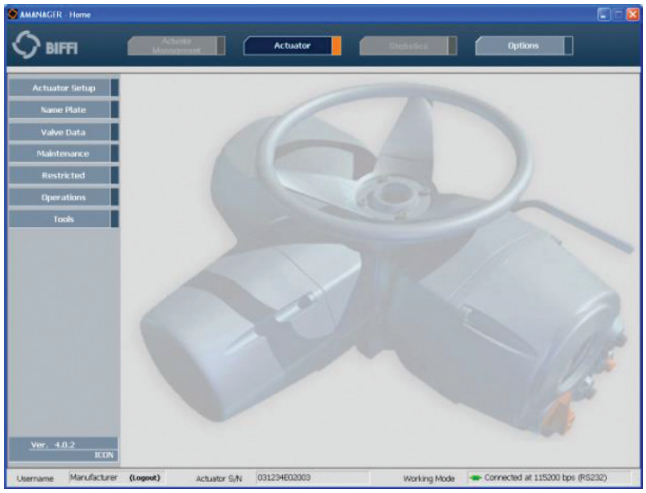
3.6 Connection to Actuator

By clicking “Login” the A-Manager interrogates the actuator and asks actuator serial number. Two options are available:

- Channel RS-232: if actuator responds A-Manager runs in “connected” mode and the 3 LED’s of ICON /F01 /EFS /ICON LP /ICON3000 /MCU 2000 actuator flashes few seconds. F02 has no LED’s and no visual indication on the actuator can be done. Indication of connection status is available in the A-Manager user interface
- If actuator does not respond, the A-Manager runs in “disconnected” mode.

Figure 9



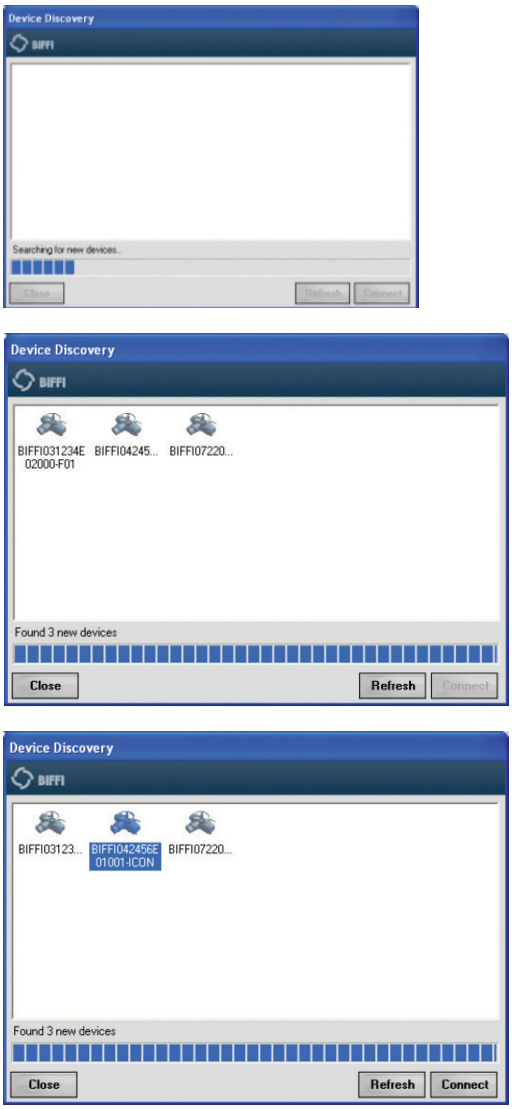


- Channel Bluetooth:
  - Device discovery function searches slave devices available and shows icons (ICON 2000, or F02, or MCU2000, or ICON LP, or ICON3000) and serial numbers (or valve tag), according to actuator configuration
  - Click the actuator to be connected
  - Click “connect”.
  - When connection is established the A-Manager runs in “connected” mode and the three LED’s of ICON 2000 / MCU 2000 / ICON LP / ICON3000 actuator flashes few seconds. F02 has no LED’s and no visual indication on the actuator can be done. Indication of connection status is available in the A-Manager user interface.
  - If actuator does not respond, the A-Manager runs in “disconnected” mode.
  - After the disconnection of A-manager from an actuator, it needs to wait at least 30 s. before re-connecting the same actuator.

3.6.1 Connection to ICON / F01 / EFS 2000v4 / ICON LP / ICON3000

When the list of available ICON/F01/EFS/ICON LP/ICON3000's appears select the ICON/F01/EFS/ICON LP/ICON3000 and then click Connect.

Figure 10

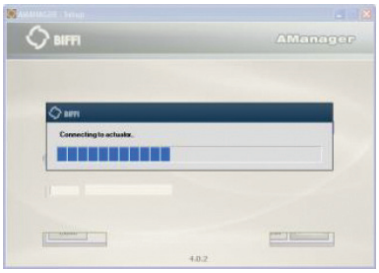


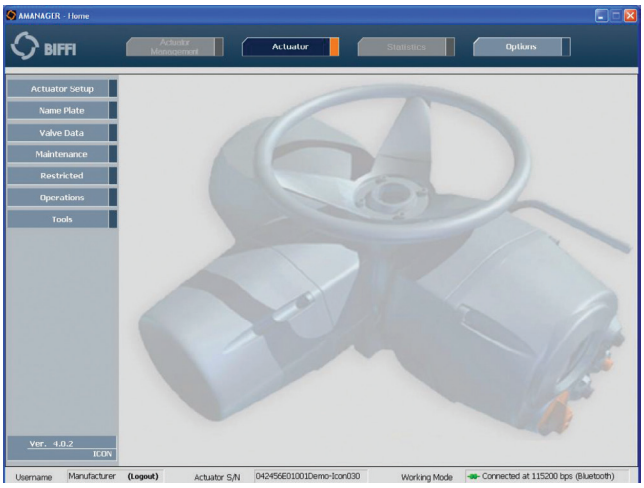
At this point, depending on the Bluetooth stack of the laptop and on the Bluetooth module installed into the device, the following three different connection sequences can occur:

- Direct connection (Section 3.6.1.1)
- Notice of the Bluetooth Connection (Section 3.6.1.2)
- Request of Bluetooth password (Section 3.6.1.3)

3.6.1.1 Direct Connection

Figure 11





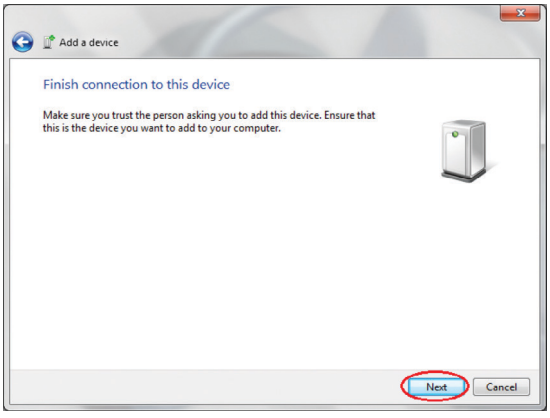
3.6.1.2 Notice of the Bluetooth Connection

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

Figure 12

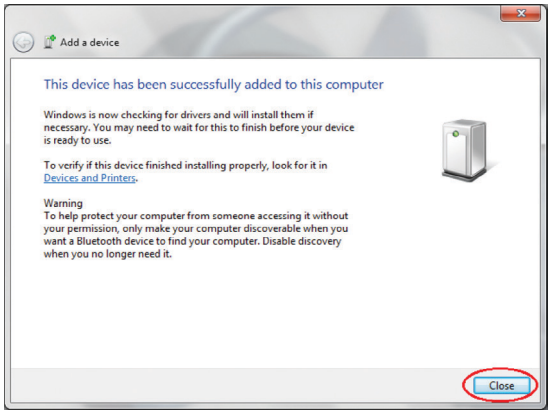
Left click of the mouse on the “Next” button.

Figure 13



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

Figure 14



Go to Section 3.6.1.1.

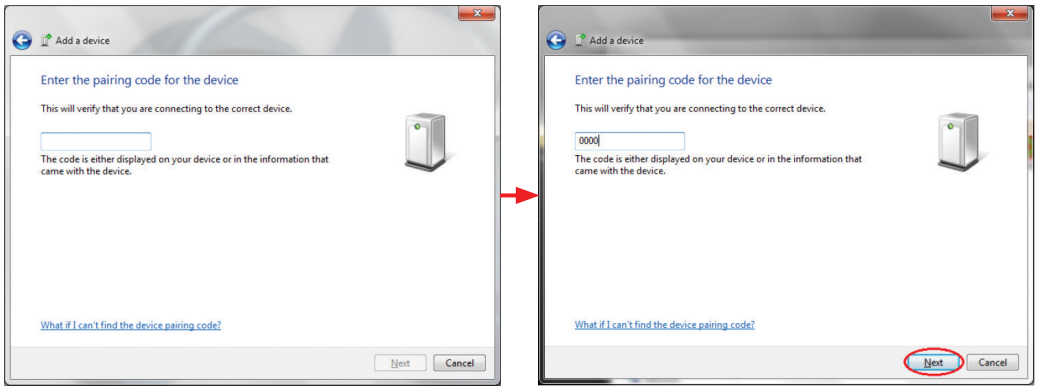
3.6.1.3 Request of Bluetooth Password

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

Figure 15

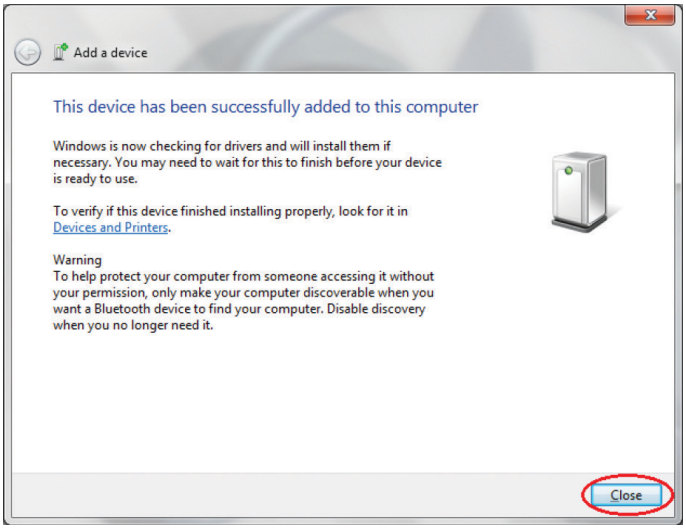
Insert the password “0000” and then click on the “Next” button.

Figure 16



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

Figure 17

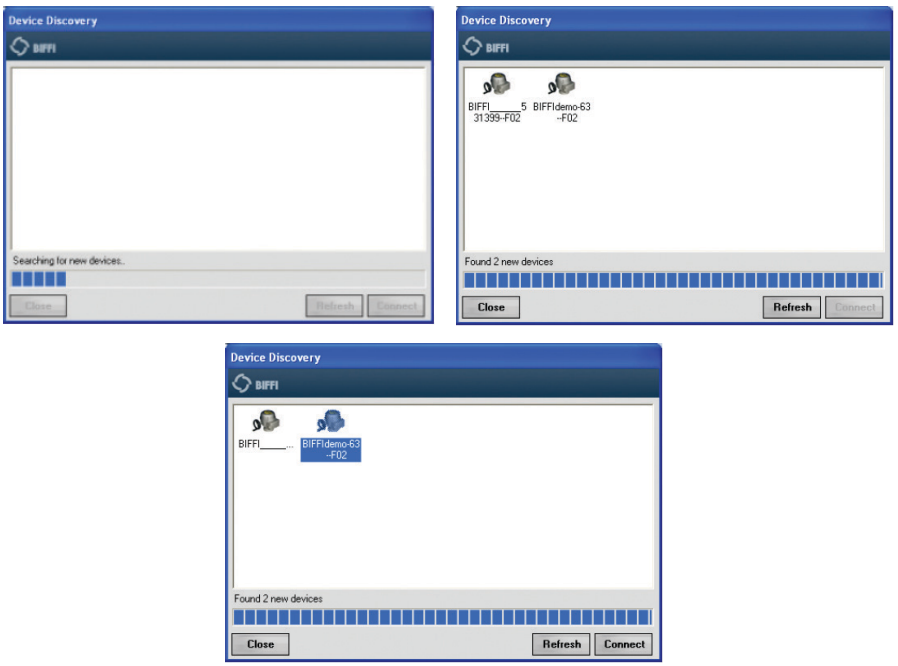


Go to Section 3.6.1.1.

3.6.2 Connection to F02 (EPI2)

When the list of available F02’s appears select the F02 and then click Connect

Figure 18

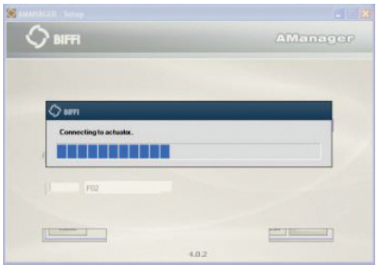


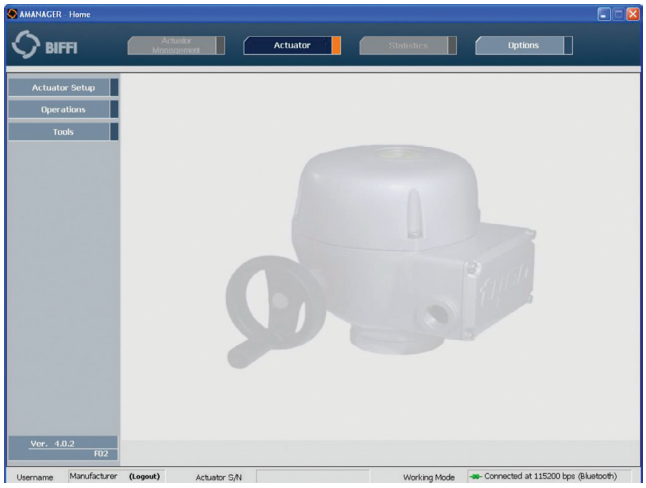
At this point, depending on the Bluetooth stack of the laptop and on the Bluetooth module installed into the device, the following three different connection sequences can occur:

- Direct connection (Section 3.6.2.1)
- Notice of the Bluetooth Connection (Section 3.6.2.2)
- Request of Bluetooth password (Section 3.6.2.3)

3.6.2.1 Direct Connection

Figure 19





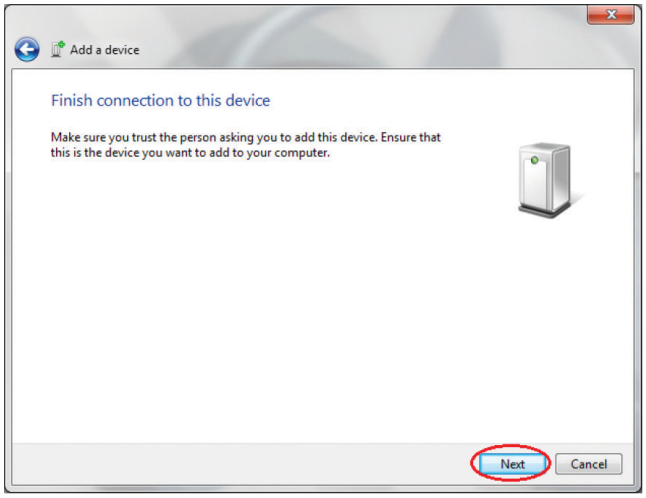
3.6.2.2 Notice of the Bluetooth Connection

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

Figure 20

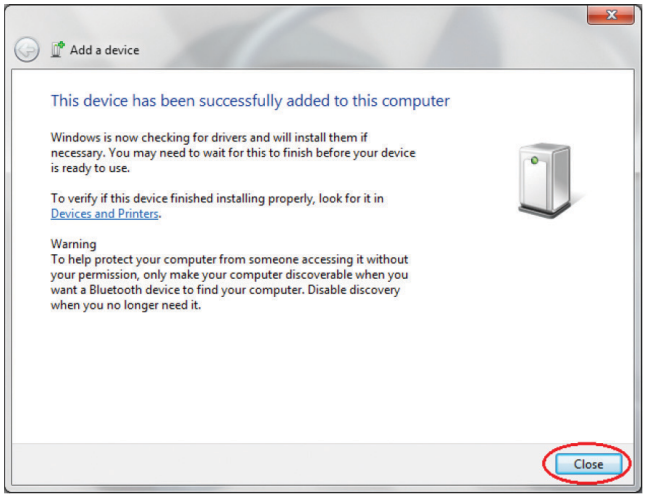
Left click of the mouse on the “Next” button.

Figure 21



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

Figure 22



Go to Section 3.6.2.1.

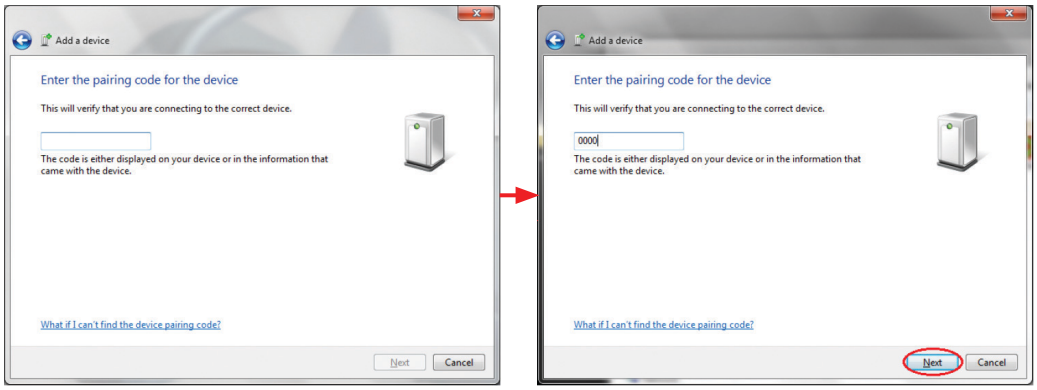
3.6.2.3 Request of Bluetooth Password

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

Figure 23

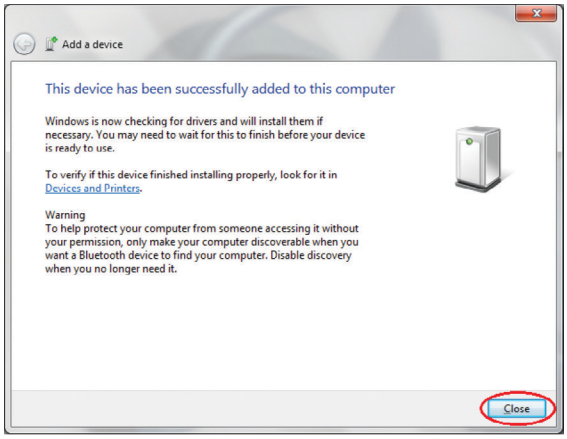
Insert the password “0000” and then click on the “Next” button.

Figure 24



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

Figure 25

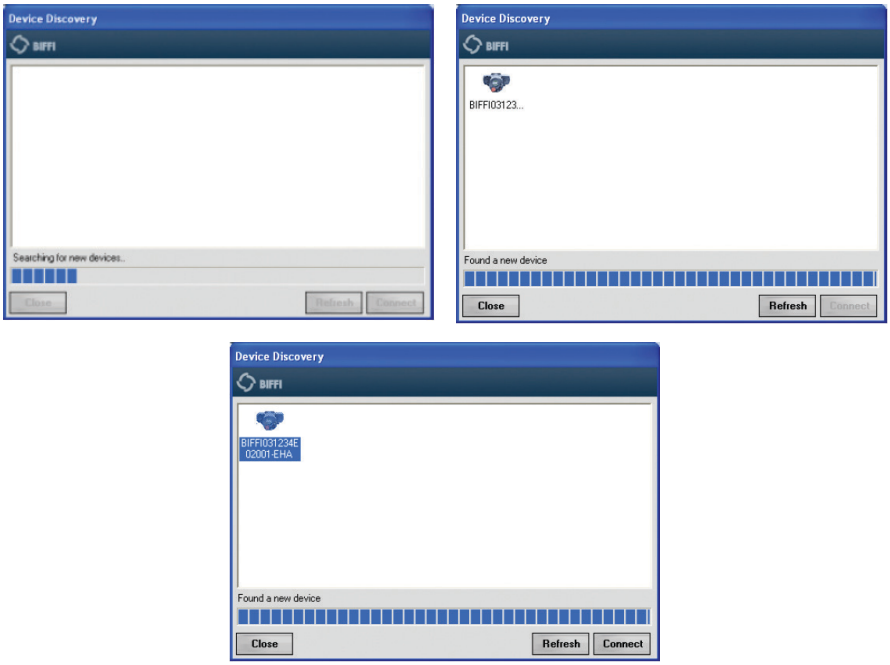


Go to Section 3.6.2.1.

3.6.3 Connection to MCU

When the list of available MCU's appears select the MCU and then click Connect.

Figure 26



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

- Direct connection (Section 3.6.3.1)
- Notice of the Bluetooth Connection (Section 3.6.3.2)
- Request of Bluetooth password (Section 3.6.3.3)

3.6.3.1 Direct Connection

Figure 27

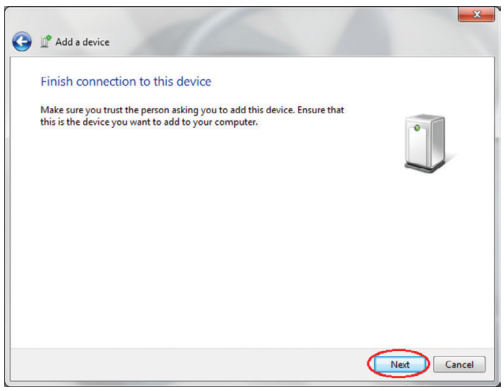
3.6.3.2 Notice of the Bluetooth Connection

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

Figure 28

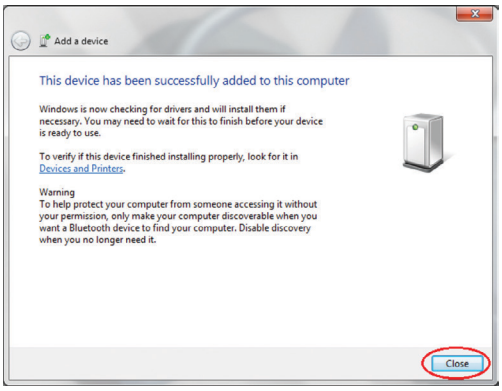
Left click of the mouse on the “Next” button.

Figure 29



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

Figure 30



Go to Section 3.6.3.1.

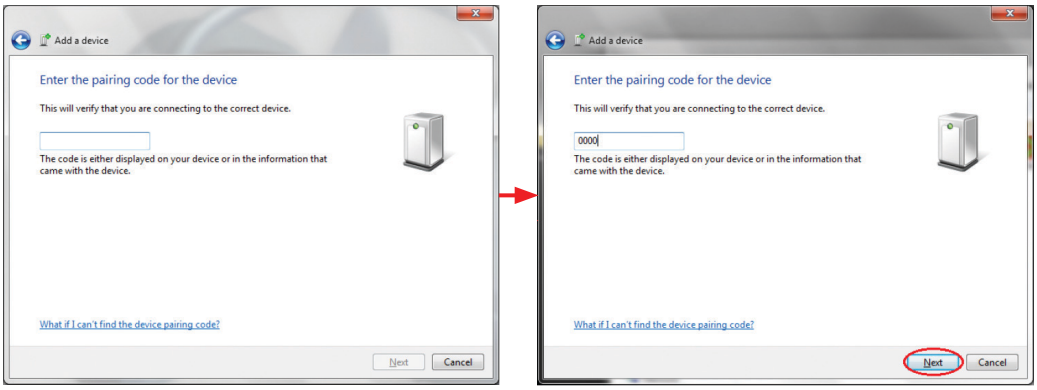
3.6.3.3 Request of Bluetooth Password

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

Figure 31

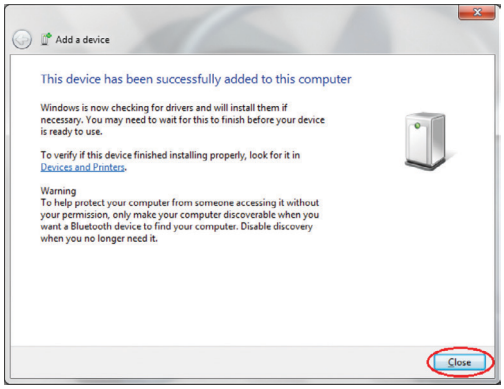
Insert the password “0000” and then click on the “Next” button.

Figure 32



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

Figure 33



Go to Section 3.6.3.1.

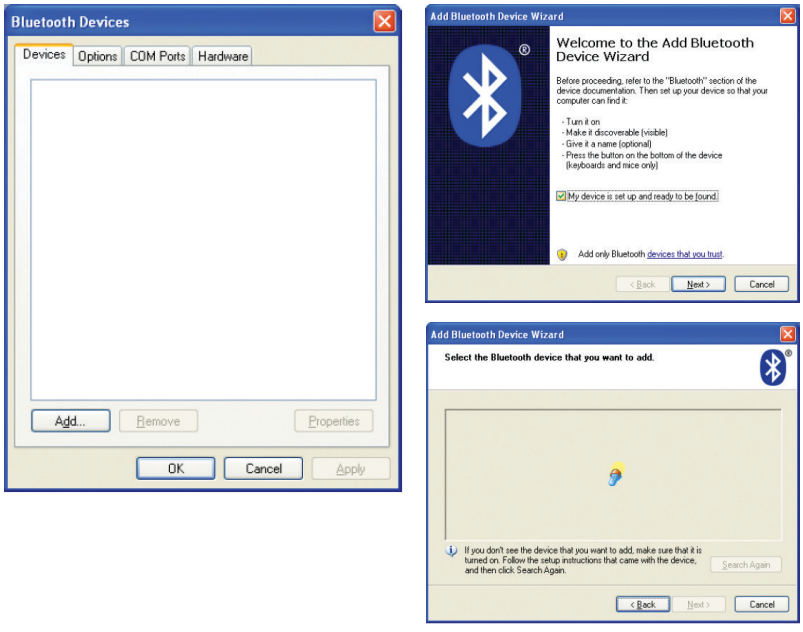
3.7 Manual Discovery of Bluetooth Slave Devices

If the integrated Bluetooth Device Discovery function does not find any Bluetooth device, the following procedure can be useful to check if really no Bluetooth device is available for connection to PC. The procedure can be used only if Microsoft Bluetooth radio is used. Exit from A-Manager.

Double click the blue/white Bluetooth icon in the right corner of notification area (low bar in the PC screen).

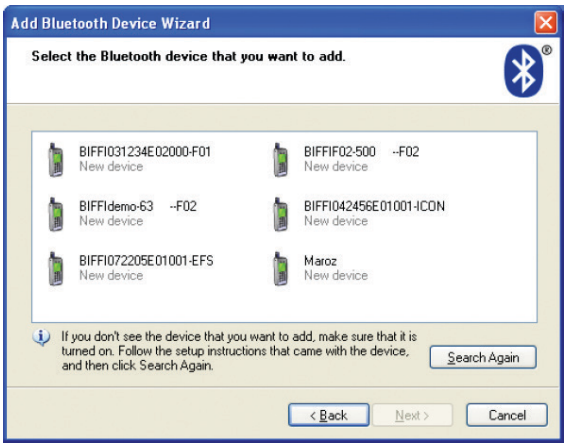
Select Device and click Add. Click “My device is set up and ready to be found” and then click Next.

Figure 34



The list of available devices appears in the PC screen. Select the device you want to add and click Next.

Figure 35

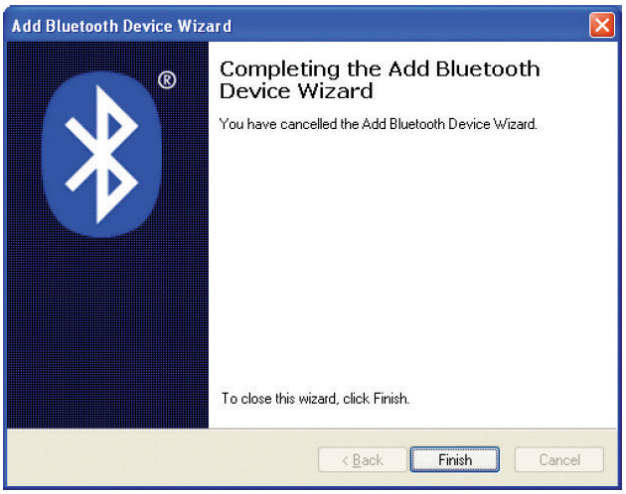


At this point, depending on the Bluetooth stack of the laptop and on the Bluetooth module installed into the device, the following three different connection sequences can occur:

- Direct connection
- Notice of the Bluetooth Connection (Section 3.6.1.2)
- Request of Bluetooth password (Section 3.6.1.3)

At the end of the connection process, the following window will appear.

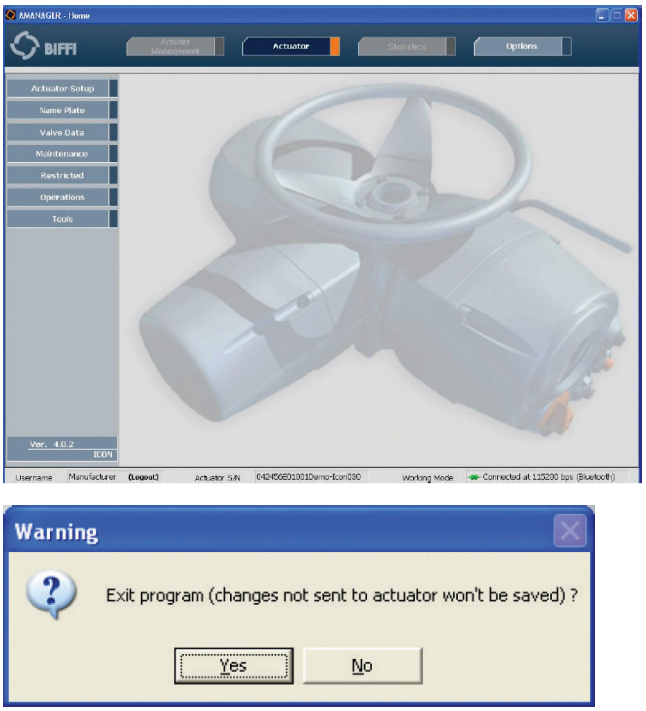
Figure 36



3.8 Exit from A-Manager

Click the red X in high right corner and then click YES to exit from program.

Figure 37



Section 4 A-Manager for ICON/F01/ EFS 2000 v4

4.1 User Interface

The user interface is organized in environments and sections. Environments are grouped in the horizontal navigation bar on the top of the screen. Each environment contains sections that are listed in the vertical navigation bar on the left. At present two environments are available: Actuator and Options.

The following sections are available in each environment:

Environment	Actuator
S	Actuator Setup
E	Name Plate
C	Valve data
T	Maintenance
I	Restricted
O	Operations
N	Tools

Environment	Options
S	Modify Config
E	Password
C	Object List
T	
I	
O	
N	

Actuator Setup: It contains actuator configuration settings

Name Plate: It contains actuator name plate data

Valve Data: It contains data about the valve onto which the actuator is mounted

Maintenance: It contains maintenance and diagnostics information;

Restricted: It contains actuator advanced settings.

Operations: It is used to remotely send commands to actuator and to read status and alarm information;

Tools: It is used to read and write Card Reports. This section also permits to import and export configurations from and to files, reading and updating actuator firmware and to send various utility commands to actuator.

Modify config: It is used to change the A-Manager settings. The following data can be modified:

- Communication data: Channel, COM n°, Speed
- Language: Italian or English

Password: It allows to change “observer” and “user” password

Object list. It allows to see the object list number and the description of the object function

If username is not enabled to access to a section or environment, the relative button will be disabled.

Sections are organized in TAB’s. Each TAB contains a subset of information that can be read from and written to the actuator. The data of TAB’s are grouped according to organization in the actuator local menu.

Once Environment and Section are selected, click TAB of data to be viewed.

Figure 38

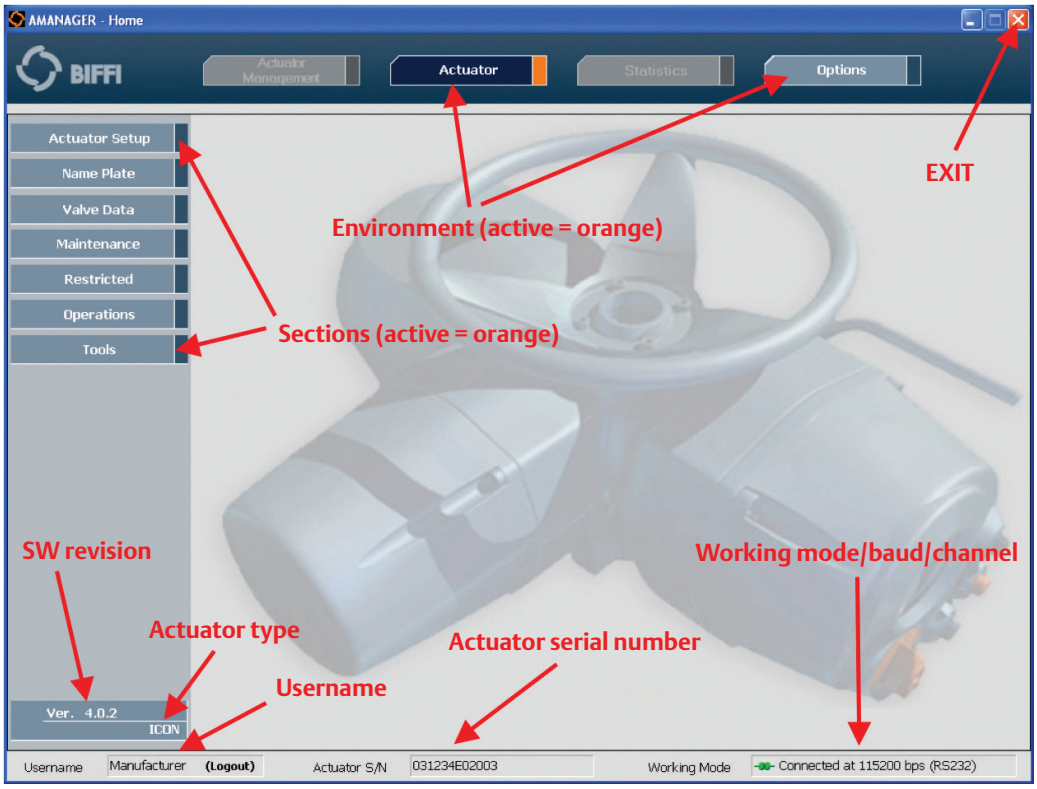
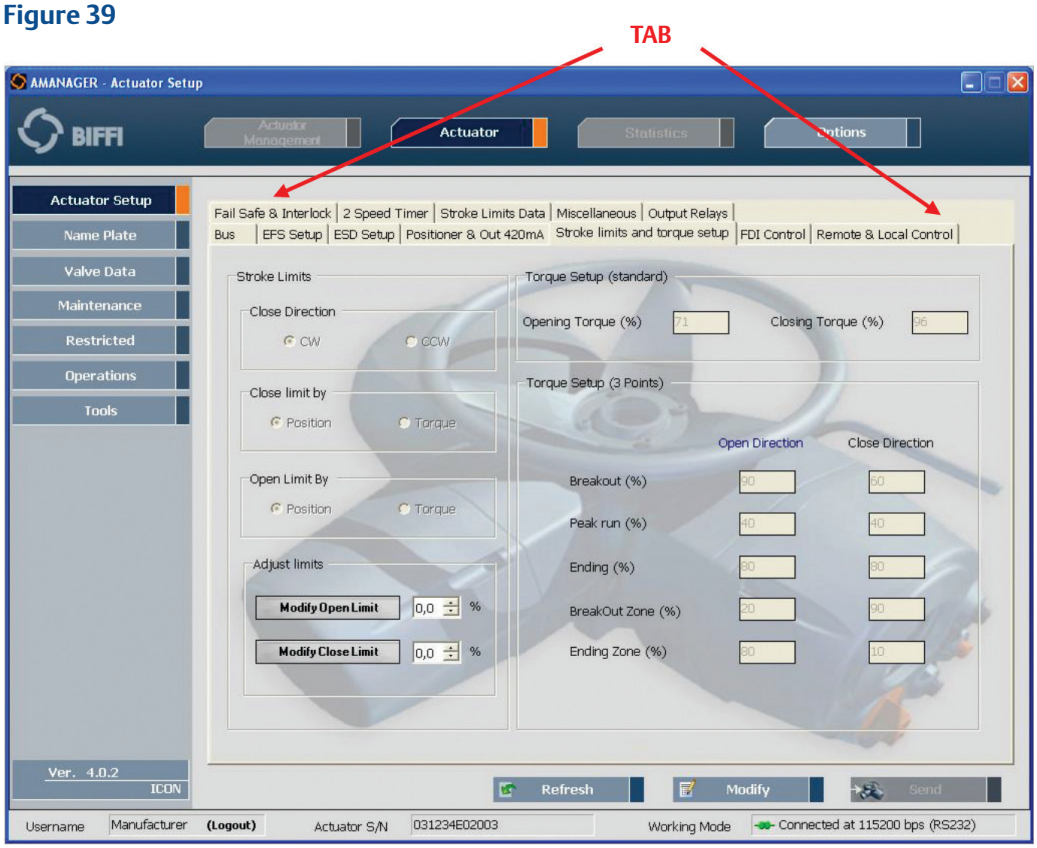


Figure 39



4.2 Actuator Environment

The Actuator Environment contains information about configuration settings and actuator management.

Click Actuator to select the environment.

Click the Section to be viewed. If the A-Manger works in “connected” mode, all data of selected section are read from actuator. Click the TAB to view the data on the PC screen. Use button Refresh to read again all data of selected TAB. Use button Modify to activate the “modify data” option. Modify the data in the selected TAB and then click Send to send all data of selected TAB to actuator or click Undo if data should not be changed. Only data of the selected TAB will be sent to actuator. Option Modify and Send are enabled according to username profile and permissions. In Observer username the options Modify and Send are disabled. In “disconnected” mode Modify and Send can be used to change values of parameter of previously imported file. The modified data can only be saved by the export file/excel functions.

4.2.1 Actuator Setup

“Actuator Setup” contains the actuator settings and it allows to view and modify the configuration of actuator according to permission of username.

Data are grouped in TAB (Fail Safe and Interlock, 2-Speed Timer, Miscellaneous, etc), according to the same organization in the actuator local menu. Use the ICON/F01/ EFS 2000 v4 / ICONLP / ICON3000 instruction manuals to configure the actuators parameters. The TAB “Spares” is available only for ICON3000 devices.

The following example allows to view or change ESD parameters:

- Click “Actuator Setup”, click “ESD Setup”

Figure 40

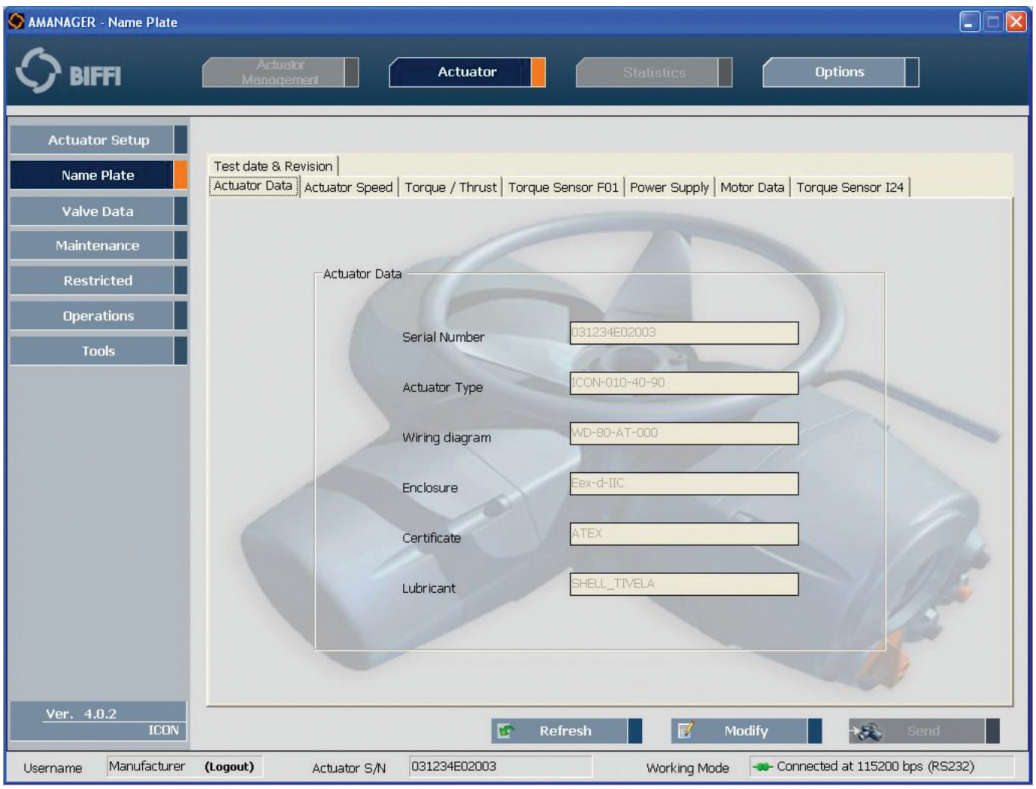
4.2.2 Name Plate

"Name Plate" contains the actuator name plate and it is possible to view and modify the actuator data according to permission of username. Data are grouped in TAB (Actuator data, Actuator Speed, Power Supply, etc), according to the same organization in the actuator local menu. Use the ICON/F01/EFS 2000 v4 instruction manuals as reference to see name plate parameters description.

The following example allows to view or change the TAB "Actuator Data":

- Click "Name Plate", click "Actuator Data"

Figure 41

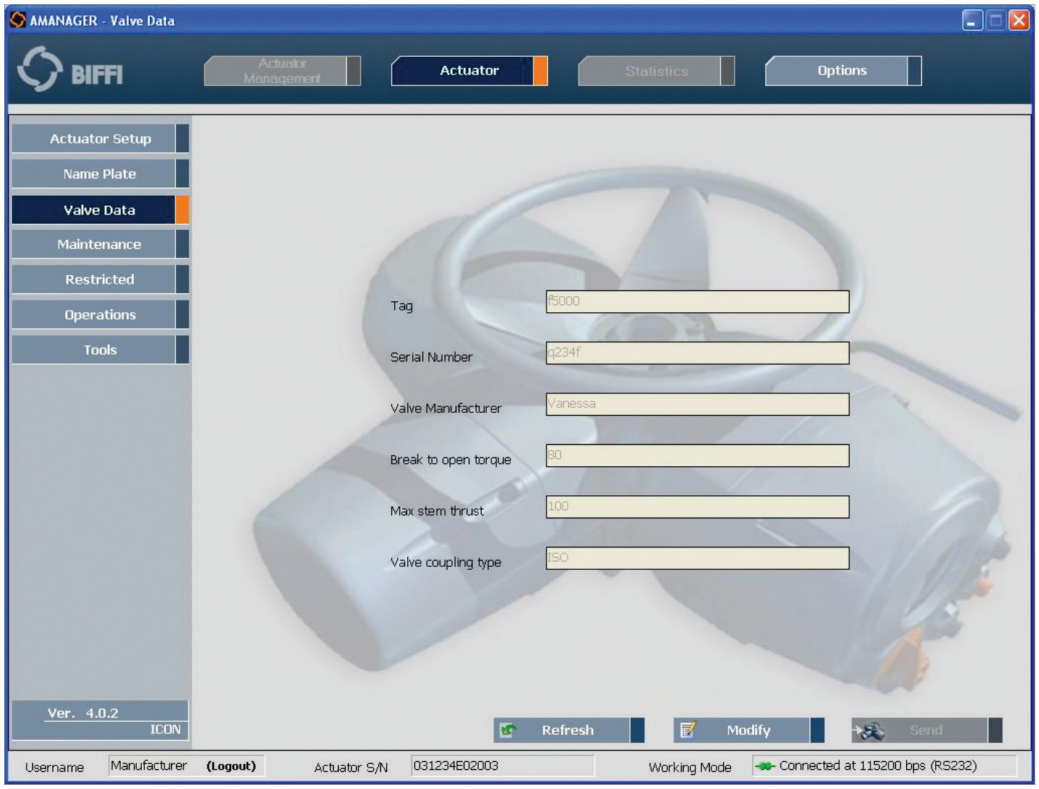


4.2.3 Valve Data

"Valve data" contains the data relevant to the valve and allows to view and modify the above data according to permission of username. Data are grouped in one only TAB (Tag, Serial Number, etc), according to the same organization in the actuator local menu. Use the ICON/F01/EFS 2000 v4 instruction manuals to see valve parameters description.

Click "Valve Data" on the Main Menu. To view the valve data values.

Figure 42

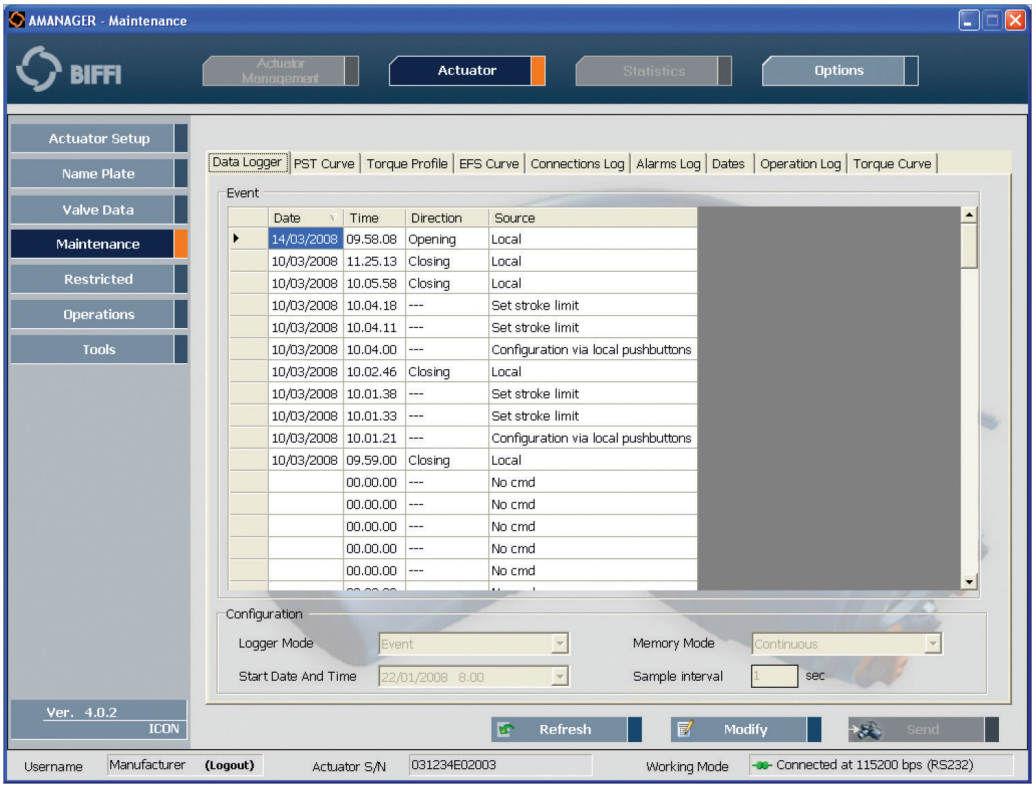


4.2.4 Maintenance

"Maintenance" contains the data relevant to the actuator maintenance and allows to view and modify the above data according to permission of username. Data are grouped in TAB (Data Logger, Alarm Log, Torque Curve, etc), according to the same organization in the actuator local menu. Use the ICON/F01/EFS 2000 v4 instruction manuals to see data description. The following example allows to view or change the "Data Logger":

- Click "Maintenance" and then "Data Logger"

Figure 43



4.2.5 Restricted

"Restricted" contains advanced actuator settings. It is possible to view data, but to modify them is allowed only with Service or Manufacturer username. Data are grouped in TAB (One, Two, etc), according to the same organization in the actuator local menu. The following example allows to view or change the TAB "One":

- Click "Restricted", click "One"

Figure 44

4.2.6 Operation

"Operation" is active only if A-Manager works in "connected" mode and can be used to send commands to actuator and read status and alarm information.

Confirmation is required to enter in this section. To send commands to actuator is available only according to permission of username, if the selector is in LOCAL and if the appropriate actuator setting was done. On the PC screen are present the same information available in the actuator local displays and also the value of the main important variables (torque, speed, voltage, etc.).

The button Output Contacts allows seeing the status of output relays, Monitor relay and Auxiliary relays Asi. The button "Alarm/Warning" allows seeing the list of alarms and warnings. The line of present Alarms and Warnings are red. The button Bus Information allows seeing various data relevant to Bus Interface (if it is present). The button Other Info allows to see various data relevant internal counters, A to D converter, etc. The button "Encoder info" (available only for ICON3000 devices) allows to see various data relevant to the Absolute Encoder. The button Reset Alarm/ Warning allows sending a "reset Alarm and Warning" command to actuator.

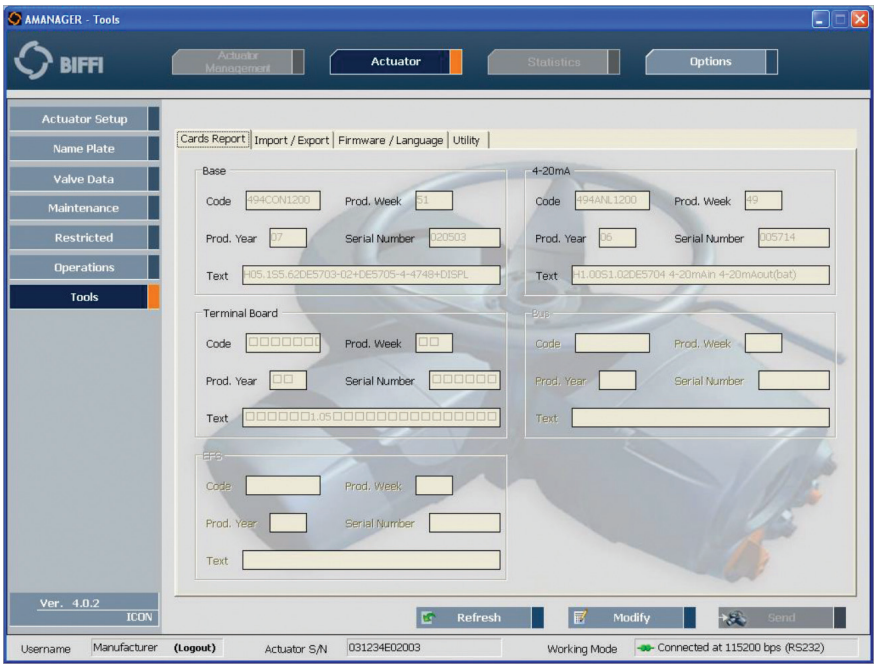
Figure 45

Alarm / warning list

4.2.7 Tools

"Tools" is used to read and write Card Reports. This section also permits to import and export configurations from and to the files, reading and updating actuator firmware and to send various utility commands to actuator. Data are grouped in TAB, Card report, Import/ Export, Firmware/Language, Utility, etc). Availability of the various write operations is according to username permission.

Figure 46



The TAB "Card report" allows seeing information relevant to electronic cards present in the actuator.

The TAB "Import/Export" allows the following:

Export file: in connected mode it allows to read from actuator and save the present set of actuator data in a file. Files are exported with extension *.icon. In disconnected mode the data in the A-Manager application memory are saved.

Export EXCEL: in connected mode it allows to read from actuator and save the complete (or per section) set of actuator data in an EXCEL file. In disconnected mode the data in the A-Manager application memory are exported.

Import file: read the complete (or per section) set of actuator data, previously saved, and then send them or not to actuator. Files previously exported with A-Manager version less than 4.00 (*.set, *.man, *.i4k) need the conversion in files compatible with the version 4.0.0. See Section 7, "A-Manager Conversion tool"

Few data can be written to actuator only in TAB by TAB mode (see Section 4.4.4.2 To write new data to actuator in TAB by TAB mode), and most of maintenance data cannot be written to actuator. See the list of the above data in Section 8.1 "Username profiles and permissions", Table 5 and Table 6

Import file *.pic: import stroke limits data from a file *.pic

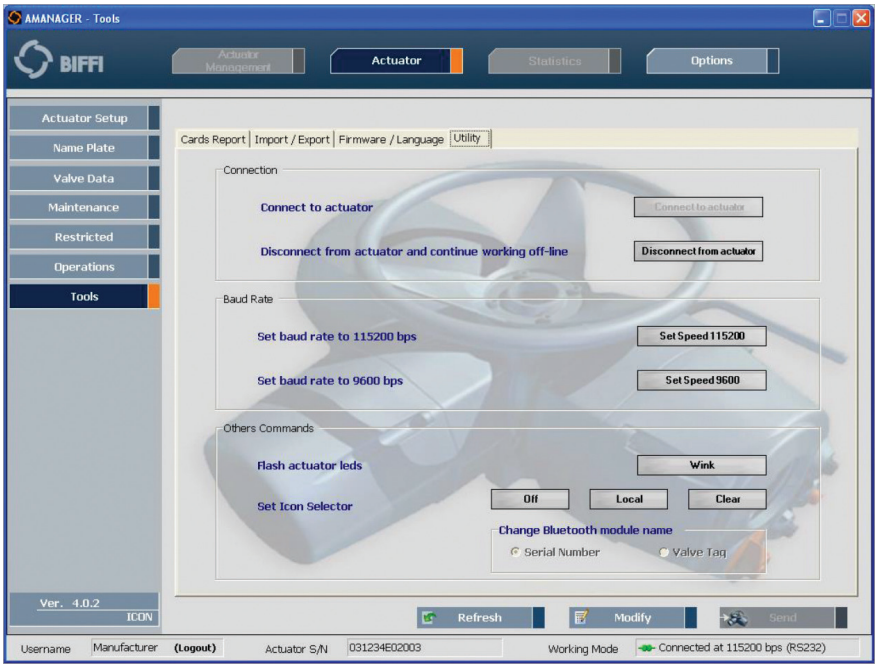
The TAB "Firmware/ Language" allows downloading a new firmware and language file to actuator.

The TAB “Utility” allows the following commands:

- Connect /Disconnect to/from actuator (connected or not connected working mode). In Bluetooth mode, after the disconnection of A-manager from an actuator, it needs to wait at least 30 s. before re-connecting the same actuator.
- Change Baud Rate, see also Section 3.3 Setup
- Wink: in connected mode the command causes the 3 LED’s of actuator to blink
- Set Icon Selector: in connected mode the command allows to virtually change the position of actuator local selector from Local, Off, and Clear. Press Local to move the virtual selector to Local, press Off to move the virtual selector to Off. The control will be restored to real actuator local selector by sending Clear or by closing the communication channel between actuator and PC or by re-powering the actuator.
- Change Bluetooth module name: it allows to change the actuator name (with Bluetooth channel) from actuator serial number to valve tag.

Below is the screen of the TAB “Utility”.

Figure 47



Change Bluetooth module name

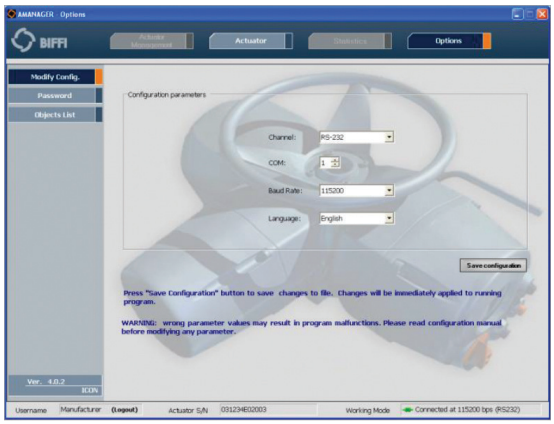
The procedure is the following:

- Click Modify, select Serial Number or Valve Tag and then click Send. If Bluetooth uses the Microsoft driver to update the name it need to exit from A-Manager, reboot the PC or remove and then re-insert the Bluetooth adapter, re-power the actuator and then run again the A-manager. Alternatively use the manual discovery of Bluetooth device.
- If a WIDCOM driver is used the procedure to update depends on the driver type. Refer to instruction manual of driver to update the Bluetooth name.

4.3 Options Environment

The Options environment allows the user to modify the application configuration parameters and passwords management. Three sections are available: Modify Config., Password, Object list.

Figure 48



Modify config: it is used to change the A-Manager settings. The following data can be modified:

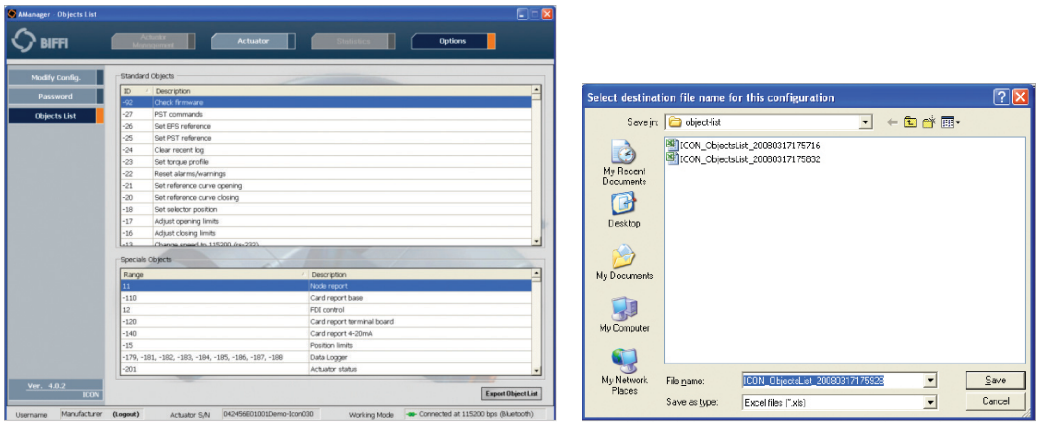
- Communication data: RS-232, Bluetooth™
- COM Port number: the number of the COM port to open
- Connection speed: 9.600 bps or 115.200 bps
- Language Italian or English

Click Save configuration and then EXIT from A-Manager and run the program again.

Password: it allows to change “observer” and “user” passwords. Press “Confirm” to save changes. Changes are applied with no need to restart the application.

Object list. It allows to see the object list number and the description of the object function. Click Export Object list to export in an Excel file. Select folder and name and then click save.

Figure 49

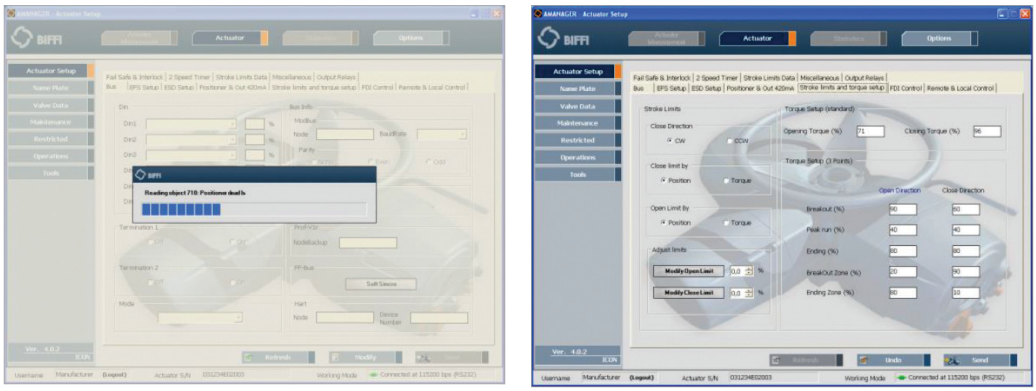


4.4 Examples for ICON / F01 / EFS 2000 v4 / ICON LP / ICON3000

4.4.1 To Modify the Closing Torque Limit

With A-Manager working in connected mode, click Actuator environment, and Actuator Setup section. The A-Manager reads the actuator setup parameters from actuator to A-Manager application program memory.

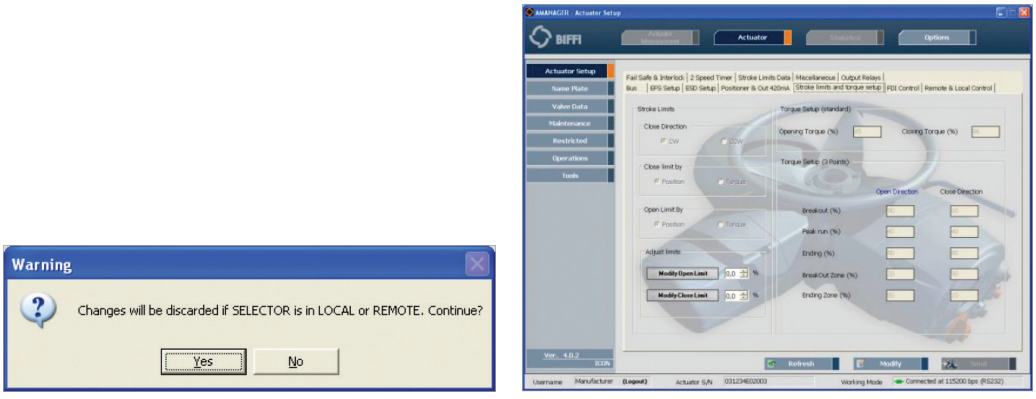
Figure 50



Reading data from actuator is done by object. Click TAB “Stroke limits and Torque setup”, then click “Modify”. The Modify operation is not allowed with username Observer, according to permission profile.

Enter the new closing torque value (85%) and then click Send. A dialog file advice that the new value will not be written in the actuator memory if the local selector is in Local or Remote. Click Yes. “Send” command writes to actuator all data of selected TAB.

Figure 51

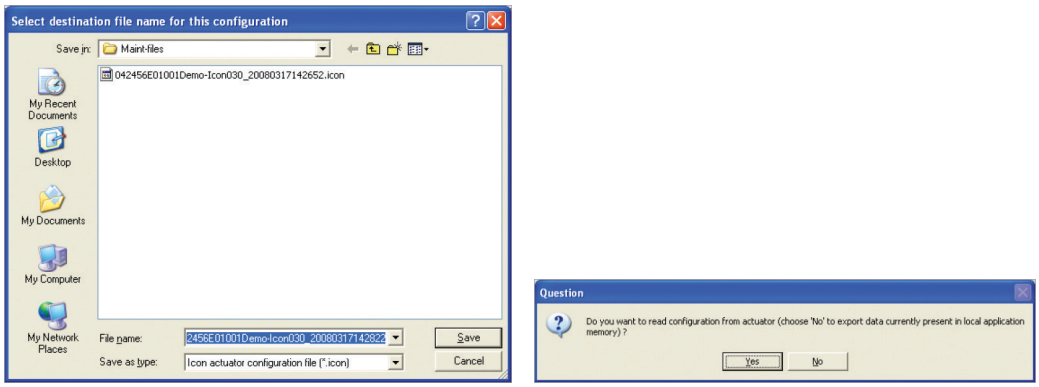


The new value will be sent to actuator and then Modify button disabled. New modify session is available by clicking again “Modify”. Click “Refresh” to check the change has done. Refresh command reads only data of selected TAB.

4.4.2 To Export the Actuator Data to File

In the Actuator environment, Tools section, Import/Export tab, press “Export file”. The following save file dialog will appear.

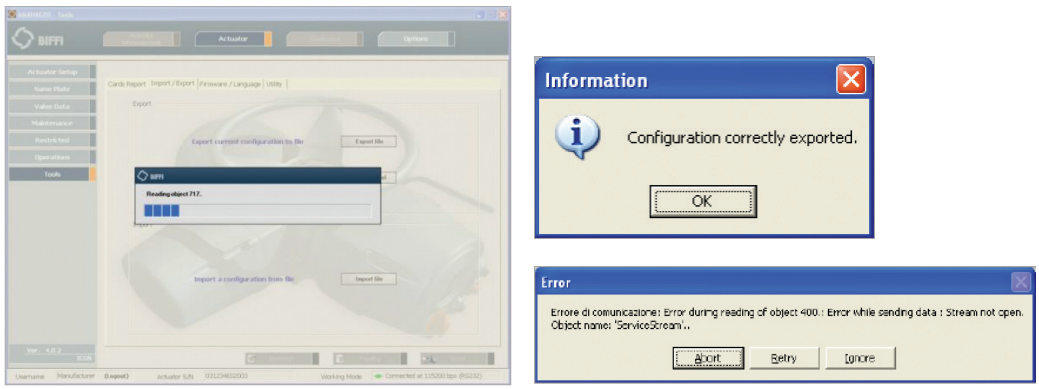
Figure 52



Select destination folder and name of file and press Save. A files with extension *.icon will be created. The proposed name is a string of characters that includes actuator serial number, date and time.

Press YES to read the complete set of data from actuator, Press No to save the data present in the current application memory. It is important to understand the difference: data currently in the application memory could or couldn’t be the same data of the actuator (especially maintenance data can change very often). So, to be sure to export hot actuator data, press “Yes” when asked to read data from actuator.

Figure 53



A message will inform when the export process is complete.

Now the configuration is saved in the specified files. Later it is possible to import this configuration by pressing the “Import file” button.

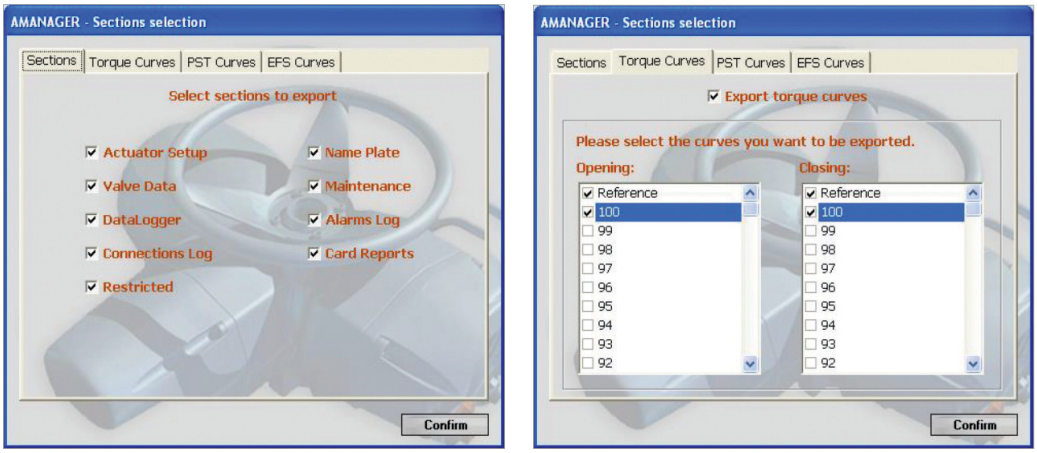
Export data is made by object number. If some data is not correct or out of limits or communication is lost an error message will appears with the Abort, Re-tray, Ignore options. The Object list in the Options environment can help in discovering the incorrect data.

4.4.3 To Export Actuator Data to EXCEL File

The function allows saving in an Excel file the complete or “per section” actuator data.

In the Actuator environment, Tools section, Import/Export tab, press “Export Excel”. The following file dialog appears:

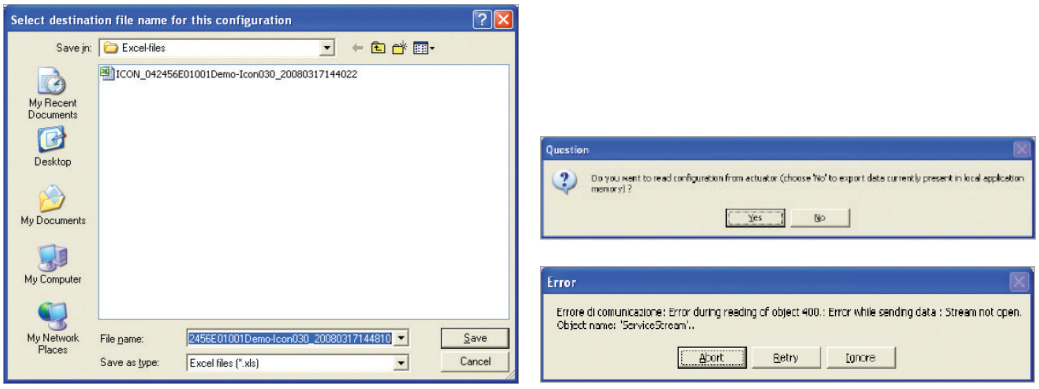
Figure 54



Select the sections to be saved, then move to Torque curves and select curves to be saved. Repeat the procedure with PST curves and EFS curves in case of EFS 2000v4.

Press Confirm. The following file dialog appears.

Figure 55

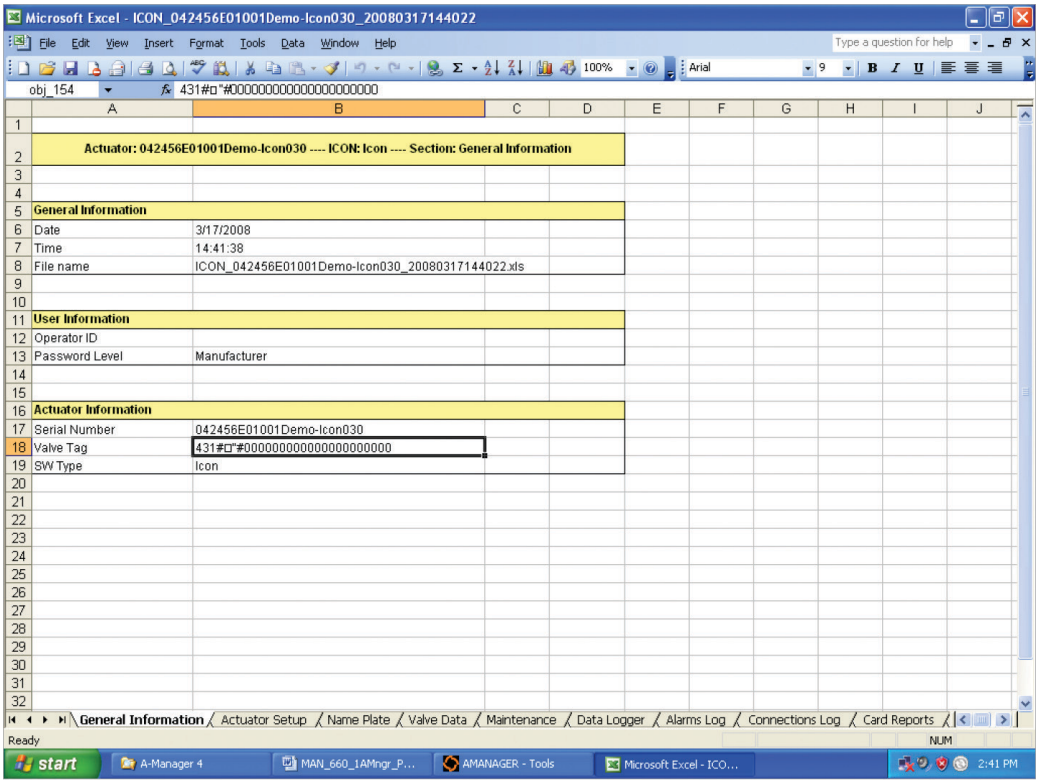


Select destination folder and name of file and press Save. A file with extension *.xls will be created. The proposed name is a string of characters that includes actuator serial number, date and time.

Press YES to read the complete set of data from actuator, Press No to save the data present in the current application memory. It is important to understand the difference: data currently in the application memory could or couldn't be the same data of the actuator (especially maintenance data can change very often). So, to be sure to export hot actuator data, press "Yes" when asked to read data from actuator.

When conversion is finished the new file will be open. Export data is made by object number. If some data is not correct or out of limits an error message will appear with the Abort, Re-tray, Ignore options. The Object list in the Options environment can help in finding the description of incorrect data.

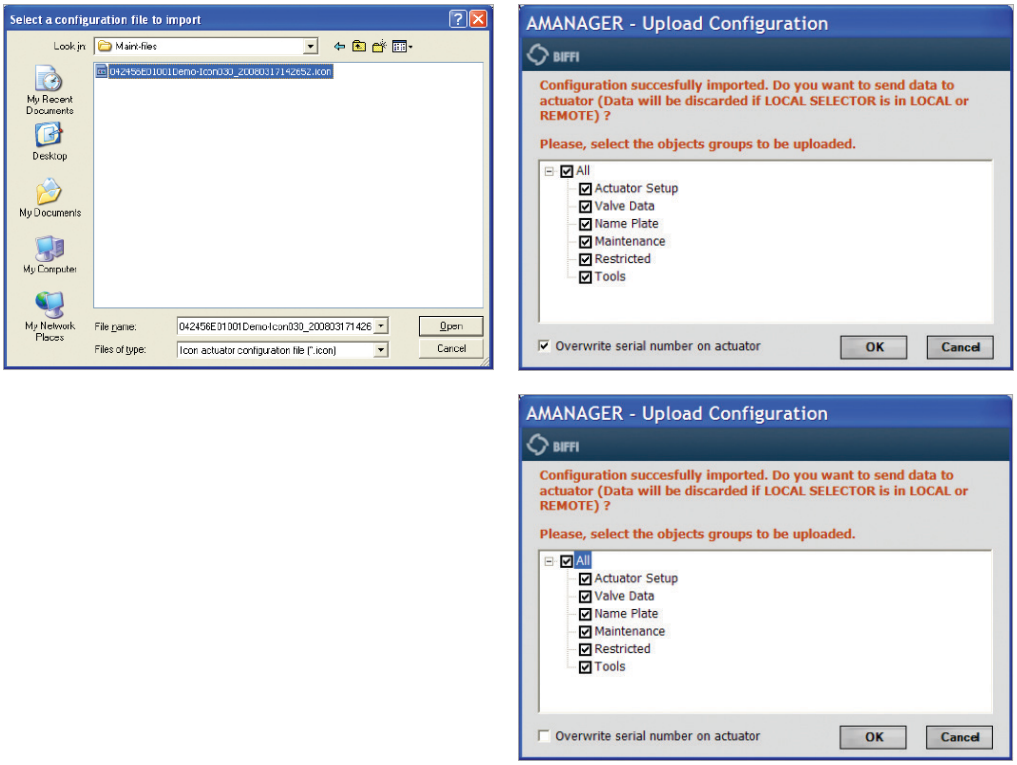
Figure 56



4.4.4 To Import the Actuator Data from File

In the Actuator environment, Tools section, Import/Export tab, press “Import file”. Only files with *.icon extension can be imported. See Section 7, A-Manager Conversion Tool, to import file with different extension. A-Manager can work either in “connected” mode or in “not connected” mode. In “connected” mode the imported data can be sent or modified and then sent to actuator. In “not connected” mode the imported data can be modified and then exported in a new file.

Figure 57



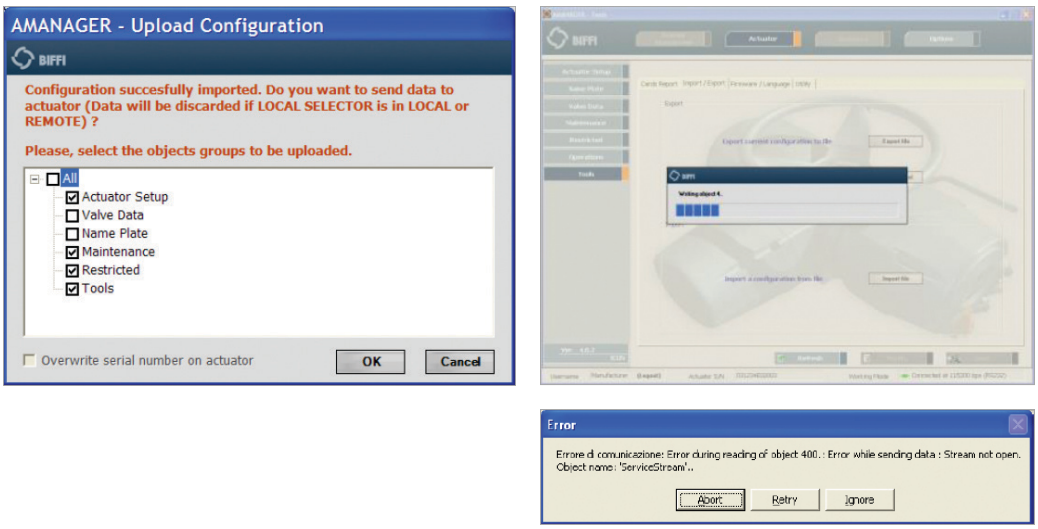
Select the file to be imported and then click Open. Now the actuator data are in application memory of A-Manager.

The above dialog file appears.

Press Cancel if data should not be transferred to actuator or if working mode is “disconnected”

Select the “Section” of data to send to actuator and then press OK. Only “Section” selection is available, sending data of selected TAB is described in the below examples. Selected “Sections” will be sent to actuator only if enabled by the username profile and will be memorized in the actuator memory only if the actuator local selector is in OFF. Select “Name Plate” and “Overwrite serial number on actuator” to change all Name Plate data included “actuator serial number”. Place the actuator local selector in OFF before pressing OK or alternatively change virtually the actuator selector position by the command Change Icon Selector available in Actuator environment, Tools, Utility, according to instructions in Section 4.2.7, Tool. Few data cannot be written to actuator or can be written only in TAB by TAB mode (see Section 8.1, Table 5 and 6).

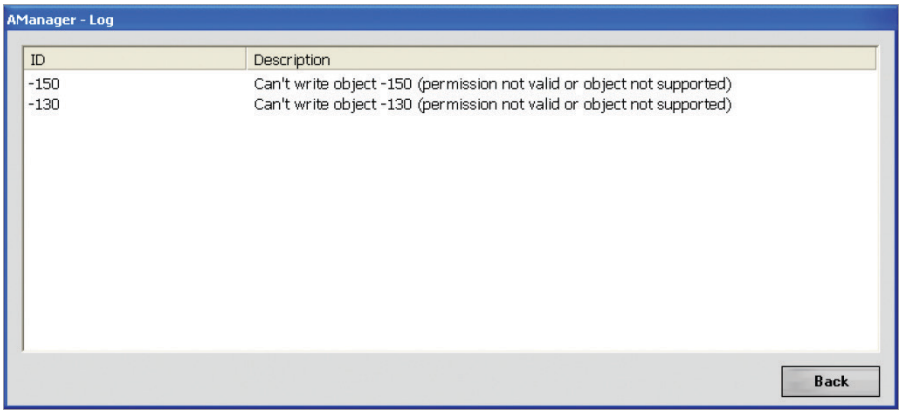
Figure 58



Import data is made by object number. If some data is not correct or out of limits an error message will appear. With the Abort, Re-tray, Ignore options. The Object list in the Options environment can help in finding the description of incorrect data.

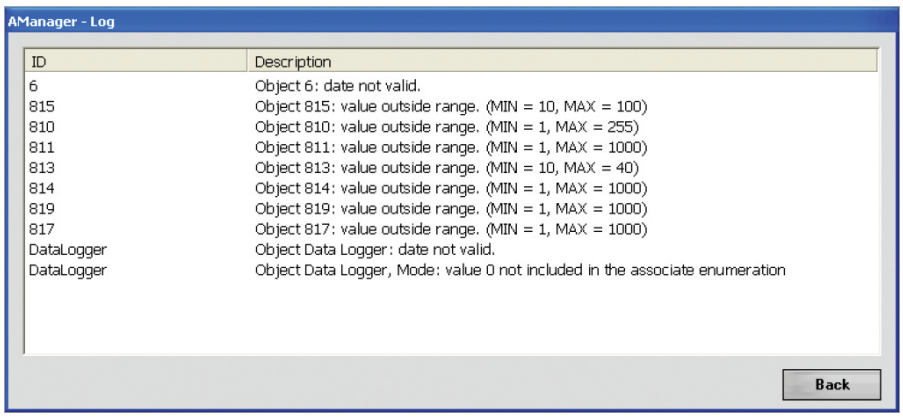
A report is generated if some object is not supported or out of limits.

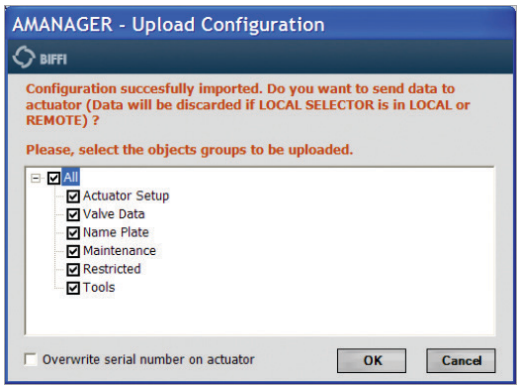
Figure 59



In the above report, the configuration data can be sent to actuator since objects are not supported by actuator

Figure 60





In the above case a lot of objects are out of limits. The suggested procedure is the following:

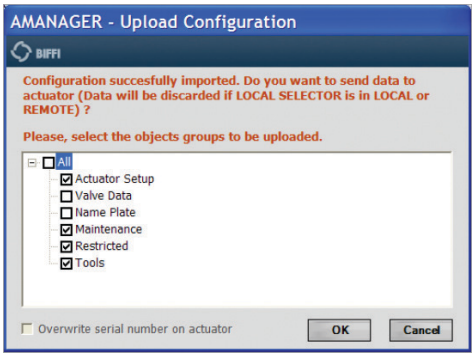
- Click Cancel
- Change to “disconnected” working mode
- By the Object list and using the functions Modify and Send enter the correct values
- Export the correct data in a new *.icon file
- Change to “connected” working mode
- Import the new corrected *.icon file and then download to actuator

4.4.4.1 To Write New Data to Actuator Without Changing Data of One Selected TAB

Export the present actuator configuration in a file “oldname.icon” by the A-Manager Export to file function.

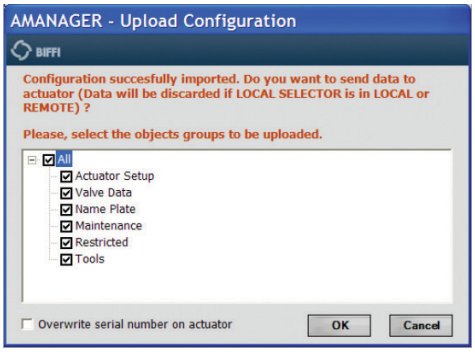
Import the new configuration file *.icon by the A-Manager import function. Select Sections and then click OK to send data to actuator. In the below example, sections “Name Plate” and “Valve Data” will not be written to actuator even if allowed by the username profile and permissions. Click OK to send data to actuator.

Figure 61



Now import the old configuration previously exported and click Cancel.

Figure 62



The old configuration is now present only in the A-Manager application memory. Select the TAB containing the old data to send to actuator (e.g. Actuator environment, Actuator setup section, ESD setup).

Click Modify.

Click Send. Only data of selected TAB (ESD setup) will be sent to actuator.

Exit and then start again the A-Manager.

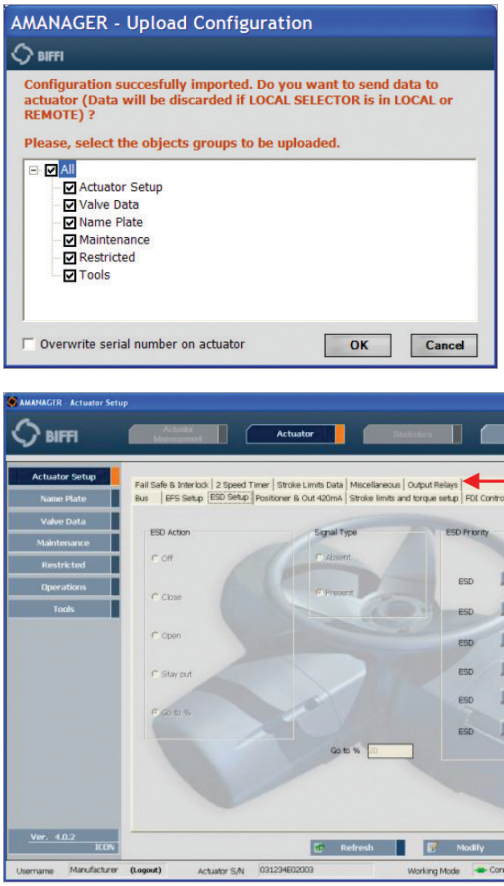
The above example allows writing a new configuration file to actuator without changing the TAB ESD setup and sections Valve data and Name Plate.

4.4.4.2 To Write New Data to Actuator in TAB by TAB Mode

Import the new configuration file *.icon by the A-Manager import function.

Click Cancel to maintain data in the A-Manager application memory.

Figure 63



Write the new data to actuator by the selection of each TAB and then using the command Modify and Send for each TAB.

4.4.4.3 To Copy All Data from One Logic Card to Another One

The following procedure works only with username Service or Manufacturer.
With username Service only the “card report” TAB will not written to actuator.

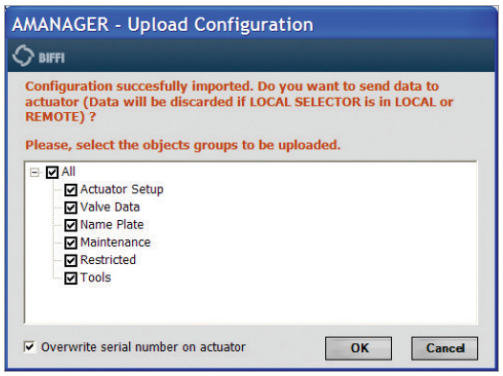
Place the actuator in fully open or closed position.

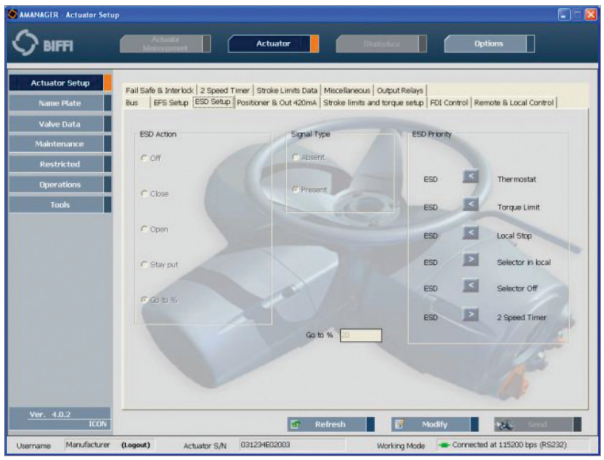
Export the present actuator configuration in a file *.icon by the A-Manager Export to file function.

Exit from A-manager. Remove the logic card from actuator and install a new one.
Start again A-Manager.

Import the previously exported file.

Figure 64





Select all sections and click OK to write data to actuator.

Now it needs to write to actuator the data writable only in TAB by TAB mode (see Section 4.4.2 and Section 8.1 Table 5 and 6 “Username profiles and permissions”).

Now the new logic card has the same data of the old one, also stroke limits are the same.

Use “Restore” 0% or 100% command to set the present actuator position (fully open or closed).

The above procedure can be performed only with username “Service” or “Manufacturer”.

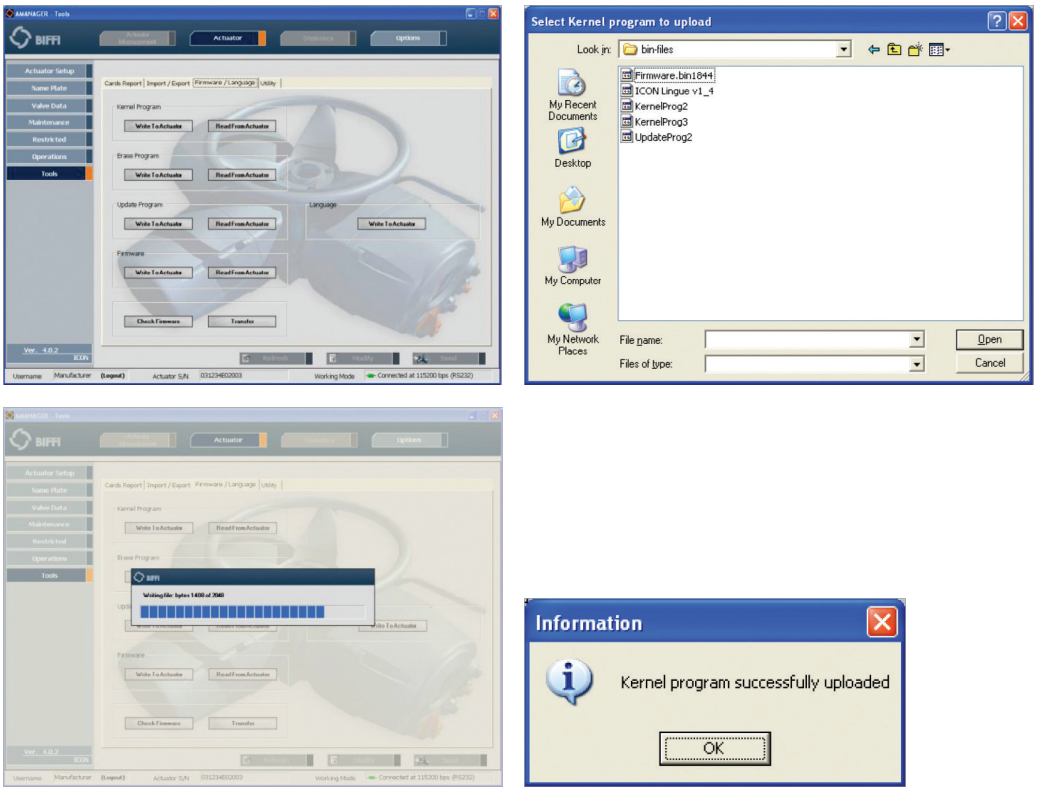
4.4.5 To Download a New Firmware / Language to Actuator

The function can be used only in “connected” mode and allows downloading a new firmware and language to actuator. The files to write in the actuator memory should have *.bin extension.

- New Firmware download

In Actuator environment, click section Tool. Click Tab “Firmware/language”. In Kernel program click “Write To Actuator”. Select folder and “Kernel” file, then click Open. File will be downloaded to actuator.

Figure 65



Repeat the procedure to write to actuator flash memory the files “Erase”, “Update” and “Firmware”. Click Check Firmware to verify the data are correct. Click Transfer to initiate transferring the new firmware from actuator flash memory to the actuator program memory”. When the operation ends it needs to re-power the actuator. Also, it need to close the A-Manager program and restart it again.

- New Language download

Use the same procedure to download a new language.

Click section Tool. Click “Language”. Select folder and language file. File will be downloaded to actuator.

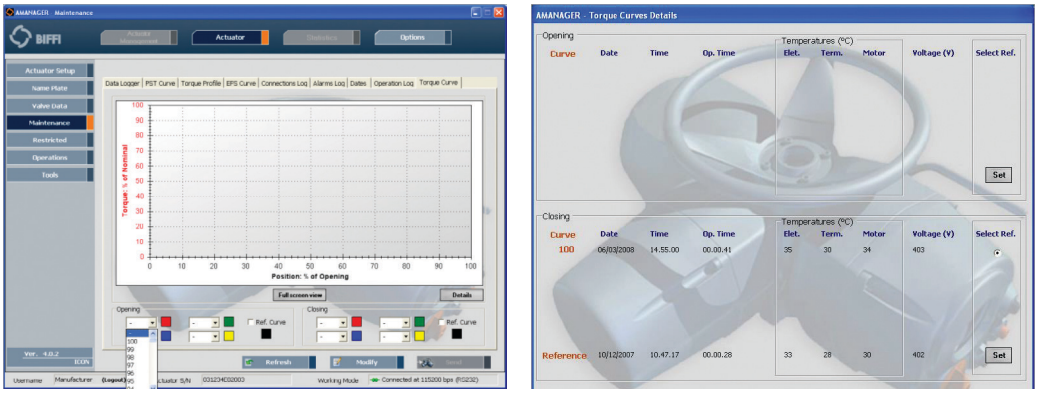
Downloading firmware and language can require few minutes.

4.4.6 To View Torque / PST / EFS Curves

In “connected” mode the function allows to view the torque curve memorized in the actuator memory. In “not connected” mode the function allows to view the torque curves previously saved in a file by means of the “Export file” function. So, in “not connected” mode it needs to use the “Import file” option before viewing the torque curves.

In Actuator environment and Maintenance section click TAB “Torque curves”.
Select curves to view.

Figure 66



Click Details to view details of the selected curves. Select Details also to set the “reference curves”, (signature). Click Full Screen View to utilize the full screen. Right click of mouse to print and save as images the curves.

Figure 67

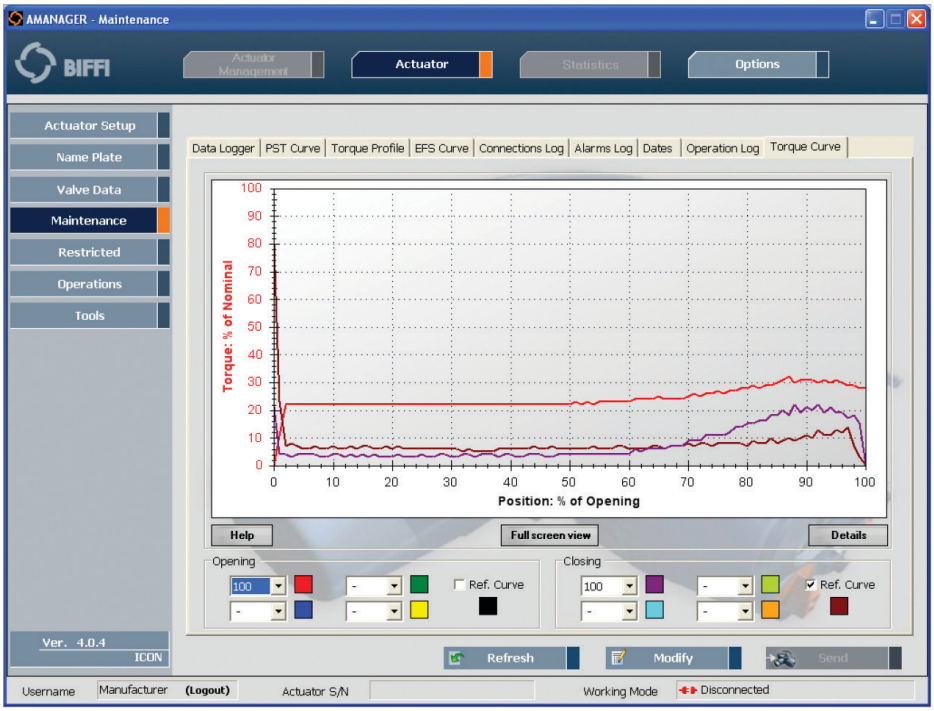


Figure 68

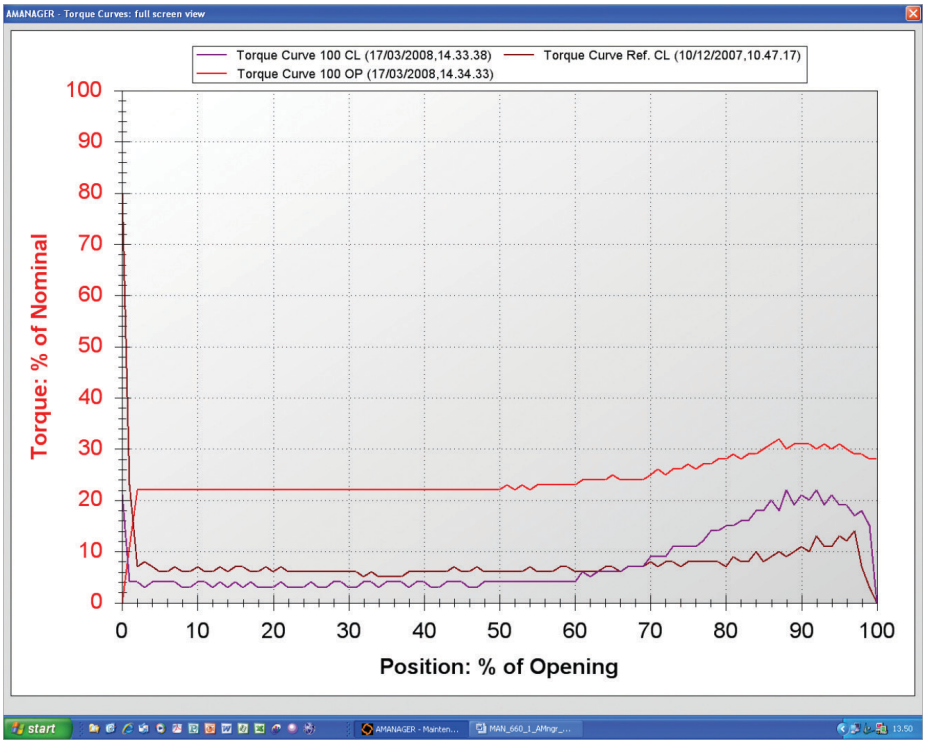
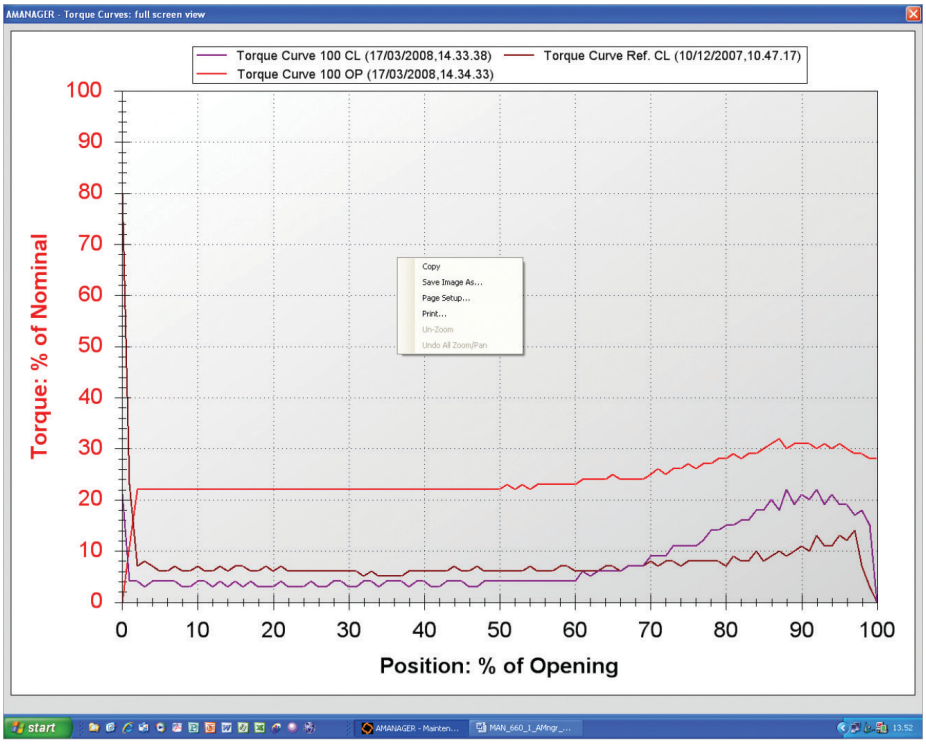


Figure 69



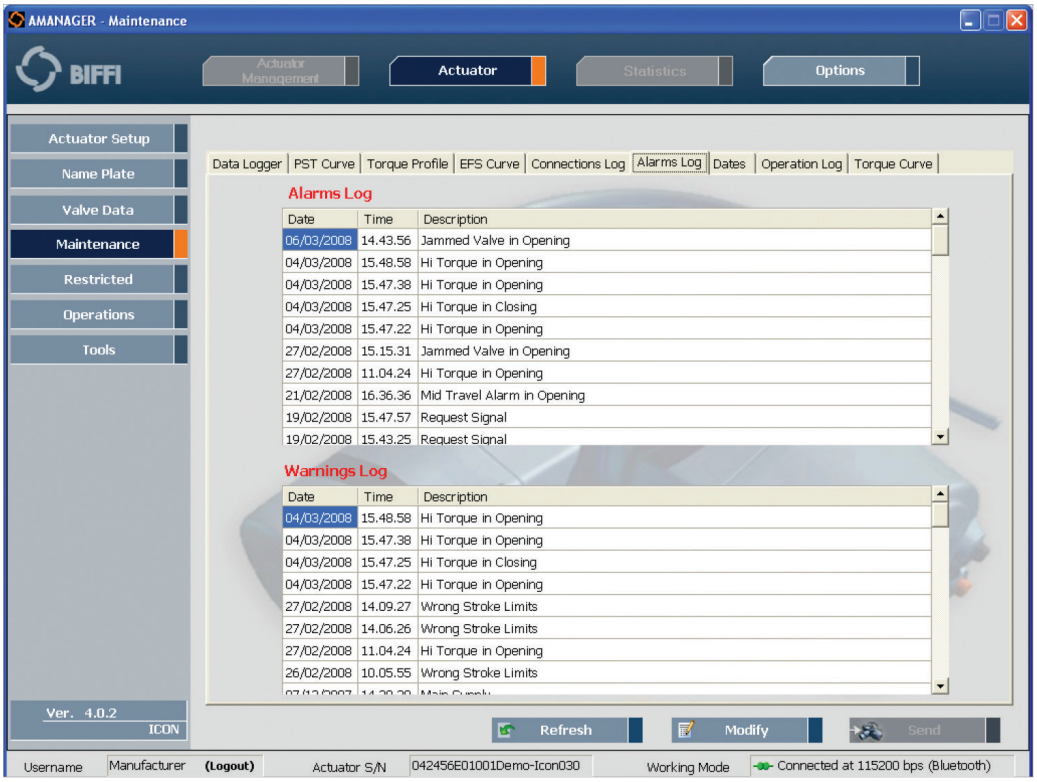
Use the same procedure to view PST and EFS curves in case of EFS actuators.

4.4.7 To View Alarm Logger

In “connected” mode the function allows to view the alarm log memorized in the actuator memory. In “not connected” mode the function allows to view the alarm logger previously saved in a file by means of the “Export file” function. So in “not connected” mode it needs to use the “Import file” option before viewing the logger.

In Actuator environment and Maintenance section click TAB “Alarm log”.

Figure 70



See ICON/F01/EFS/ICON LP/ICON3000 instruction manual for alarm and warning description.

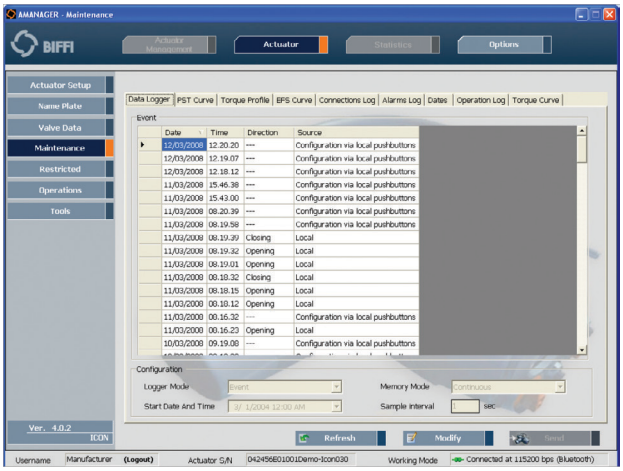
4.4.8 To View Data Logger

In “connected” mode the function allows to view the data logger memorized in the actuator memory. In “not connected” mode the function allows to view the data logger previously saved in a file by means of the “Export file” function. So in “not connected” mode it needs to use the “Import file” option before viewing the data.

In Actuator environment and Maintenance section click TAB “Data Logger”.

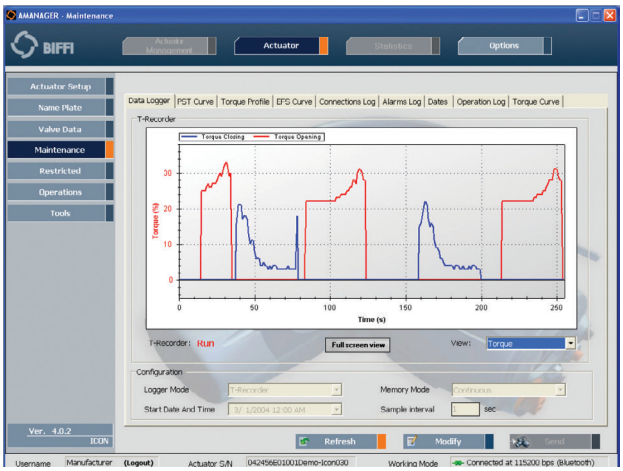
The following figure shows the data logger in “Event” mode.

Figure 71



The following figure shows the data logger in “T-recorder” mode.

Figure 72



T-logger stops recording in case of torque alarm. The last 256 samples remain in the actuator memory until a new start of logger (by Modify and Send).

See ICON/F01/EFS/ICON LP/ICON3000 instruction manual for data logger description.

Section 5 A-Manager for F02 (EPI2)

5.1 User Interface

The user interface is organized in environments and sections. Environments are grouped in the horizontal navigation bar on the top of the screen. Each environment contains sections that are listed in the vertical navigation bar on the left. At present two environments are available: Actuator and Options.

The following sections are available in each environment:

Environment	Actuator
SECTION	Actuator Setup
	Operations
	Tools

Environment	Options
SECTION	Modify Config
	Password
	Object List

Actuator Setup: It contains actuator configuration settings

Operations: It is used to remotely send commands to actuator and to read status and alarm information;

Tools: This section permits to import and export configurations from and to files and to send various utility commands to actuator

Modify config: Only language can be changed since the only communication channel available in F02 actuator is Bluetooth

Password: It allows to change “observer” and “user” password

Object list: It allows to see the object list number and the description of the object function

If username is not enabled to access to a particular a section or environment, the relative button will be disabled.

Sections are organized in TAB’s. Each TAB contains a subset of information that can be read from and written to the actuator.

Once Environment and Section are selected, click TAB of data to be viewed.

Figure 73

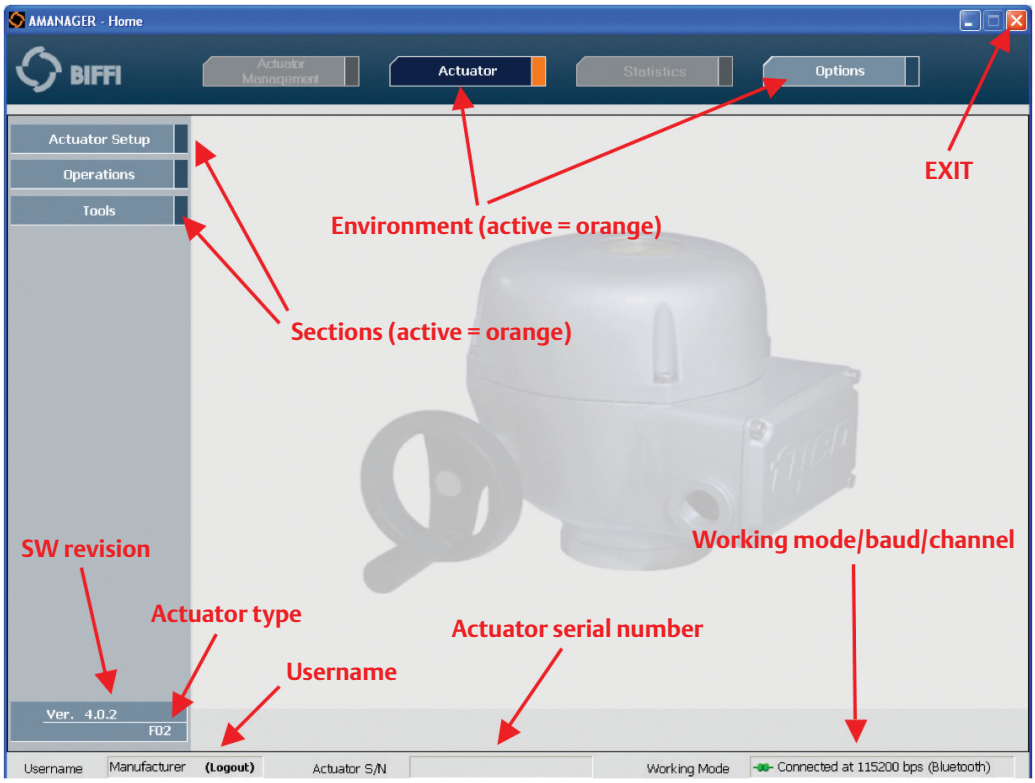
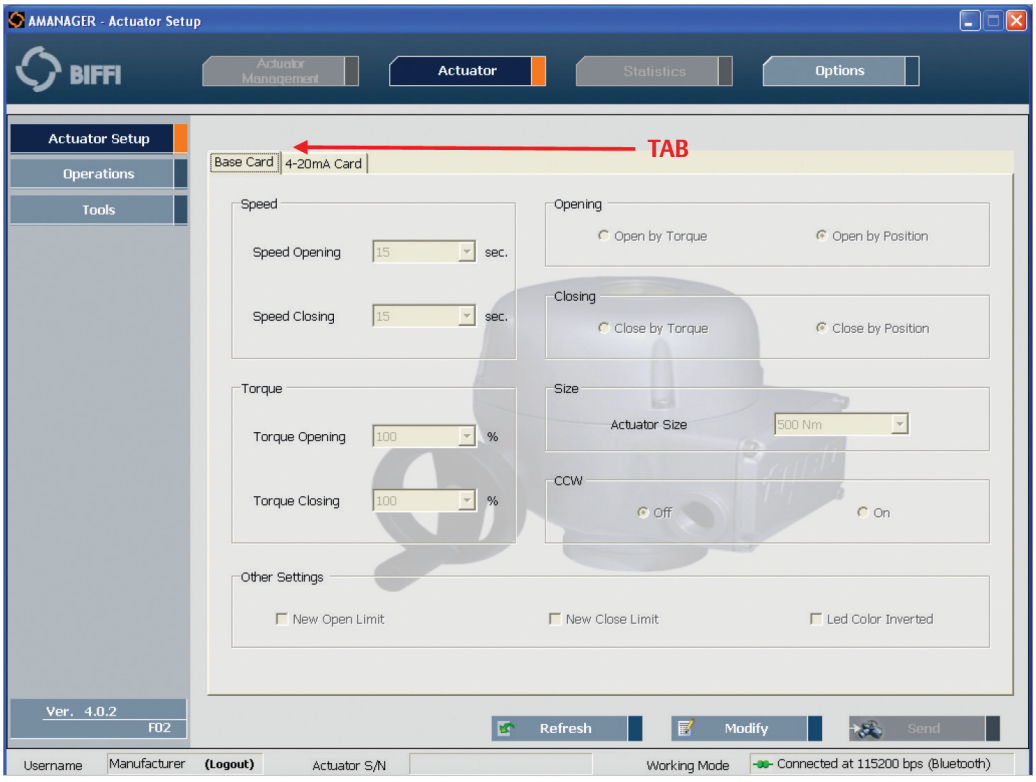


Figure 74



5.2 Actuator Environment

The Actuator Environment contains information about configuration settings and actuator management.

Click Actuator to select the environment.

Click the Section to view. If the A-Manger works in “connected” mode, the data of the section are read from actuator. Click the TAB to view the data on the PC screen. Use button Refresh to read again all data of selected TAB. Use button Modify to activate the “modify data” option. Modify the data in the selected TAB and then click Send to send all data of selected TAB to actuator or click Undo if data should not be changed. Only data of the selected Tab will be sent to actuator. In Observer username the option Modify is disabled. In “disconnected” mode, Modify and Send can be used to change values of parameter of previously imported file. The modified data can only be saved by the export file/excel functions.

5.2.1 Actuator Setup

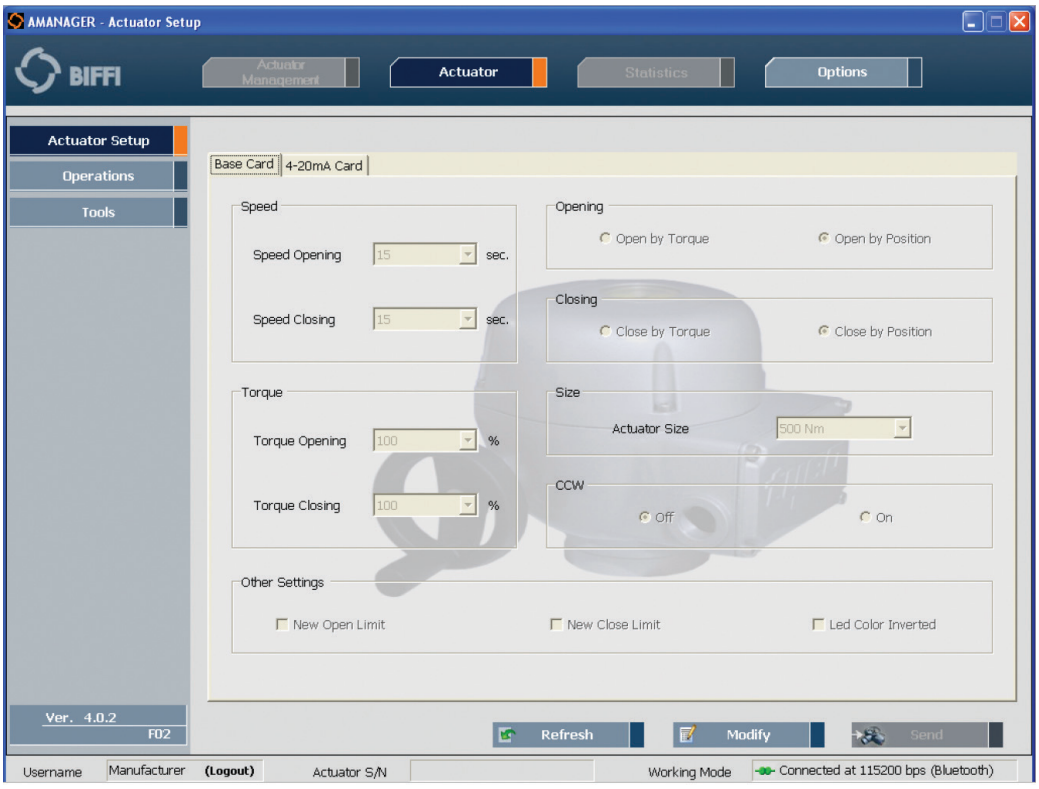
“Actuator Setup” contains the actuator settings and allows to view and modify the configuration of actuator according to permission of username.

Data are grouped in TAB (Base Card, 4 - 20 mA Card, bus card, etc). If card is not present in the actuator, the relevant TAB is not shown. Use the F02 (EPI2) instruction manuals to configure the actuators parameters.

The following example allows to view or change Base card parameters:

- Click “Actuator Setup”, click “Base card”.

Figure 75



5.2.2 Operation

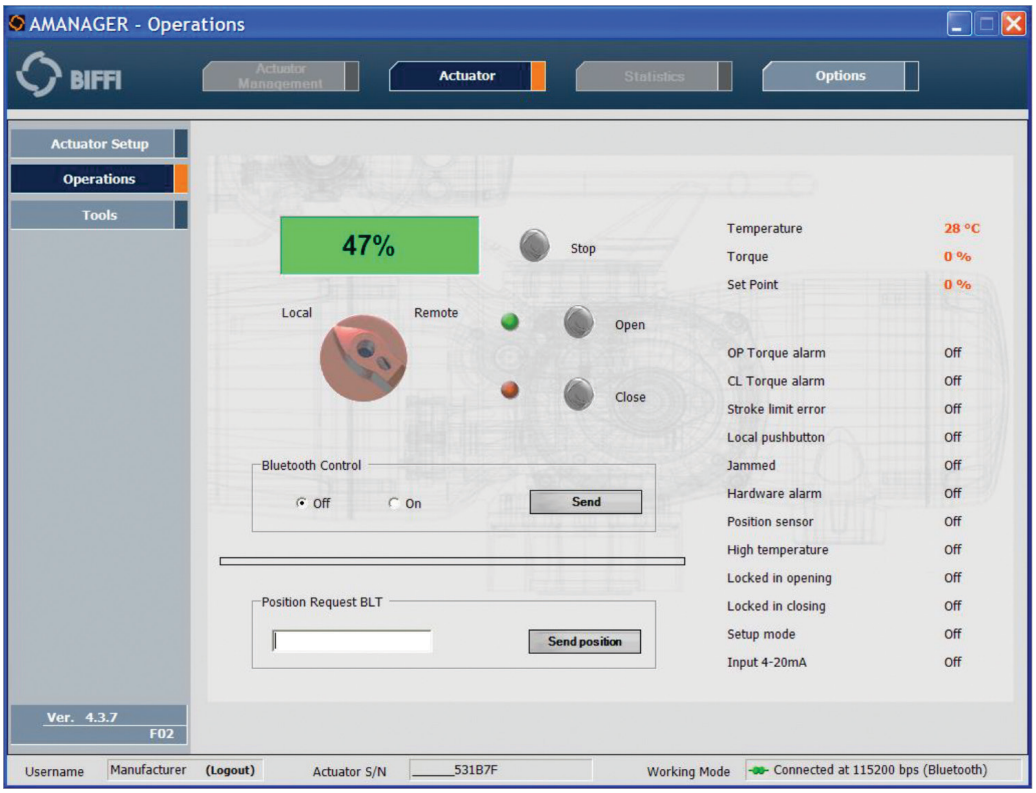
"Operation" is active only if A-Manager works in "connected" mode and can be used to send commands to actuator and read status and alarm information.

Confirmation is required to enter in this section. To send commands to actuator is available only according to permission of username. On the PC screen appears the actuator position, torque and temperature and the list of alarms.

Click "On" and then "Send" to enable control by PC via Bluetooth. Click Open/Close/Stop to control the actuator.

If actuator is provided with 4 - 20 mA card and positioning function set the percentage of position request and then click Send.

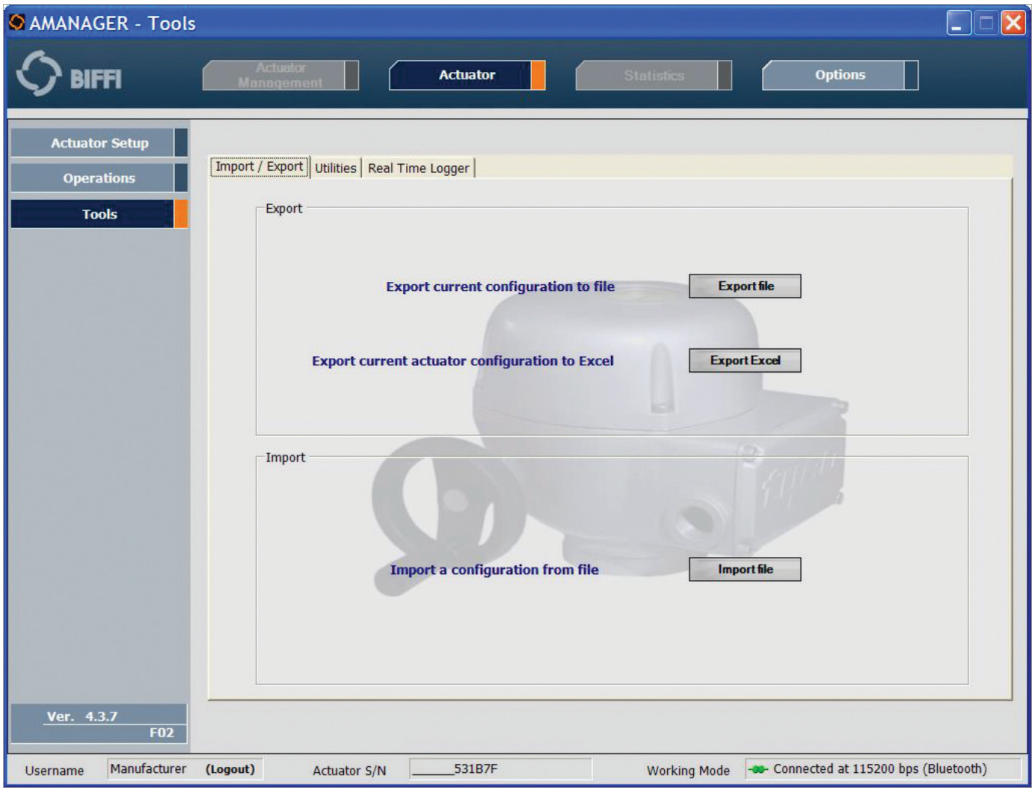
Figure 76



5.2.3 Tools

This section permits to import and export configurations from and to files, connection / disconnection from actuator and to change the Bluetooth module name. Data are grouped in two TABs (Import/Export, Utility). Availability of the write operations is according to username permission.

Figure 77



The TAB “Import/Export” allows the following:

Export file: in connected mode it allows to read from actuator and save the present set of actuator data in a file. Files are exported with extension *.f02. In disconnected mode the data in the A-Manager application memory are saved.

Export EXCEL: in connected mode it allows to read from actuator and save the complete (or per section) set of actuator data in an EXCEL file. In disconnected mode the data in the A-Manager application memory are saved.

Import file: read the complete (or per section) set of actuator data, previously saved, and then send them or not to actuator. To send and modify data is not allowed in Observer username. Files previously exported with A-Manager version less than 4.00 (*.set, *.man) need the conversion in files compatible with the version 4.0.0. See Section 7 “A-Manager Conversion Tool”.

Few data cannot be written to actuator. See the list of the above data in Section 8.1 “Username profiles and permissions”, Table 7.

The TAB “Utility” allows the following commands:

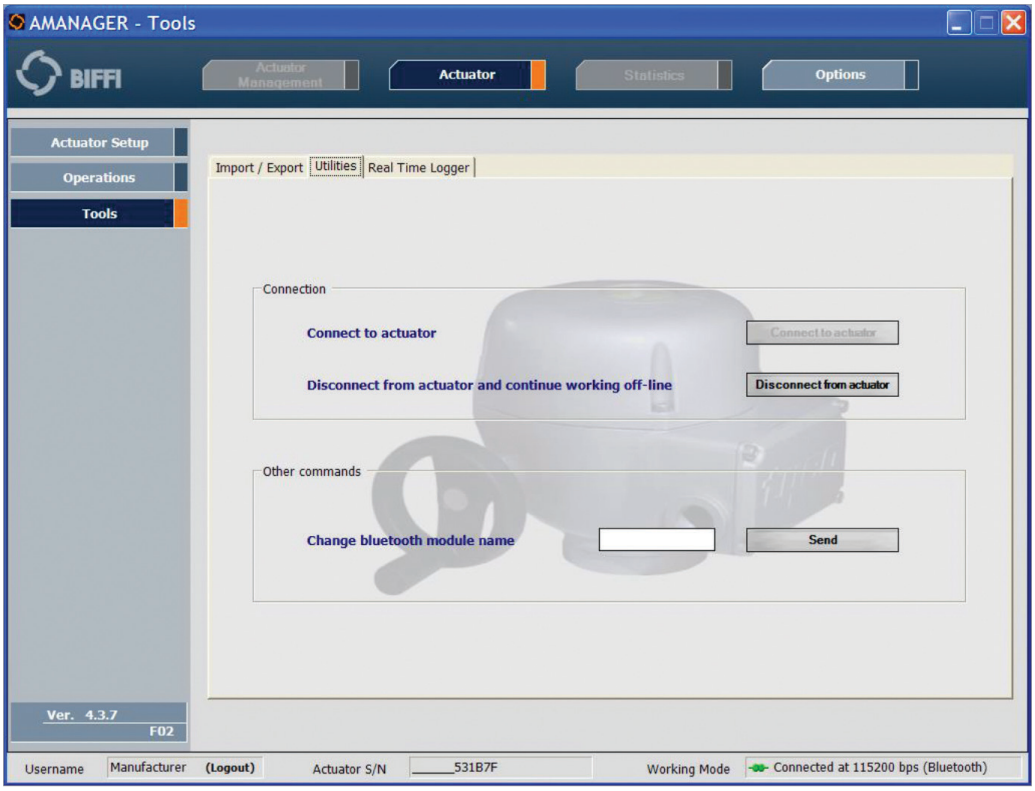
Connect/Disconnect to/from actuator (connected or not connected working mode). After the disconnection of A-manager from an actuator, it needs to wait at least 30 s. before re-connecting the same actuator.

Change Bluetooth module name: it allows to change the actuator name (with Bluetooth channel).

The TAB “Real Time Logger” is not available, it is a function used for special test in factory

Below is the screen of the TAB “Utility”.

Figure 78



Change Bluetooth module name

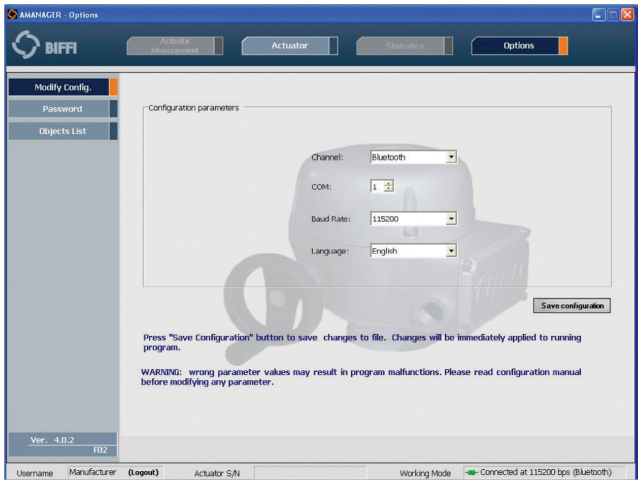
The procedure is the following:

- Enter the new name and then click Send. If Bluetooth uses the Microsoft driver to update the name it need to exit from A-Manager, reboot the PC or remove and then re-insert the Bluetooth adapter, re-power the actuator and then run again the A-manager. Alternatively use the manual discovery of Bluetooth device to update internal cash memory of PC.
- If a WIDCOM driver is used the procedure to update depends on the driver type. Refer to instruction manual of driver to update the Bluetooth name.

5.3 Options Environment

The Options environment allows the user to modify the application configuration parameters and passwords management. Three sections are available: Modify Config, Password, Object list

Figure 79

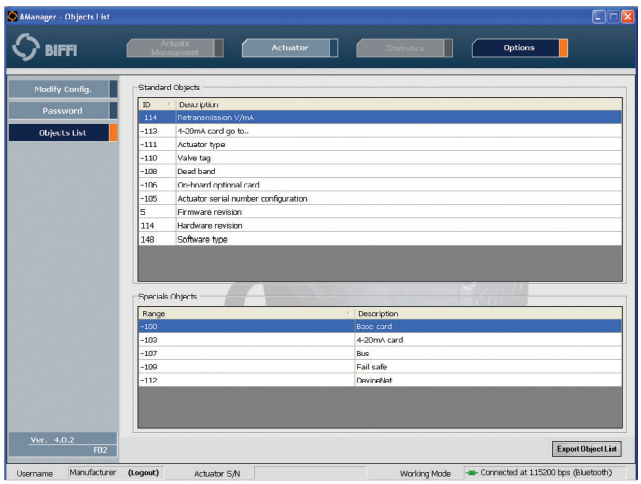


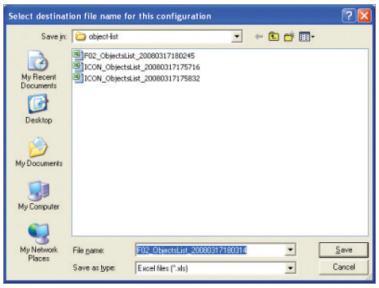
Modify config: It allows only to change the language, Italian or English. In fact, on F02 actuator only Bluetooth channel is available. Click “Save configuration” and then EXIT from A-Manager and run the program again.

Password: It allows to change “observer” and “user” passwords. Press “Confirm” to save changes. Changes are applied with no need to restart the application.

Object list: It allows to see the object list number and the description of the object function. Click Export Object list to export in an Excel file. Select folder and name and then click Save.

Figure 80



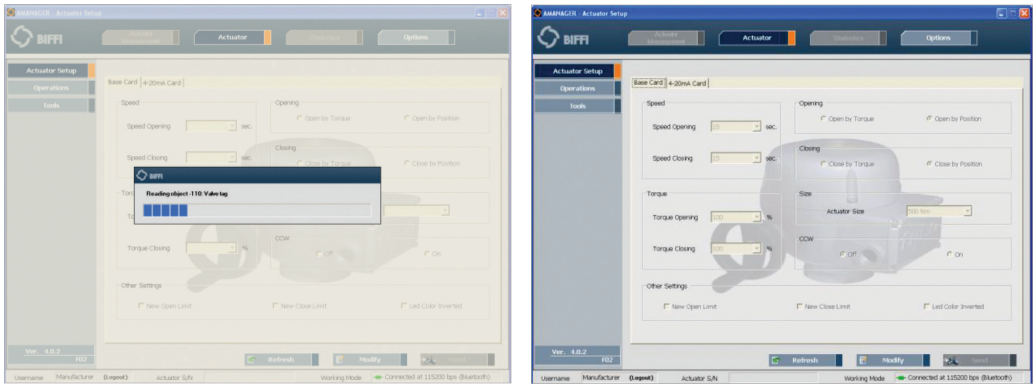


5.4 Examples for F02 (EPI2)

5.4.1 To Modify the Opening Torque Limit

With A-Manager working in connected mode, click Actuator environment, and Actuator Setup section. The A-Manager reads the actuator setup parameters from actuator.

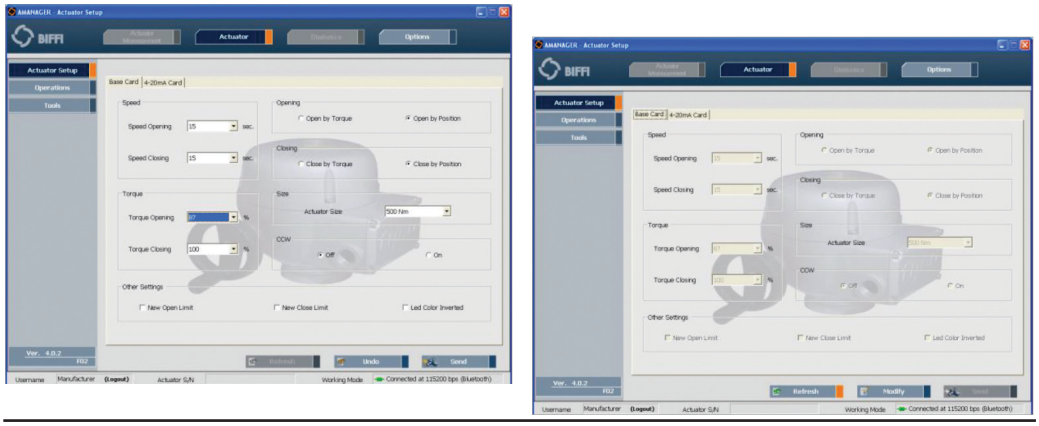
Figure 81



Reading data from actuator is done by object. Click TAB “Base Card”, then click “Modify”. The Modify operation is not allowed with username Observer, according to permission profile.

Enter the new opening torque value (87%) and then click Send.

Figure 82

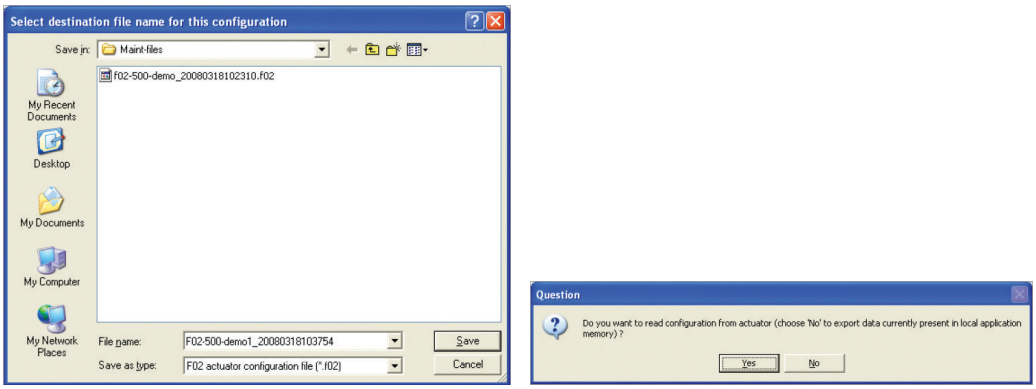


The new value will be sent to actuator and then Modify button disabled. New modify session is available by clicking again “Modify”. Click “Refresh” to check the change has done.

5.4.2 To Export the Actuator Data to File

In the Actuator environment, Tools section, Import/Export tab, press “Export file”. The following save file dialog will appear.

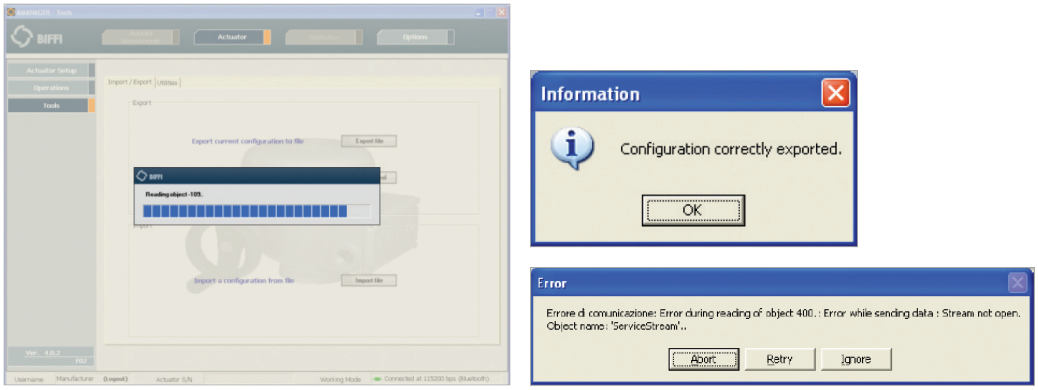
Figure 83



Select destination folder and name of file and press Save. A files with extension *.f02 will be created. The proposed name is a string of characters that includes actuator type, date and time.

Press YES to read the complete set of data from actuator, Press No to save the data present in the current application memory. It is important to understand the difference: data currently in the application memory could or couldn’t be the same data of the actuator (especially maintenance data can change very often). So, to be sure to export hot actuator data, press “Yes” when asked to read data from actuator.

Figure 84



A message will inform you when the export process is complete.

Now the configuration is saved in the specified files. Later it is possible to import this configuration by pressing the “Import file” button.

Export data is made by object number. If some data is not correct or out of limits or communication is lost, an error message will appear with the Abort, Re-tray, Ignore options. The Object list in the Options environment will help in finding the description of the incorrect data.

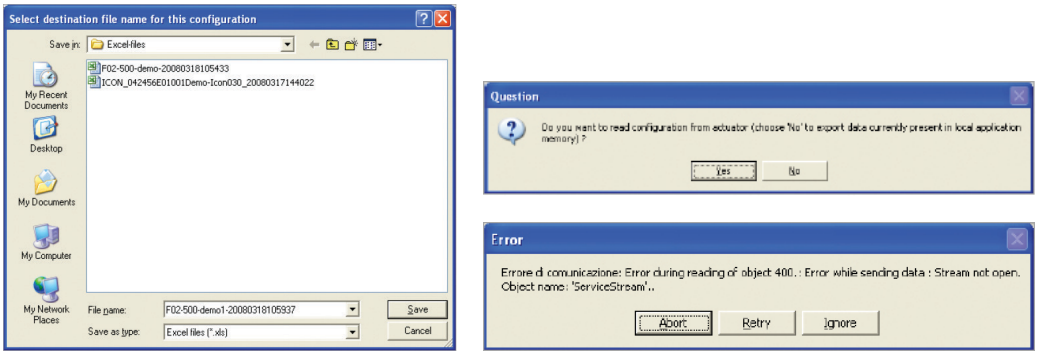
5.4.3 To Export the Actuator Data to EXCEL File

The function allows saving in an Excel file the complete actuator data.

In the Actuator environment, Tools section, Import/Export tab, press “Export Excel”.

The following file dialog appears. Select destination folder and name of file and press Save. A file with extension *.xls will be created. The proposed name is a string of characters that includes actuator type, date and time.

Figure 85

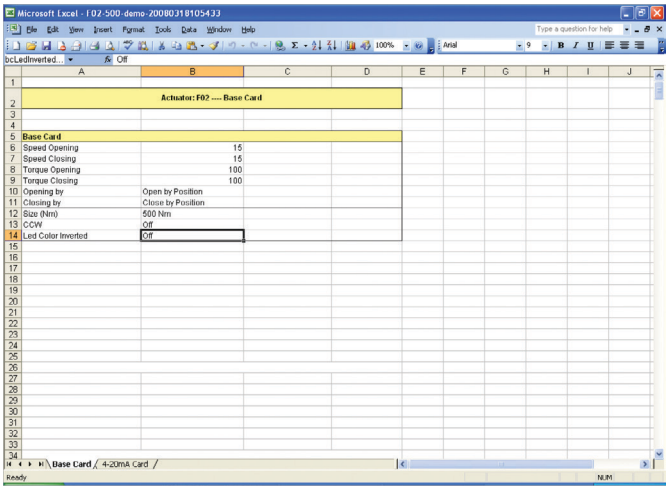


Press YES to read the complete set of data from actuator, Press No to save the data present in the current application memory. It is important to understand the difference: data currently in the application memory could or couldn’t be the same data of the actuator (especially maintenance data can change very often). So, to be sure to export hot actuator data, press “Yes” when asked to read data from actuator.

When conversion is finished the new file will be open.

Export data is made by object number. If some data is not correct or out of limits an error message will appears with the Abort, Re-tray, Ignore options. The Object list in the Options environment will help in finding the description of incorrect data.

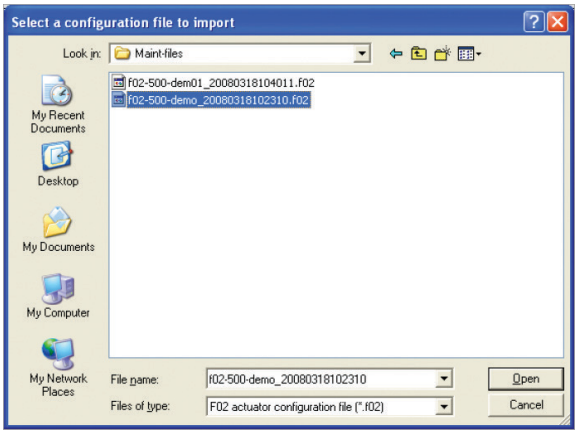
Figure 86

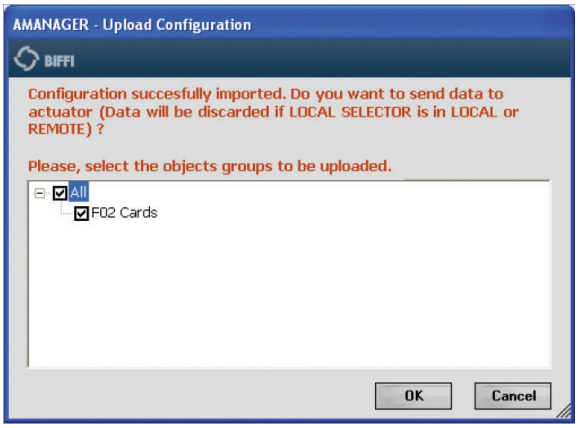


5.4.4 To Import the Actuator Data from File

In the Actuator environment, Tools section, Import/Export tab, press “Import file”. Only files with *.f02 extension can be imported. See Section 7, A-Manager Conversion Tool, to import file with different extension. A-manager can work either in “connected” mode or in “not connected” mode. In “connected” mode the imported data can be sent or modified and then sent to actuator. In “not connected” mode the imported data can be modified and then exported in a new file.

Figure 87

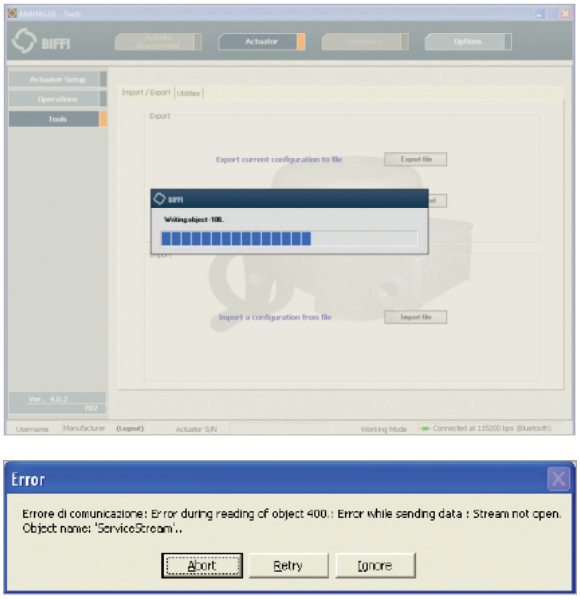




Select the file to be imported and then click Open. Now the actuator data are in application memory of A-Manager.

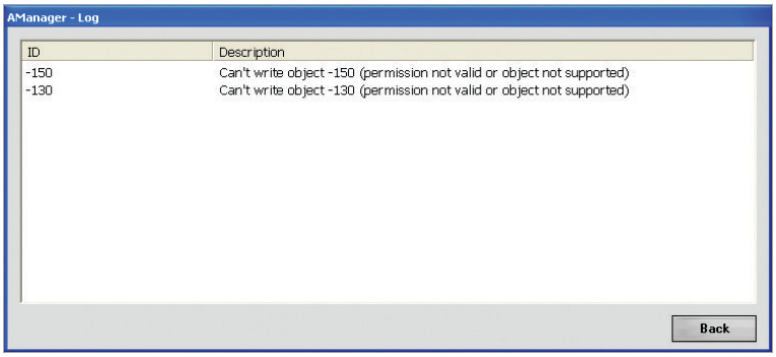
Select the group of data to send to actuator and then press OK or alternatively press Cancel if data should not be written to actuator or if A-Manager works in “disconnected” mode. Selected data will be sent to actuator only if enabled by the username profile and will be memorized in the actuator memory.

Figure 88



Import data is made by object number. If some data is not correct or out of limits an error message will appears. With the Abort, Re-tray, Ignore options. The Object list in the Options environment can help in discovering the incorrect data A report is generated if some object is not supported or out of limits.

Figure 89



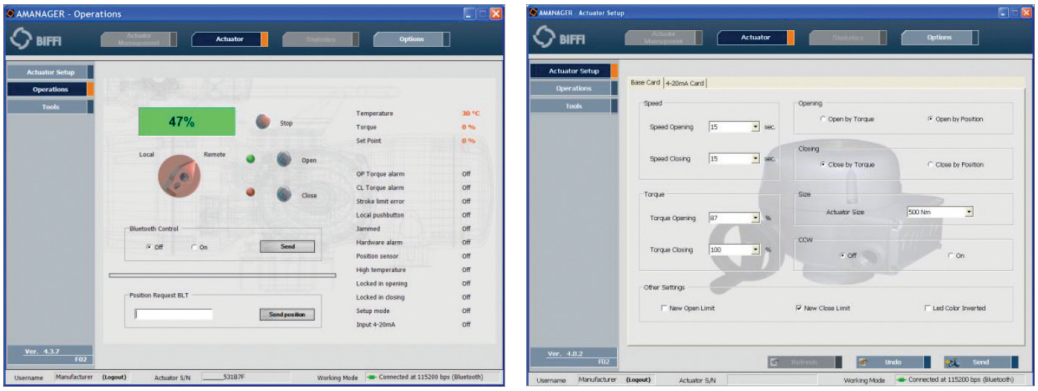
5.4.5 To Set New Stroke Limits in Closure

Disable position request (OFF) in the optional module (if it is present).

5.4.5.1 Closure by Torque

In actuator environment, Operation section, click ON the Bluetooth controls and then click Send. Click Open / Close / Stop to move the actuator in intermediate position, about 50%.

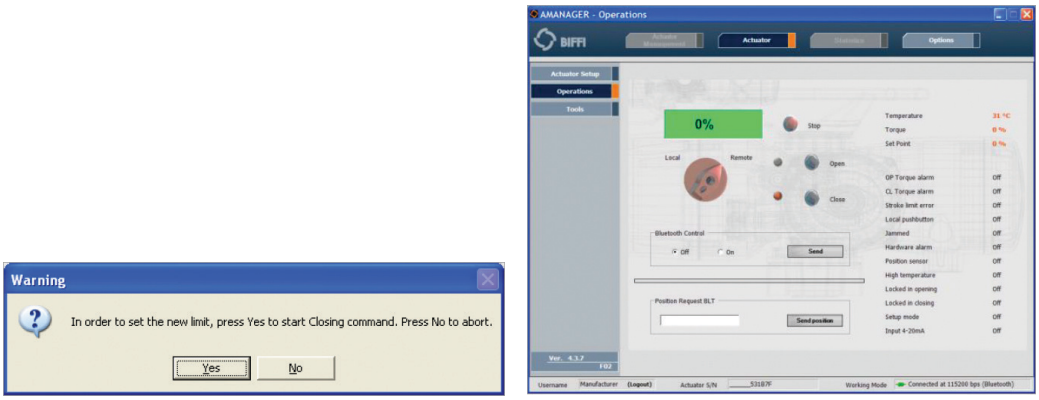
Figure 90



Click OFF Bluetooth controls and then click Send. In Actuator environment, Actuator Setup section, TAB base Card, click Modify, Close by torque and New Close limit. Click Send, then Click YES. Actuator moves in close direction and find the new close limit by torque.

In actuator environment, Operation section, see the actuator position.

Figure 91



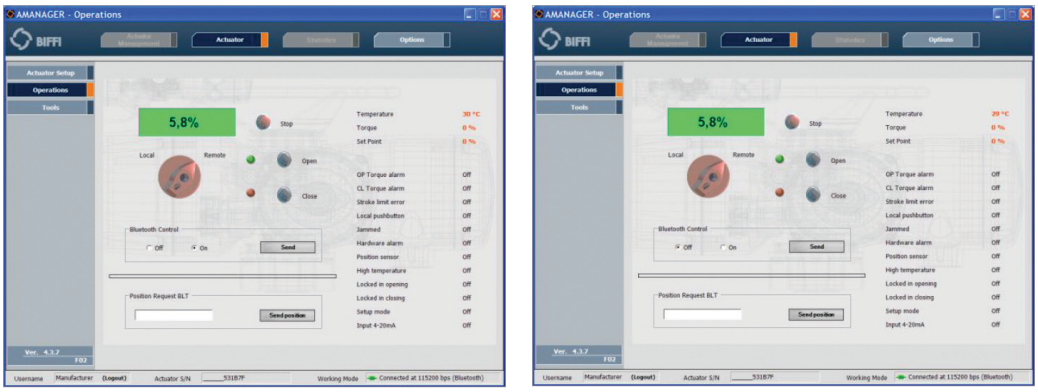
5.4.5.2 Closure by Position

Since Closure by Position procedure allows only to reduce the actuator travel it needs to place the actuator in the maximum close position by the Torque Closure procedure (see Section 5.4.5.1).

Then, in Actuator environment, Operation section, click “On” the Bluetooth controls and then click “Send”.

Click Open / Close / Stop to move the actuator in the desired close position. Click “Off” the Bluetooth controls and then click “Send”.

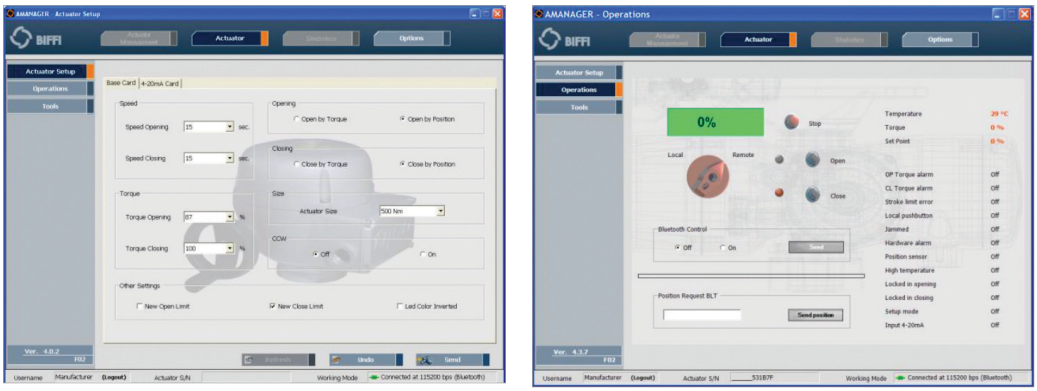
Figure 92



In Actuator environment, Actuator Setup section, TAB base Card, click Modify, Close by position and New Close limit. Click Send.

In actuator environment, Operation section, see the actuator position.

Figure 93



5.5 Distinguish OLD/NEW Models for F02-EPI2

The A MANAGER Interface differently manages some data, depending either on old or on new F02-EPI2 version.

For this reason, it is important to distinguish between F02-EPI2 old models and the new ones.

Figure and table below allow distinguishing old and new version of F02-EPI2 (for the NON US MARKET); on the label are underlined the relevant digits of Product Number.

Figure 94 Label for NON US MARKET - Digits X_7X_8 on product coding chart

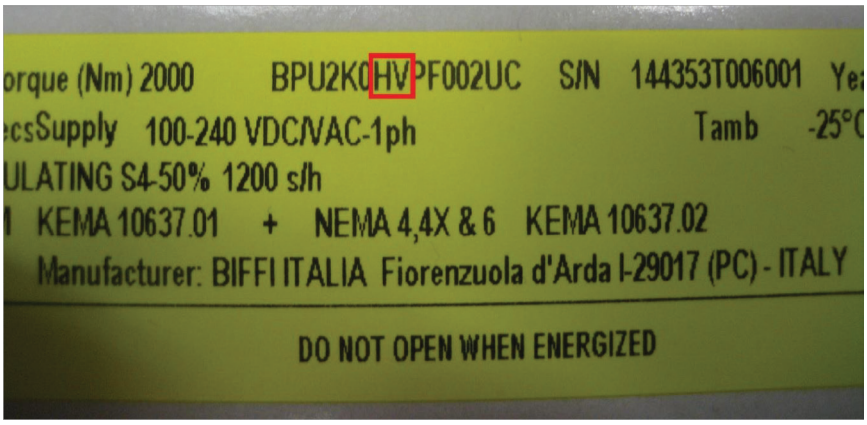


Table 1. EPI2/F02 cross reference table for NON US MARKET

Actuator Model	Old	New
Product Coding Chart Digit X_7X_8 1-Phase	UV - VU	LV - HV
PRODUCT CODING CHART DIGIT X_7X_8 3-PHASE	31, 32, 33	3A, 3B, 3C

Figure and table below allow distinguishing old and new version of F02-EPI2 (for the US MARKET); on the label is underlined the relevant digit of Product Number.

Figure 95 Label for US MARKET – Digit 6 on product coding chart

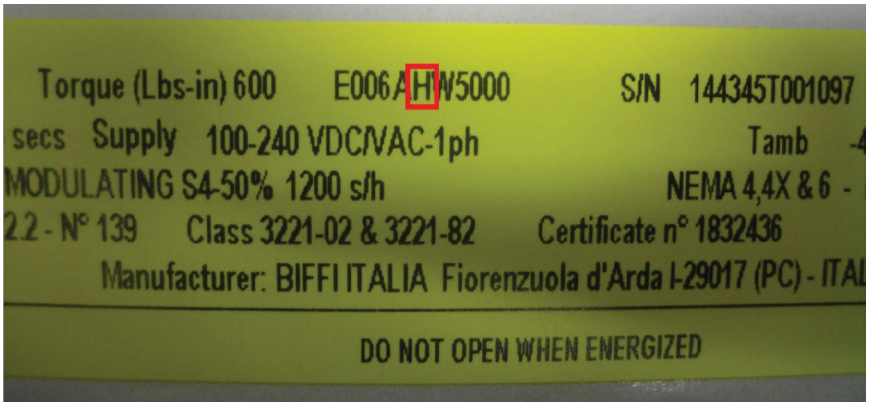


Table 2. EPI2/F02 cross reference table for NON US MARKET

Actuator Model	Old	New
Product Coding Chart Digit 6 1-Phase	0 - 4	L - H
PRODUCT CODING CHART DIGIT 6 3-PHASE	1, 2, 3	A, B, C

5.5.1 A MANAGER Interface Differences into New F02-EPI2 Version

5.5.1.1 Opening/Closing Speed (Actuator Setup section)

New version of EPI2/F02 has only the opening/closing speeds 4, 6 and 8 (see VCIOM-02819).

Opening/Closing speeds read from actuator (Refresh button) are the red ones shows in table below.

When the A MANAGER Interface tries to modify opening/closing speeds (Modify button), actuator logic sets values according to the following table.

Table 3.

Opening/Closing speed sent from A MANAGER Interface	Opening/Closing speed set into new F02-EPI2 version actuator
90 seconds	48 seconds (4)
70 seconds	48 seconds (4)
60 seconds	48 seconds (4)
50 seconds	48 seconds (4)
40 seconds	**48 seconds (4)**
32 seconds	28 seconds (6)
22 seconds	**28 seconds (6)**
15 seconds	28 seconds (6)
12 seconds	**15 seconds (8)**
10 seconds	15 seconds (8)

5.5.1.2 Opening/Closing Torque (Actuator Setup Section)

New version of EPI2/F02 has only the opening/closing torque 2, 5 and 9 (see VCIOM-02819).

Opening/Closing torque read from actuator (Refresh button) are the red ones shows in table below.

When the A MANAGER Interface tries to modify opening/closing torque, actuator logic sets values according to the following table:

Table 4.

Opening/Closing torque sent from A MANAGER Interface (% of Nominal Torque)	Opening/Closing torque set into new F02-EPI2 version actuator
40%	50% (2)
47%	50% (2)
53%	**50% (2)**
60%	50% (2)
67%	75% (5)
73%	**75% (5)**
80%	75% (5)
87%	100% (9)
93%	100% (9)
100%	**100% (9)**

5.5.1.3 Torque (Operation Section)

Into OPERATION section, Data TORQUE has different meaning in function of old and new F02-EPI2 models. In particular, in old F02-EPI2 models it is the current Torque value; in new models it is the set Torque value.

Section 6 A-Manager for MCU 2000 v4

The MCU 2000v4 uses the same logic board of ICON/F01/EFS 2000v4. Consequently, also A-Manager features and instructions are the same.

Refer to Section 4, A-Manager for ICON/F01/EFS 2000, and to MCU instruction manual for detailed description of features and examples.

6.1 User Interface

The user interface is organized in environments and sections. Environments are grouped in the horizontal navigation bar on the top of the screen. Each environment contains sections that are listed in the vertical navigation bar on the left. At present two environments are available: Actuator and Options.

The following sections are available in each environment:

Environment	Actuator
S	Actuator Setup
E	Name Plate
C	Valve data
T	Maintenance
I	Restricted
O	Operations
N	Tools

Environment	Options
S	Modify Config
E	Password
C	Object List
T	
I	
O	
N	

Actuator Setup: It contains actuator configuration settings

Name Plate: It contains actuator name plate data

Valve Data: It contains data about the valve onto which the actuator is mounted

Maintenance: It contains maintenance and diagnostics information;

Restricted: It contains actuator advanced settings.

Operations: It is used to remotely send commands to actuator and to read status and alarm information;

Tools: It is used to read and write Card Reports. This section also permits to import and export configurations from and to files, reading and updating actuator firmware and to send various utility commands to actuator.

Modify config: It is used to change the A-Manager settings. The following data can be modified:

- Communication data: Channel, COM n°, Speed
- Language: Italian or English

Password: It allows to change “observer” and “user” password

Object list. It allows to see the object list number and the description of the object function

If username is not enabled to access to a particular section or environment, the relative button will be disabled.

Sections are organized in TAB’s. Each tab contains a subset of information that can be read from and written to the actuator. The data of TAB’s are grouped according to organization in the actuator local menu.

Once Environment and Section are selected, click TAB of data to be viewed.

Figure 96

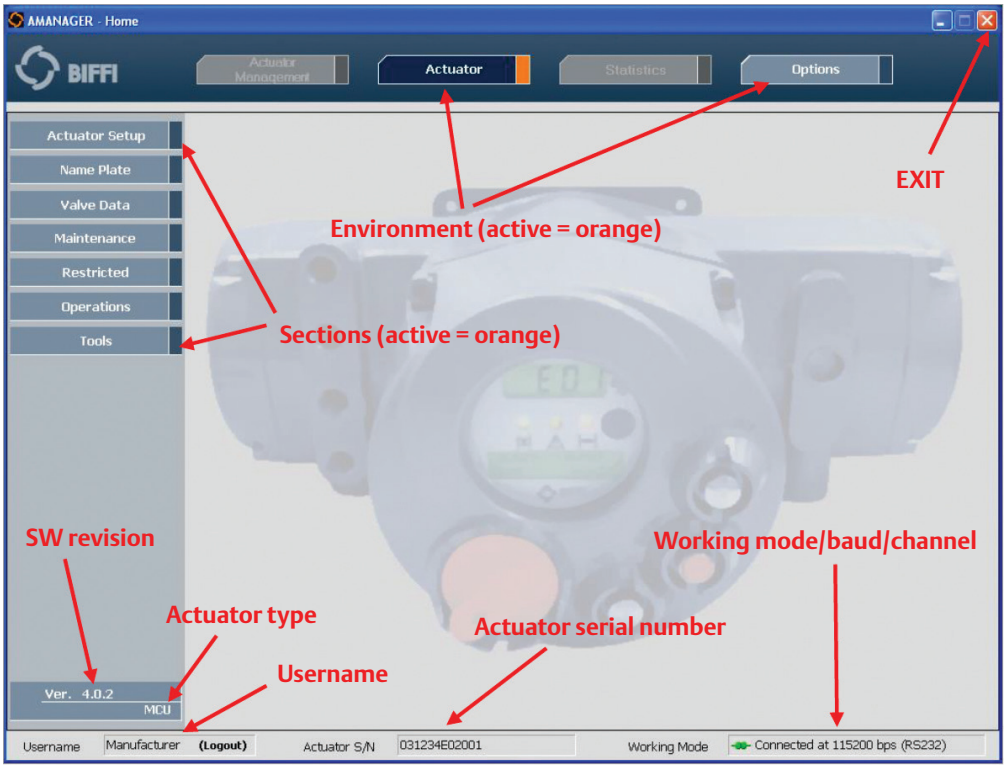
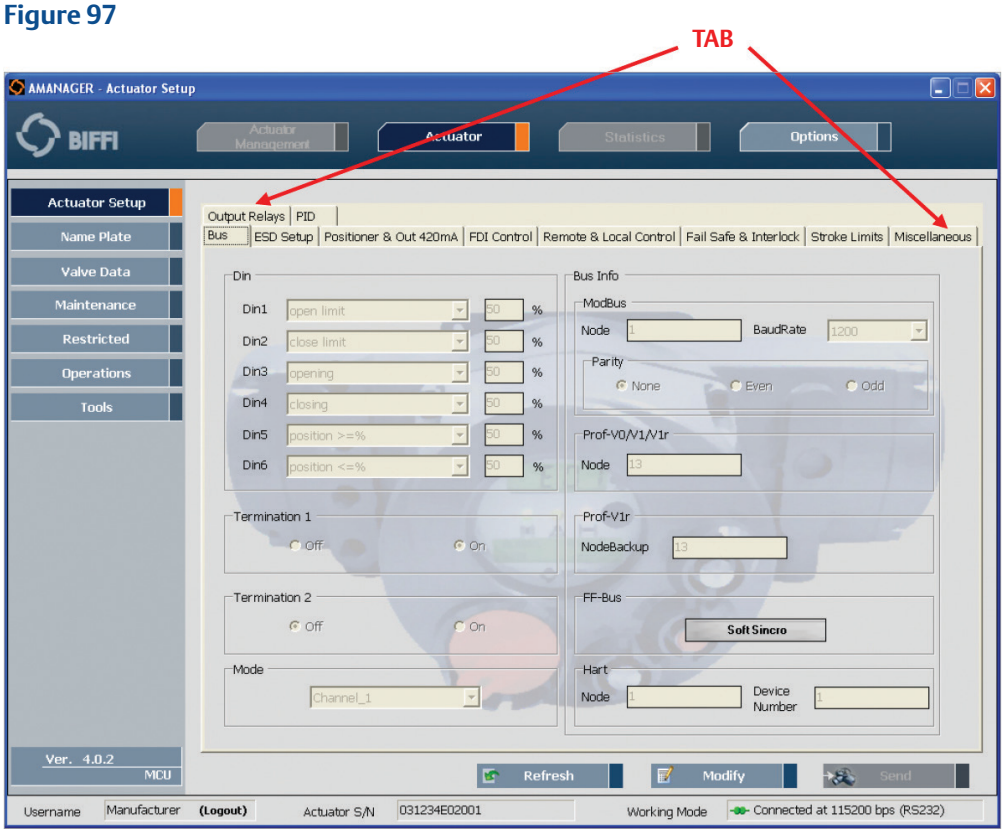


Figure 97



6.2 Actuator Environment

The Actuator Environment contains information about configuration settings and actuator management.

Click Actuator to select the environment.

Click the Section to view. If the A-Manger works in “connected” mode, the data of the section are read from actuator. Click the TAB to view the data on the PC screen. Use button Refresh to read again all data of selected TAB. Use button Modify to activate the “modify data” option. Modify the data in the selected TAB and then click Send to send all data of selected TAB to actuator or click Undo if data should not be changed. Only data of the selected TAB will be sent to actuator. Option Modify and Send are enabled according to username profile. In Observer username the options Modify and Send are disabled. In “disconnected” mode use Modify and Send can be used to change values of parameter of previously imported file. The modified data can only be saved by the export file/excel functions.

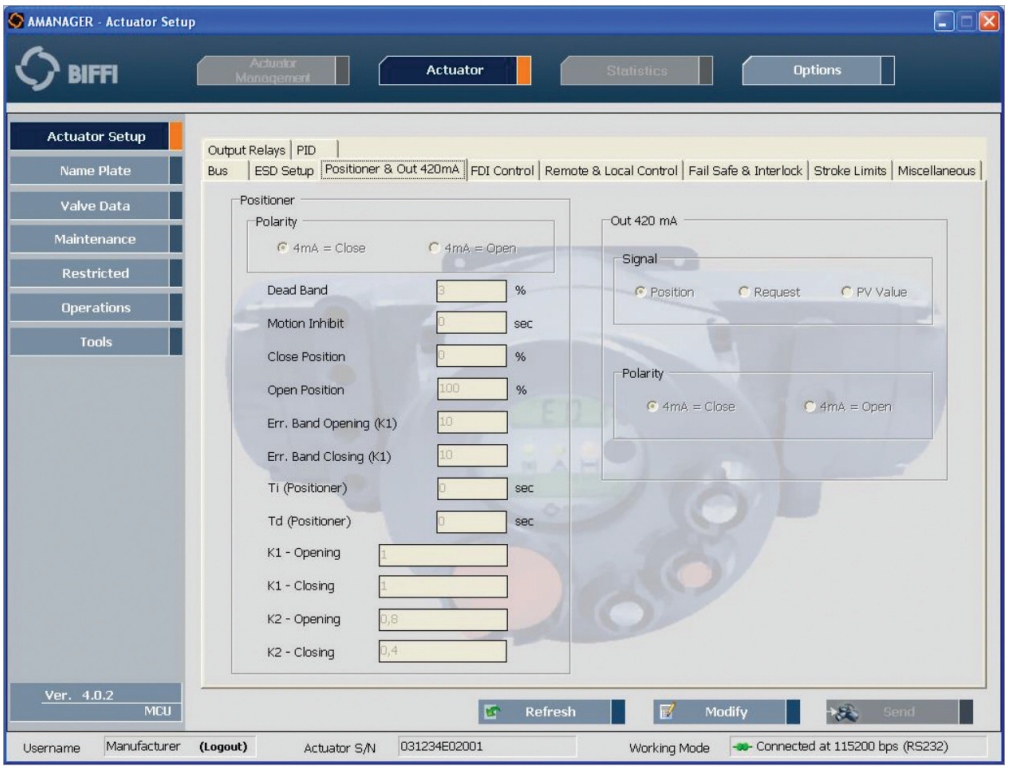
6.2.1 Actuator Setup

“Actuator Setup” contains the actuator settings and it allows to view and modify the configuration of actuator according to permission of username.

Data are grouped in TAB (Fail Safe and Interlock, Positioner, Miscellaneous, etc), according to the same organization in the actuator local menu. Use the MCU 2000 v4 instruction manuals to configure the actuators parameters. The following example allows to view or change the “Positioner and out 4 - 20 mA parameters:

- Click “Actuator Setup”, click “Positioner and Out 420 mA”

Figure 98



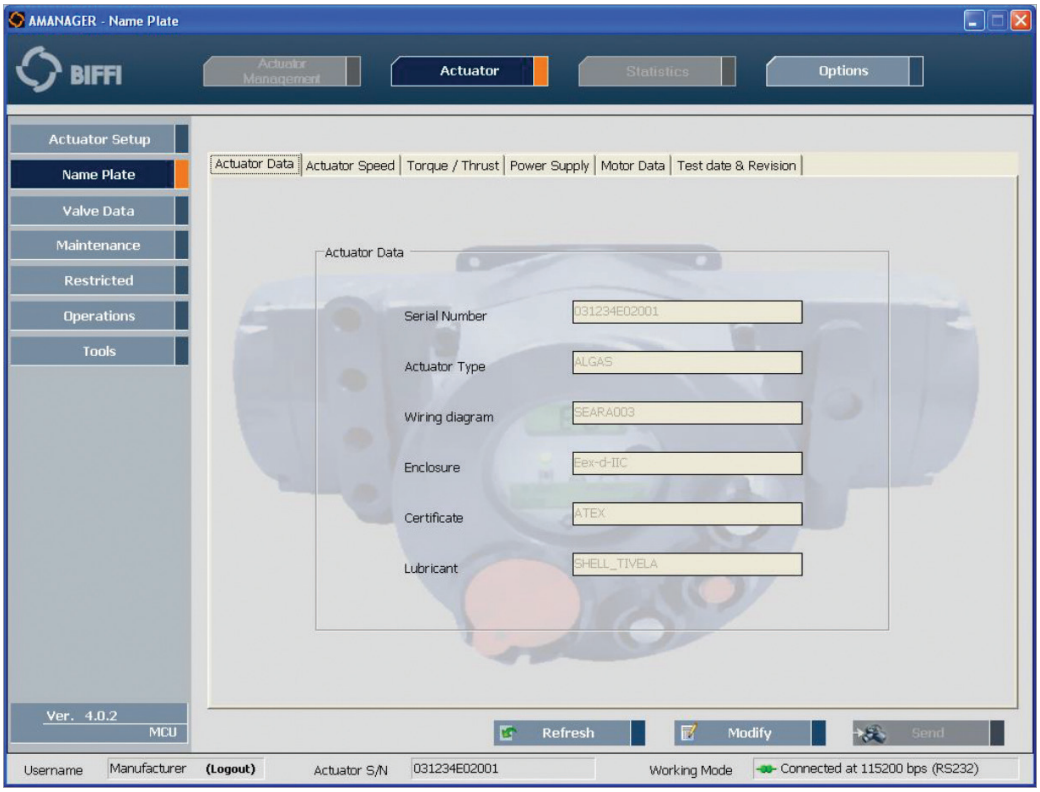
6.2.2 Name Plate

"Name Plate" contains the actuator name plate and it is possible to view and modify the actuator data according to permission of username. Data are grouped in TAB (Actuator data, Actuator Speed, Power Supply, etc), according to the same organization in the actuator local menu. Use the MCU 2000 v4 instruction manuals to see name plate parameters description.

The following example allows to view or change the TAB "Actuator Data":

- Click "Name Plate", click "Actuator Data"

Figure 99



6.2.3 Valve Data

"Valve data" contains the data relevant to the valve and it is possible to view and modify the above data according to permission of username. Data are grouped in one only TAB (Tag, Serial Number, etc), according to the same organization in the actuator local menu. Use the MCU 2000 v4 instruction manuals to see valve parameters description.

Click "Valve Data" on the Main Menu to view the valve data values.

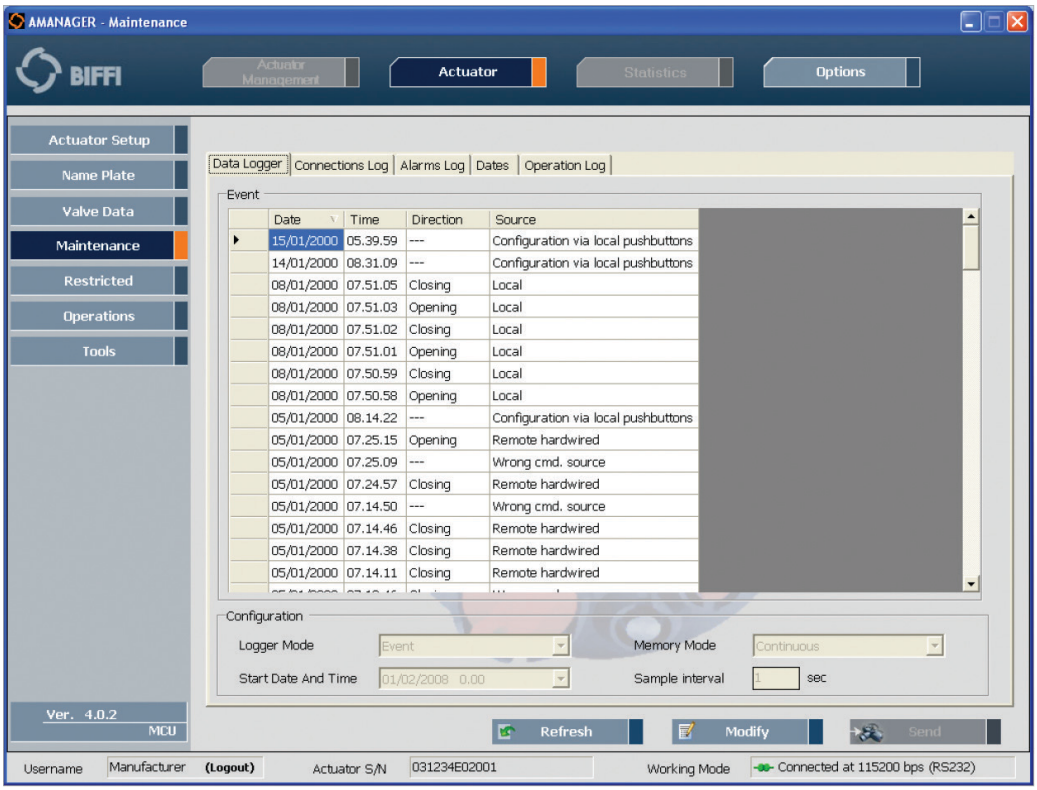
Figure 100

6.2.4 Maintenance

"Maintenance" contains the data relevant to the actuator maintenance and it is possible to view and modify the above data according to permission of username. Data are grouped in TAB (Data Logger, Alarm Log, etc), according to the same organization in the actuator local menu. Use the MCU 2000 v4 instruction manuals to see data description. The following example allows to view or change the "Data Logger":

- Click "Maintenance" and then "Data Logger"

Figure 101



6.2.5 Restricted

"Restricted" contains advanced actuator settings. It is possible to view data, but to modify them is allowed only with Service or Manufacturer username. Data are grouped in TAB (One, Two, etc), according to the same organization in the actuator local menu. The following example allows to view or change the TAB "One":

- Click "Restricted", click "One"

Figure 102

6.2.6 Operation

"Operation" is active only if A-Manager works in "connected" mode and can be used to send commands to actuator and read status and alarm information.

Confirmation is required to enter in this section. To send commands to actuator is available only according to permission of username, if the selector is in LOCAL and if the appropriate actuator setting was done. On the PC screen are the same information available in the actuator local displays and also the value of the main important variables (SOV trim lifting, temperature, Sp, etc.). Also Purge command is available.

The button Output Contacts allows to see the status of output relays, Monitor relay and Auxiliary relays Asi. The button "Alarm/Warning" allows to see the list of alarms and warnings. The line of present Alarms and Warnings are red. The button Bus Information allows to see various data relevant to Bus Interface (if it is present). The button Other Info allows to see various data relevant internal counters, A to D converter, etc. The button Reset Alarm/ Warning allows to send a "Reset Alarm and Warning" command to actuator.

Figure 103

Alarm / warning list

The figures below show the PURGE command.

Figure 104

Move local selector to Local

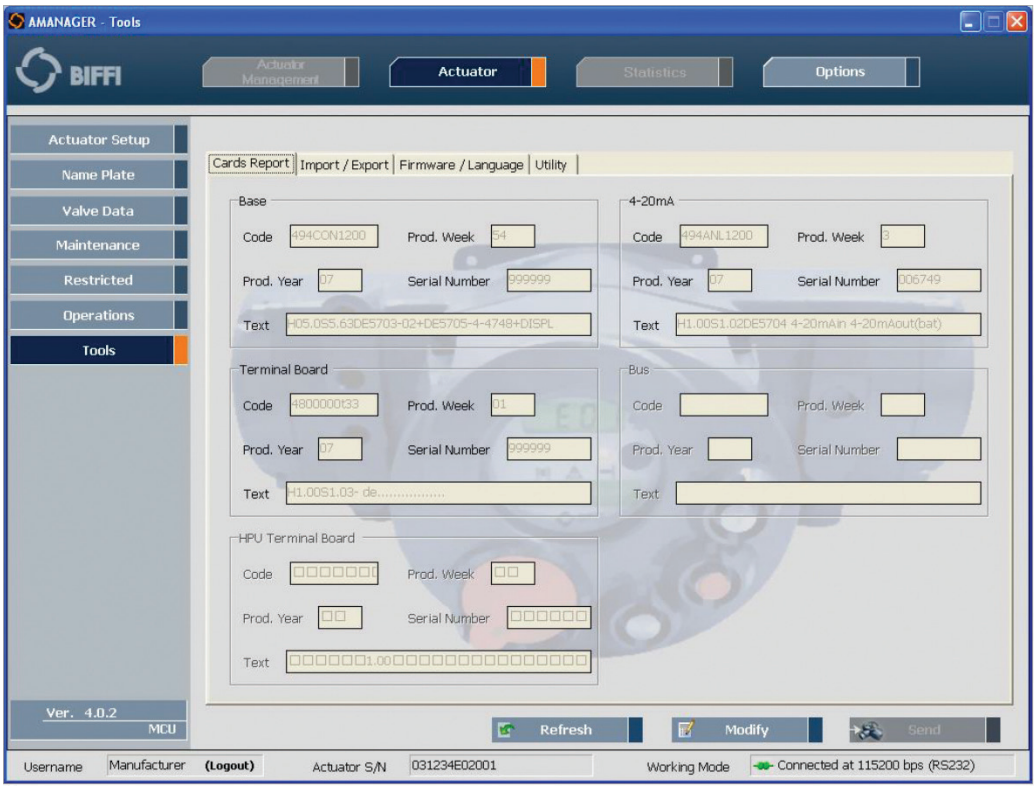
Set the opening or closing duty cycle and then click Send to start opening or closing

Click Off to stop movement

6.2.7 Tools

"Tools" is used to read and write Card Reports. This section also permits to import and export configurations from and to files, reading and updating actuator firmware, and to send various utility commands to actuator. Data are grouped in TAB, Card report, Import/ Export, Firmware/Language, Utility, etc). Availability of the various write operations is according to username profile and permission.

Figure 105



The TAB "Import/Export" allows the following:

Export file: in connected mode it allows to read from actuator and save the present set of actuator data in a file. Files are exported with extension *.mcu. In disconnected mode the data in the A-Manager application memory are saved.

Export EXCEL: in connected mode it allows to read from actuator and save the complete (or per section) set of actuator data in an EXCEL file. In disconnected mode, only the data in the A-Manager application memory can be exported.

Import file: read the complete (or per section) set of actuator data, previously saved, and then send them or not to actuator. See "Examples for ICON/F01/EFS 2000v4", "To import the actuator data from file", Section 4.4.4, to see description of "Import file" feature and examples.

Few data can be written to actuator only in TAB by TAB mode (see Section 4.4.4.2, "To write new data to actuator in TAB by TAB mode"), and most of maintenance data cannot be written to actuator. See the list of the above data in Section 8.3 "Username profiles and permissions", Table 8 and Table 9.

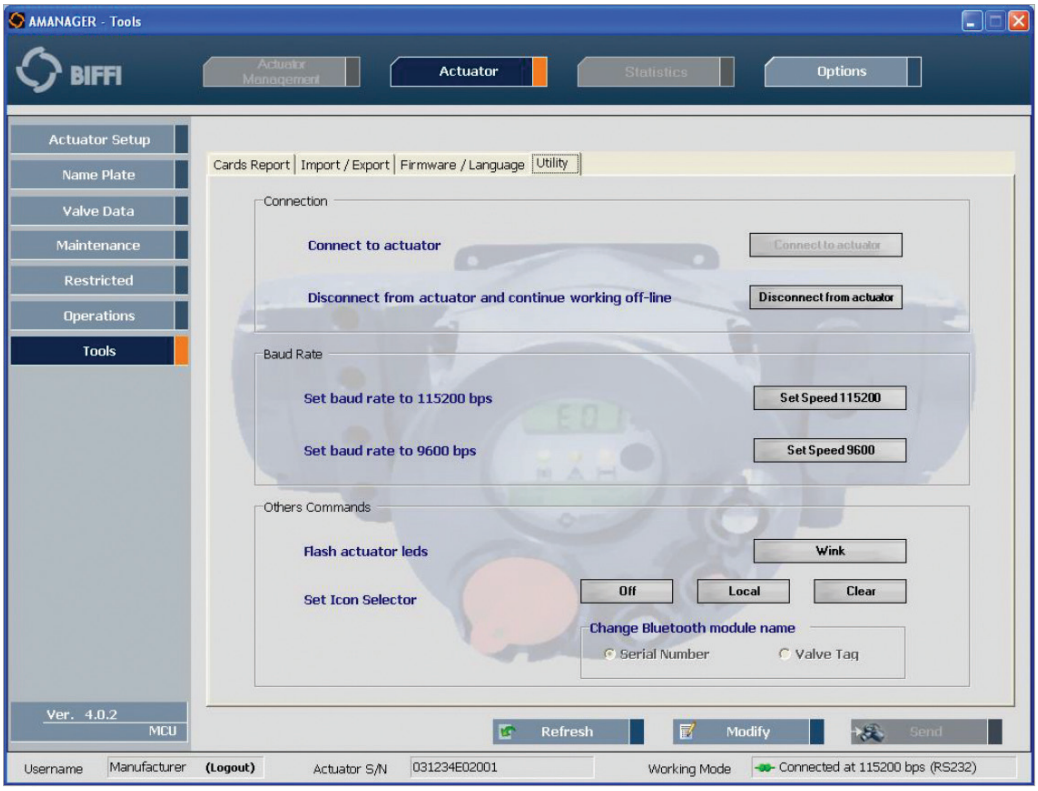
The TAB "Firmware/ Language" allows to download a new firmware and language file to actuator.

The TAB “Utility” allows the following commands:

- Connect/Disconnect to/from actuator (connected or not connected working mode). In Bluetooth mode, after the disconnection of A-manager from an actuator, it needs to wait at least 30 s. before re-connecting the same actuator.
- Change Baud Rate, see also Section 3.3 Setup.
- Wink: in connected mode the command causes the 3 LED’s of actuator to blink
- Set Icon Selector: in connected mode the command allows to virtually change the position of actuator local selector from Local, Off, and Clear. Press Local to move the virtual selector to Local, press Off to move the virtual selector to Off. The control will be restored to real actuator local selector by sending Clear or by closing the communication channel between actuator and PC or by re-powering the actuator.
- Change Bluetooth module name: it allows to change the actuator name (with Bluetooth channel) from actuator serial number to valve tag.

Below is the screen of the TAB “Utility”.

Figure 106



Change Bluetooth module name

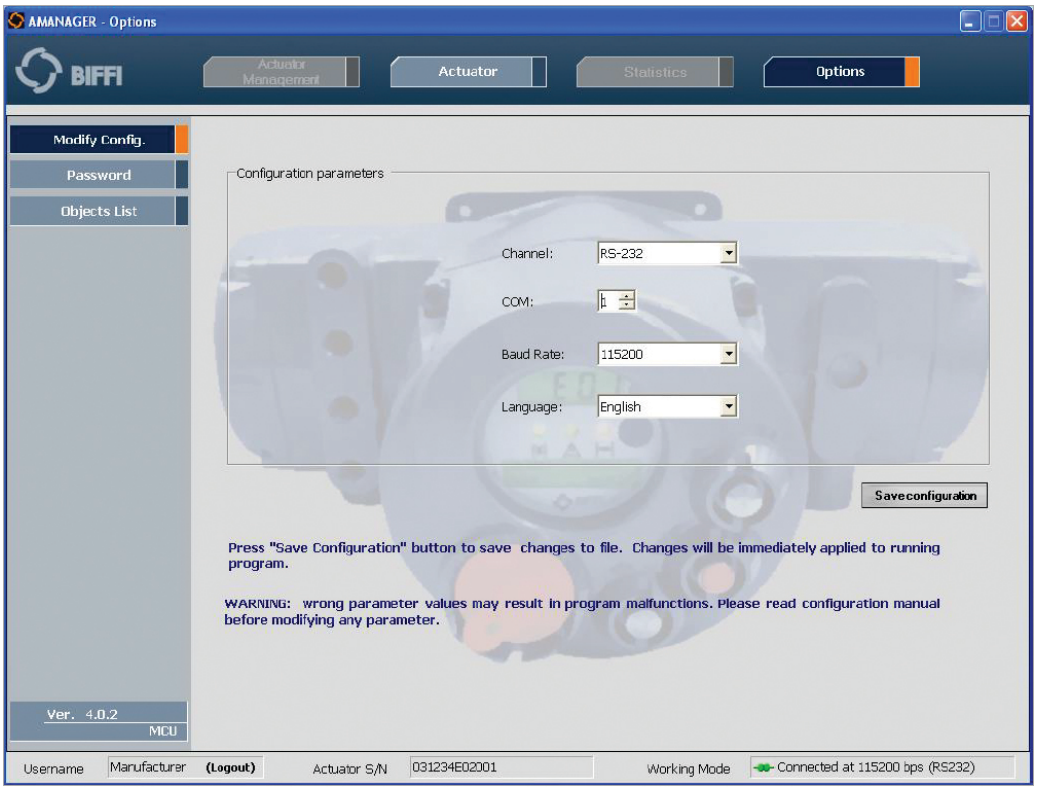
The procedure is the following:

- Click Modify, select Serial Number or Valve Tag and then click Send. If Bluetooth uses the Microsoft driver to update the name it need to exit from A-Manager, reboot the PC or remove and then re-insert the Bluetooth adapter, re-power the actuator and then run again the A-manager.
- If a WIDCOM driver is used the procedure to update depends on the driver type. Refer to instruction manual of driver to update the Bluetooth name.

6.3 Options Environment

The Options environment allows the user to modify the application configuration parameters and passwords management. Three sections are available: Modify Config., Password, Object list.

Figure 107



Modify config: used to change the A-Manager settings. The following data can be modified:

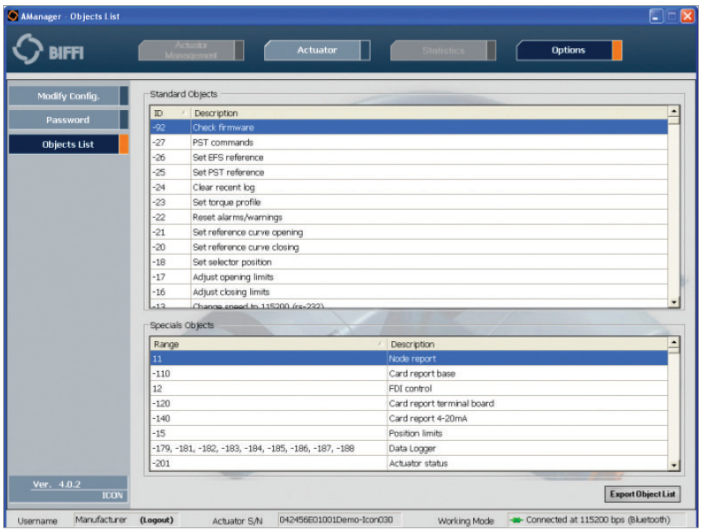
- Communication data: RS-232, BluetoothTM
- COM Port number: the number of the COM port to open
- Connection speed: 9.600 bps or 115.200 bps
- Language Italian or English

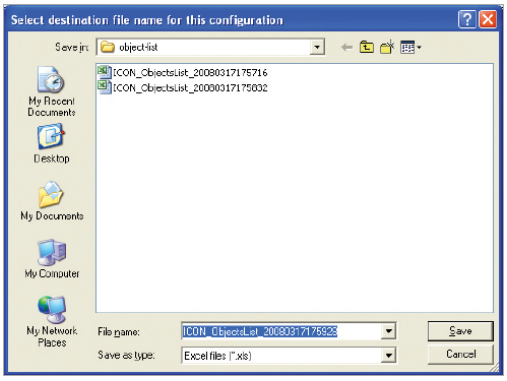
Click Save configuration and then EXIT from A-Manager and run the program again.

Password: It allows to change “observer” and “user” passwords. Press “Confirm” to save changes. Changes are applied with no need to restart the application.

Object list: It allows to see the object list number and the description of the object function. Click Export Object list to export in an Excel file. Select folder and name and then click save.

Figure 108


AManager - Objects List
BIFFI
Actuator
Options
Modify Config.
Password
Objects List
Standard Objects
ID
Description
-92
Check firmware
-27
PST commands
-26
Set EFS reference
-25
Set PST reference
-24
Clear recent log
-23
Set torque profile
-22
Reset alarms/warnings
-21
Set reference curve opening
-20
Set reference curve closing
-18
Set selector position
-17
Adjust opening limits
-16
Adjust closing limits
Specials Objects
Range
Description
11
Node report
-110
Card report base
12
FDI control
-120
Card report terminal board
-140
Card report 4-20mA
-15
Position limits
-179, -181, -182, -183, -184, -185, -186, -187, -188
Data Logger
-201
Actuator status
Ver. 4.0.2
ICON
Export Object List
Username
Manufacturer
(Logout)
Actuator S/N
042456E01001Demo-Icon030
Working Mode
Connected at 115200 bps (Bluetooth)


Select destination file name for this configuration
Save in:
object-list
ICON_ObjectsList_20080317175716
ICON_ObjectsList_20080317175032
My Recent Documents
Desktop
My Documents
My Computer
My Network Places
File name:
ICON_ObjectsList_20080317175932
Save
Save as type:
Excel files (*.xls)
Cancel

Section 7 A-Manager Conversion Tool

A-Manager version 4.x.x can import only files with extension *.icon, *.f02, *.mcu . A-Manager Conversion Tool allows to import files with extension *.set and *.man, previously exported by A-Manager version less than 4.0.0.

Also files saved with extension *.i4k, by the program tool prjICON4K.exe can be converted in *.icon files.

Here below are instruction to install the A-Manager Conversion Tool and to convert old files in the format compatible with A-Manager version 4.x.x.

NOTICE

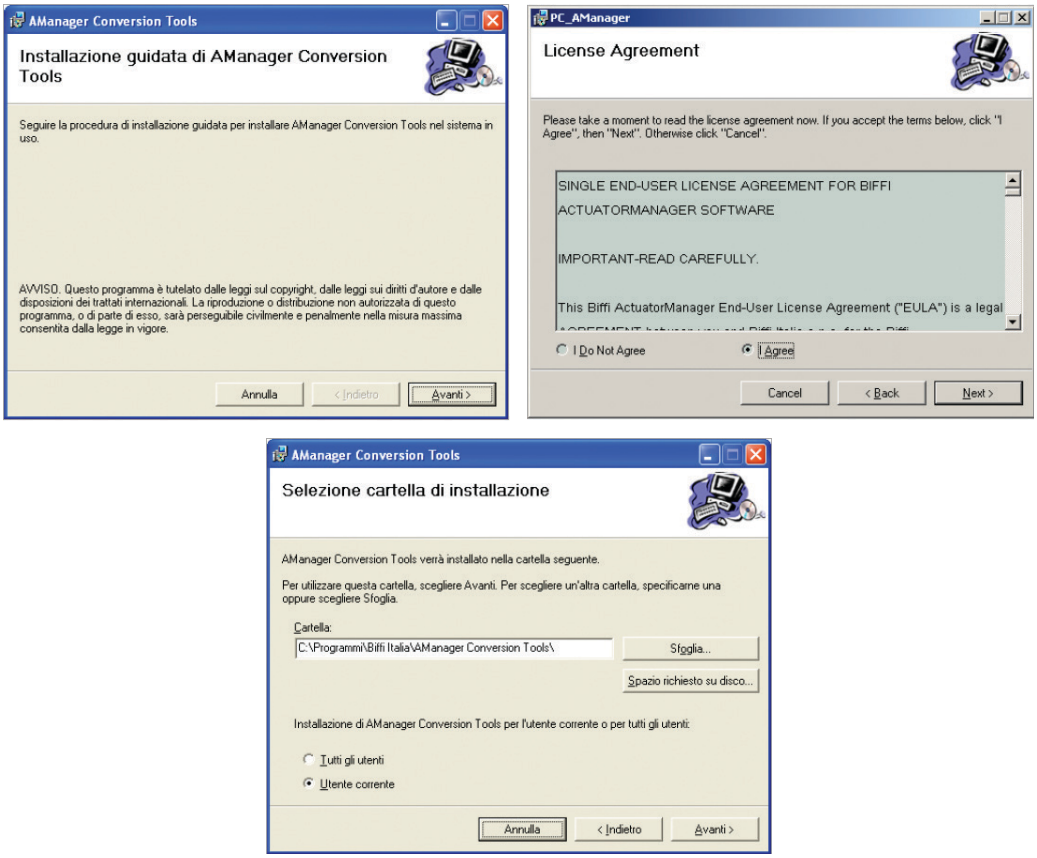
"A MANAGER" Conversion Tool consists of one only file: ConversionTools_x.x.x.msi

7.1 Installation Process

To start the installation process, double click on ConversionTools_x.x.x.msi.

A simple wizard will guide you through the installation process:

Figure 109

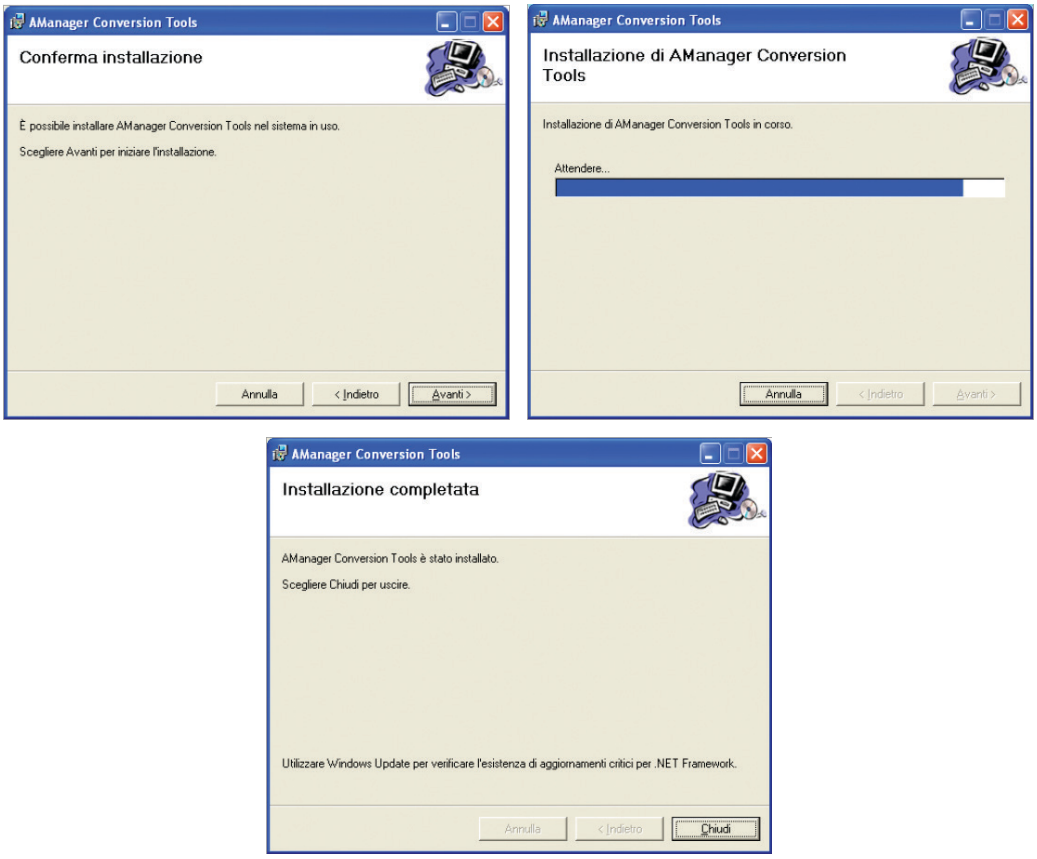


Click Next.

Agree to End User License Agreement.

Select installation folder and then click Next.

Figure 110



Click “Next” to begin program installation. Click Close when installation is completed.

A link (icon with Biffi logo named AManager) to the executable file (AManager Conversion Tool.exe) will be created on your desktop and a new program folder, named “Biffi Italy”, will be added to your Start Menu\Program folder.

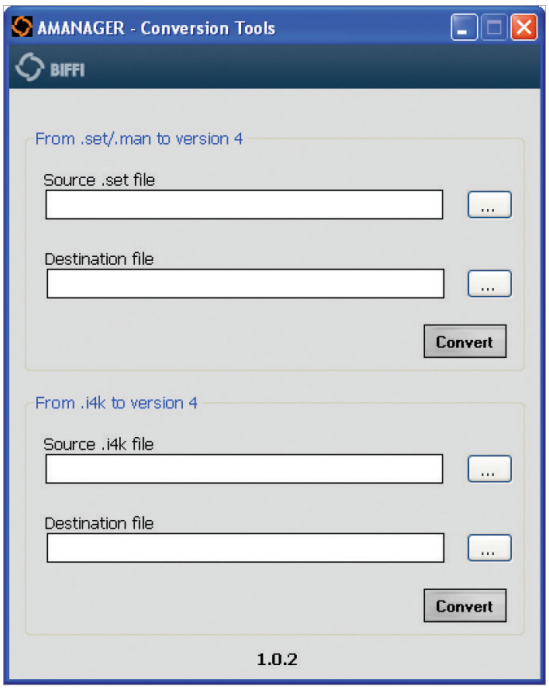
Double click one of the links to the executable file or the executable file itself (located in: \destination_folder\bin\) to run the program.

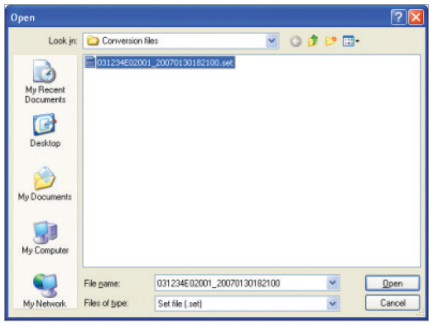
7.2 Start the Program

"A Manager Conversion Tool" for PC starts with the following screen.

7.2.1 Conversion of File *.set

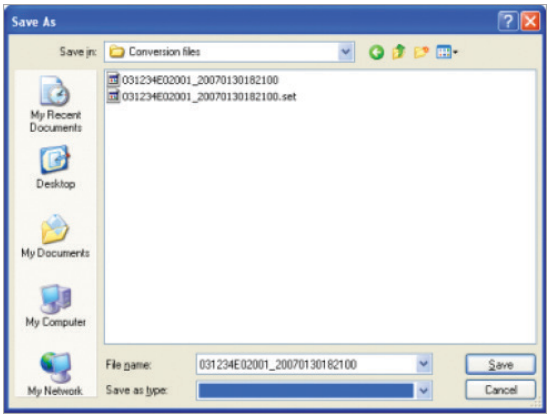
Figure 111

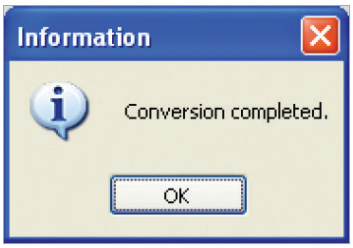




Click the button "..." in the line of Source.set file. Select source folder and source file *.set. Click Open.

Figure 112



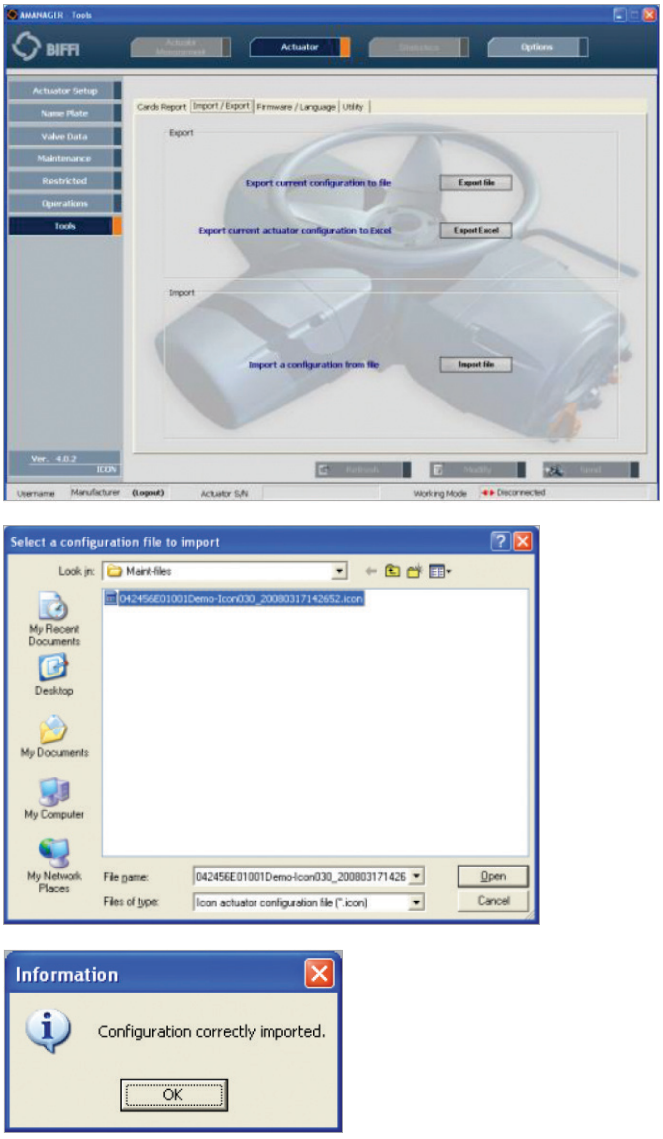


Click the button "..." in the line of Destination file. Select destination folder and destination file.

Click Save, then click Convert to start conversion. At the end of conversion, the message "conversion completed" appears and the file with extension .icon, or .f02, is available in the destination folder.

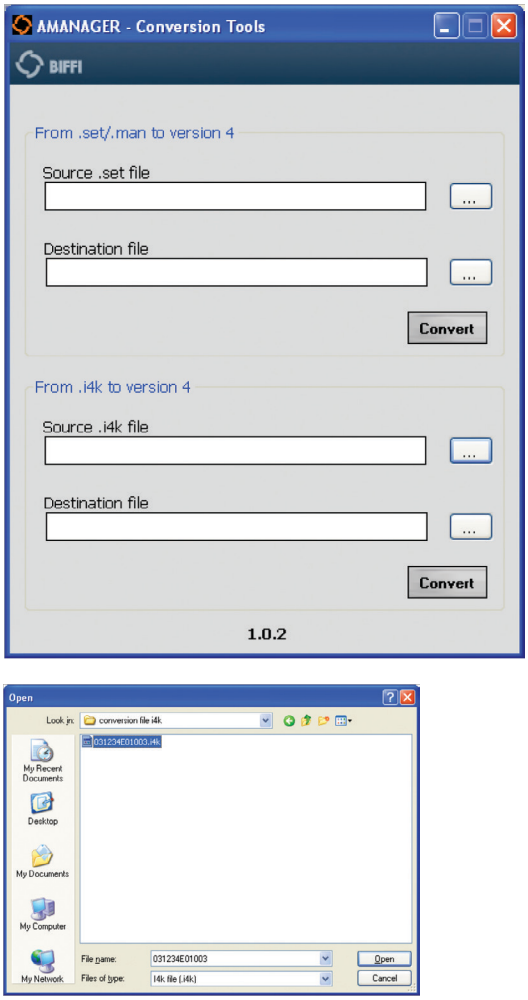
Now by A-Manager for PC working in “disconnected” mode open the file and use import function to check that conversion of file is correct.

Figure 113



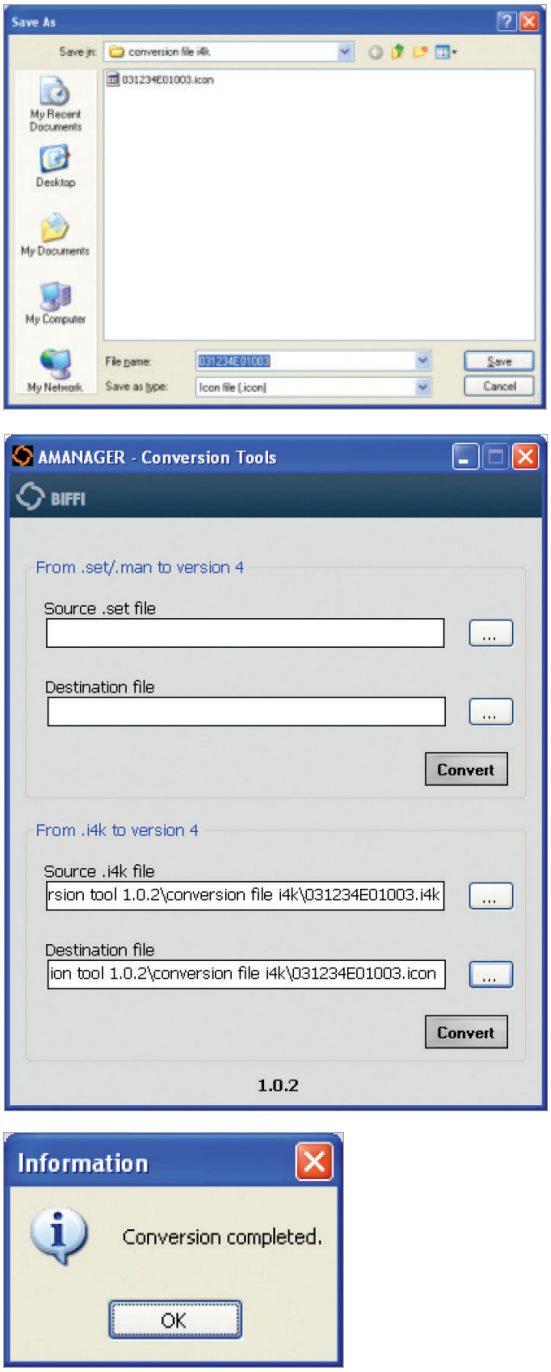
7.2.2 Conversion of File *.i4k

Figure 114



Click the button "..." in the line of Source.i4k file. Select source folder and source file *.set. Click Open.

Figure 115



Click Save, then click Convert to start conversion. At the end of conversion, the message “conversion completed” appears and the file with extension *.icon is available in the destination folder.

Now by A-Manager for PC working in “disconnected” mode open the file and use import function to check that conversion of file is correct.

Figure 116

Section 8 Username Profiles and Permissions

Each user profile has defined permissions and restrictions associated to. Here are listed the permissions associated to the profiles “Observer”, “User” and “Service”.

8.1 Permissions for ICON / F01 / EFS 2000v4 / ICON LP / ICON3000

“Observer” username, is the user with more restrictions; the only actions he can perform are: reading data from actuator, exporting files, importing files in the PC local memory.

In particular:

- Actuator Setup:
  - Read: allowed;
  - Write: not allowed;
  - Modify OP/CL limits commands (Stroke limits and Torque setup TAB: not allowed
  - Modify/Send TAB “stroke limits data”: not allowed
  - Default #1,2 commands (TAB Miscellaneous): not allowed
- Name Plate:
  - Read: allowed;
  - Write: not allowed;
- Valve Data:
  - Read: allowed;
  - Write: not allowed;
- Maintenance:
  - Read: allowed;
  - Write: not allowed;
  - “clear recent log” command: not allowed;
  - “set data logger”: not allowed
  - “set reference Torque/PST/EFS” commands: not allowed;
  - “PST command”: not allowed
- Restricted:
  - Read: not allowed;
  - Write: not allowed;
- Operations:
  - Operation command (Open, Close, Stop): not allowed;
  - “Reset Alarm/Warnings” commands: not allowed;
- Tools:
  - Read: allowed;
  - Write: not allowed;
  - Export: allowed;
  - Import: allowed only in local memory. Not allowed to write configuration to the actuator;
  - Firmware management: not allowed;
  - Utilities commands: allowed.

"User" username, can read and write data from/to the actuator and send commands (Open, Close, Stop). In particular (the differences with "Observer" profile are marked in bold):

- Actuator Setup:
  - Read: allowed;
  - Write: **allowed**;
  - Modify OP/CL limits commands (Stroke limits and Torque setup TAB: **allowed**
  - Modify/Send TAB "stroke limits data": not allowed
  - Default #1,2 commands (TAB Miscellaneous): **allowed**
  - Modify/Send TAB "Spares" (available only for ICON3000): allowed
- Name Plate:
  - Read: allowed;
  - Write: not allowed;
- Valve Data:
  - Read: allowed;
  - Write: **allowed**;
- Maintenance:
  - Read: allowed;
  - Write: **allowed**;
  - "clear recent log" command: **allowed**;
  - "set data logger": **allowed** (even if the local selector is in Local or Remote);
  - "set reference Torque/PST/EFS" commands: **allowed**;
  - "PST command": **allowed**;
- Restricted: **allowed**
  - Read: **allowed**;
  - Write: not allowed;
- Operations:
  - Operation command (Open, Close, Stop): **allowed**;
  - "Reset Alarm/Warnings" commands: **allowed** (even if the local selector is in Local or Remote);
- Tools:
  - Read: allowed;
  - Write: not allowed;
  - Export: **allowed**;
  - Import: **allowed**; (not allowed writing Name Plate and Restricted data to actuator)
  - Firmware management: not allowed;
  - Utilities commands: **allowed**.

“Service” username, can read and write data from/to the actuator and send commands (Open, Close, Stop). Service username is allowed to modify Restricted section, Name Plate section and TAB “stroke limits data”. It is not allowed to modify TAB “Card Report”.

“Manufacturer” username has no restrictions.

Few data can be written to actuator only in TAB by TAB mode, and most of maintenance data cannot be written to actuator. Below is the list of data writable in TAB by TAB mode (Table 5) and not writable (Table 6).

Table 5. Objects writable to actuator in TAB by TAB mode and according to permission profile

Section	TAB
Actuator Setup	Stroke Limits Data
Restricted	Two, Bluetooth module
Restricted	Two, IrDA
Restricted	One, Voltage span
Restricted	One, Current sensor
Restricted	One, 4 - 20 mA Config

Table 6. Objects not writable to actuator

Section	TAB
Name Plate	Test date and Revision, Revision Software
Actuator setup	FDI control
Operation	All data
Maintenance	All data except TAB “Maintenance Dates” and Data Logger Setup?

8.2 Permissions for F02 (EPI2)

"Observer" username, is the user with more restrictions; the only actions he can perform are: reading data from actuator, exporting files, importing files in the PC local memory.

In particular:

- Actuator Setup:
  - Read: allowed;
  - Write: not allowed;
- Operations:
  - Operation command (Open, Close, Stop): not allowed;
- Tools:
  - Export: allowed;
  - Import: allowed only in local memory. Not allowed to write configuration to the actuator;
  - Utilities commands:
    - Connect/Disconnect: allowed.
    - Change Bluetooth name: not allowed

"User" username, can read and write data from/to the actuator and send commands (Open, Close, Stop). In particular (the differences with "Observer" profile are marked in bold):

- Actuator Setup:
  - Read: allowed;
  - Write: **allowed**;
- Operations:
  - Operation command (Open, Close, Stop): **allowed**;
- Tools:
  - Export: allowed;
  - Import: **allowed**;
  - Utilities commands:
    - Connect/Disconnect: allowed;
    - Change Bluetooth name: **allowed**

"Service" and "Manufacturer" username have the same permissions of "User" username.

Few data cannot be written to actuator since their values are set in the firmware. The following table shows the list of data not writable.

Table 7. Objects not writable to actuator

TAB	Function
Optional card	FW version of optional card
Optional card	HW revision of optional card
Base card	Operation, Status of base card
Optional card	Bus parameter
Optional card	DeviceNet serial number

8.3 Permissions for MCU 2000v4

"Observer" username, is the user with more restrictions; the only actions he can perform are: reading data from actuator, exporting files, importing files in the PC local memory.

In particular:

- Actuator Setup:
  - Read: allowed;
  - Write: not allowed;
  - Modify OP/CL limits commands (Stroke limits TAB): not allowed
  - Modify/Send TAB "stroke limits data": not allowed
  - Default #1,2 commands (TAB Miscellaneous): not allowed
  - SOV Calib: not allowed
  - Stroke limit autocalibration command: not allowed
- Name Plate:
  - Read: allowed;
  - Write: not allowed;
- Valve Data:
  - Read: allowed;
  - Write: not allowed;
- Maintenance:
  - Read: allowed;
  - Write: not allowed;
  - "set data logger": not allowed
  - "clear recent log" command: not allowed;
- Restricted:
  - Read: not allowed;
  - Write: not allowed;
- Operations:
  - Operation command (Open, Close, Stop): not allowed;
  - "Reset Alarm/Warnings" commands: not allowed;
  - "Purge" command: not allowed
- Tools:
  - Read: allowed;
  - Write: not allowed;
  - Export: allowed;
  - Import: allowed only in local memory. Not allowed to write configuration to the actuator;
  - Firmware management: not allowed;
  - Utilities commands: allowed.

"User" username, can read and write data from/to the actuator and send commands (Open, Close, Stop). In particular (the differences with "Observer" profile are marked in bold):

- Actuator Setup:
  - Read: allowed;
  - Write: not allowed;
  - Modify OP/CL limits commands (Stroke limits TAB): **allowed**
  - Modify/Send TAB "stroke limits data": not allowed
  - Default #1,2 commands (TAB Miscellaneous): **allowed**
  - SOV Calib: **allowed**
  - Stroke limit autocalibration command: **allowed**
- Name Plate:
  - Read: allowed;
  - Write: not allowed;
- Valve Data:
  - Read: allowed;
  - Write: **allowed**;
- Maintenance:
  - Read: allowed;
  - Write: **allowed**;
  - "set data logger": **allowed** (even if the local selector is in Local or Remote);
  - "clear recent log" command: **allowed**;
- Restricted:
  - Read: **allowed**;
  - Write: not allowed;
- Operations:
  - Operation command (Open, Close, Stop): **allowed**;
  - "Reset Alarm/Warnings" commands: **allowed** (even if the local selector is in Local or Remote);
  - "Purge" command: **allowed**
- Tools:
  - Read: **allowed**;
  - Write: not allowed;
  - Export: **allowed**;
  - Import: **allowed**; (not allowed writing Name Plate and Restricted data to actuator)
  - Firmware management: not allowed;
  - Utilities commands: **allowed**.

“Service” username, can read and write data from/to the actuator and send commands (Open, Close, Stop). Service username is allowed to modify Restricted section, Name Plate section and TAB “stroke limits data”. It is not allowed to modify TAB “Card Report”.

“Manufacturer” username has no restrictions.

Few data can be written to actuator only in TAB by TAB mode, and most of maintenance data cannot be written to actuator. Below is the list of data writable in TAB by TAB mode (Table 8) and not writable (Table 9).

Table 8. Objects writable to actuator in TAB by TAB mode and according to permission profile

Environment	Section	TAB
Actuator	Actuator Setup	Stroke Limits Data
Actuator	Restricted	Two, Bluetooth module
Actuator	Restricted	Two, IrDA
Actuator	Restricted	Three, PV Analog Input 20 mA
Actuator	Restricted	Three, PV Analog Input 20 mA
Actuator	Restricted	One, 4 - 20 mA Config

Table 9. Objects not writable to actuator

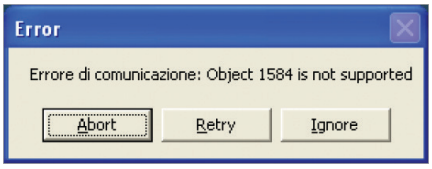
Environment	Section	TAB
Actuator	Name Plate	Test date and Revision, Revision Software
Actuator	Actuator setup	FDI control
Actuator	Operation	All data
Actuator	Maintenance	All data except TAB “Dates”

Section 9 Exception Messages

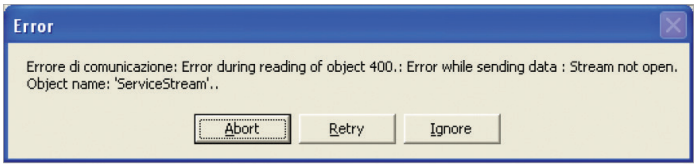
Here below are described the most common exception messages generated by the A-Manager:

Use the Object List and relevant Object description, available in Options environment, Section 4.3, 5.3 and 6.3 to find and correct the wrong data.

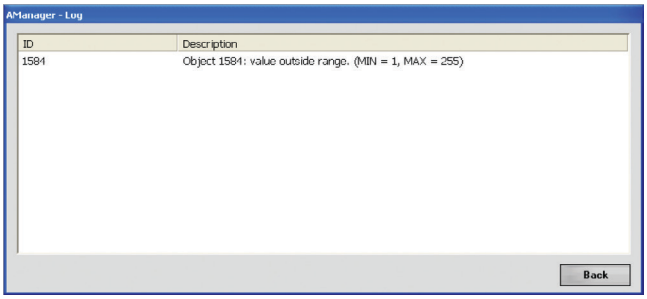
Figure 117



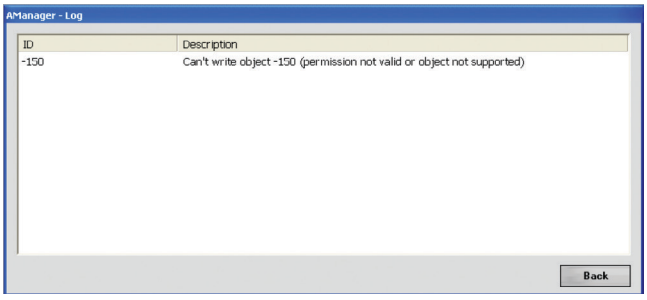
Click Ignore if object is not supported by the actuator firmware
Click Retry to read again the object
Click Abort to stop the procedure



Click Retry to read again the object or click Abort to stop the procedure

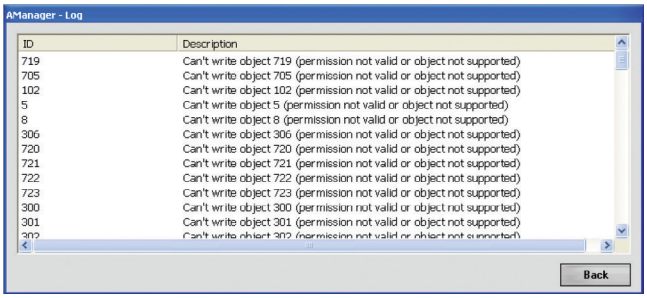


Find the object in the Object list. See the object description and then move in the Section and TAB containing the Object. Enter correct values by the commands Modify and Send.



Object cannot be written:

- not supported by the firmware revision of actuator or
- username profile does not allow to write it



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