



Installation and User Manual

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1 Product Description

The Amico System was conceived for rendering fuel replenishment, consumption management, tank filling operations and motor vehicle maintenance automatic.

- The main function of the Amico System is to permit the supply of fuel in a controlled and pre-authorised manner. The access key for refuelling is a vicinity activated RFID tag (AmiTag) provided with memory for programming operational parameters.
- AmiTags are able to be customised by way of their programmer (setting of kilometres or of work hours, request of a secret code, request for a second card for driver identification, request of a driver identification code, limitations, and pre-selection of the litres to be pumped as a function of the estimated average consumption, etc.). Amico conditions refuelling based upon the information memorised on the AmiTag that is brought near the reader.
- It may be combined with new or already existent distribution plant systems.
- It is able to manage supply from two fuel dispenser pumps at the same time.
- It is able to manage the cistern fuel stock in real time, permitting the setting of a minimum supply level with eventual fuel dispenser pump blocking.
- It is able to manage two electronic counters, which, synchronised with the mechanical ones, give the possibility of knowing if the electronic one has been excluded from the pumps.
- Amico does not need a direct connection with a personal computer. To transfer data acquired, besides with the direct cable, the download data AmiTag or the AmicoOnLine form may be used (see Command transmission to the AmicoOnLine server) via internet on a GPRS network.
- The Amico System works 24 hours a day without any need for maintenance, except for the replenishment of the paper in the internal printer if there is one.
- It does not need an operator, because it is the driver him or herself who, with a simple operation, uses it.
- It memorises data having to do with the operation performed: date and time of the refuelling, identification number of the vehicle and eventually of the driver, litres dispensed, kilometres driven, etc.
- All of the information memorised internally are maintained, even in the event of a power failure, for a period of at least 5 years
- In the event of an electrical power failure during refuelling, the data is saved automatically.

1.1 Use Limitations



The AMICO device may not be installed inside of an area with an explosion hazard.



The AMICO device must be installed far from inflammable surfaces or substances.



The AMICO device must be connected exclusively to systems for which it was designed.

1.2 Amico Versions

This document is to be applied to the following versions:

- Amico 3000 r2.0 (firmware of the Amico control unit)
- WinAmiFree r1.11.10
- AmiOnLine r.2.1.2

1.3 Amico System Elements

The Amico System is made up of the following elements:

1.3.1.1 The Amico control unit

This is the principal component of the Amico System. It is positioned next to the fuel dispenser pump and controls supply by way of AmiTag authorisation keys.



The Amico control unit (Figure1)

1.3.1.2 AmiTag - Keychain and card for enabling refuelling

This is utilised to identify the vehicle or the driver: allows the pre-authorisation and the tracking of refuelling supply.



AmiTag in key ring format (Figure 2)



AmiTag in Card format (Figure 3)

1.3.1.3 AmiTag Program

The AmiTag Program is a special card that allows the fuel depot manager to operate Amico so as to obtain reports on refuellings carried out, update the fuel stock levels in the cisterns, disable supply cards, and modify certain timers and operational parameters.

1.3.1.4 AmiTag Data Download

The Data Download AmiTags are particular card passes that allow a manual downloading of the refuelling operations memorised in Amico and their subsequent transfer into a PC when there is no direct connection, by cable, through the internet from the control unit to the PC.

The download to the PC comes about by way of the AmiDesktop Contactless Programmer (optional), which transfers data from the Data Download AmiTag to the WinAmiFree software.

1.3.1.5 WinAmiFree Software (distributed on CD)

Management software included in the Amico System with operational functions for:

- Acquiring data from the Amico control unit
- Managing driver and vehicle registration
- Analysing consumption
- Managing programmed maintenance
- Programming AmiTags



Software CD (Figure 4)

2 Installation Manual

2.1 Installation and Maintenance: WARNINGS

 Installation of the Amico device must be carried out by specialised personnel who have been suitably trained.

 The Amico device is intended for use with a mono-phase electrical network. Therefore all of the regulations and laws regarding safety must be observed.

 In the device there are parts that are under dangerous electrical voltage when used. The improper utilisation of these devices may therefore cause serious harm, significant damage to things and even death. In addition, the installation instructions must be scrupulously followed.

 Amico must arrive from shipping protected from shocks by suitable padding. If there is evidence of damage, contact the manufacturer, in that the product is non-standard.

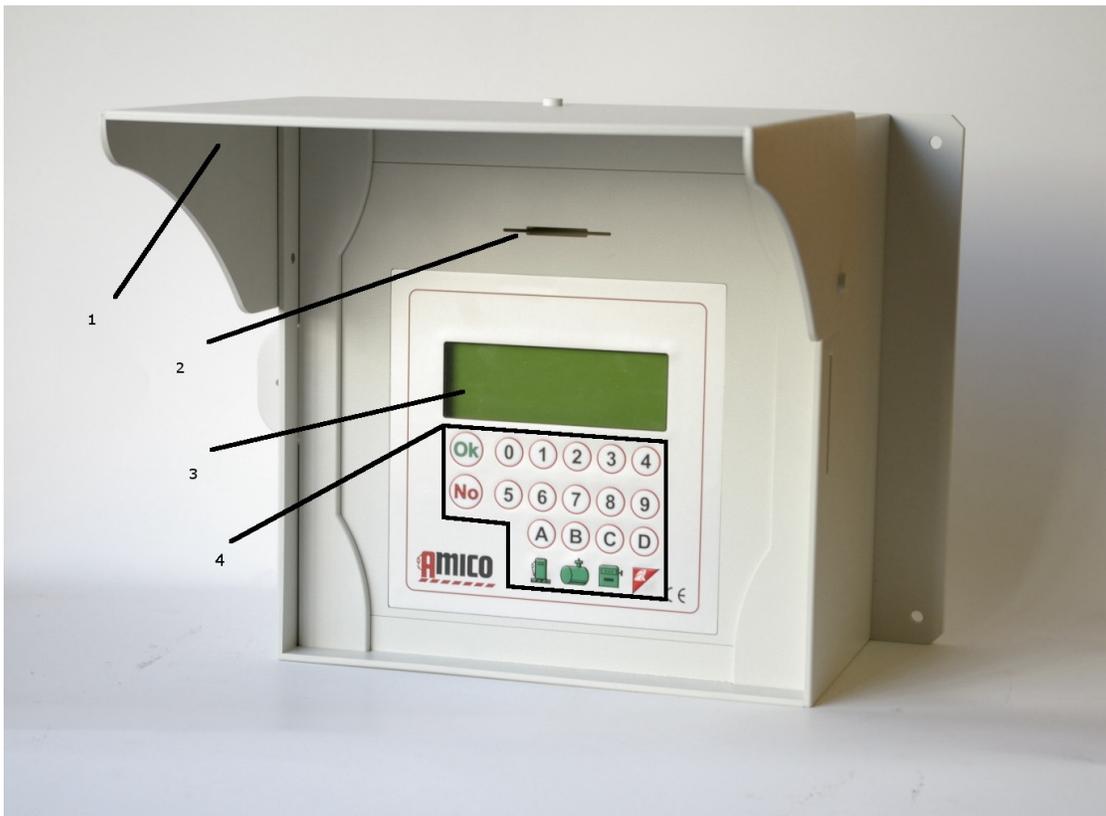
 Avoid that Amico be exposed to water spray other than rain.

 Opening the panel may be undertaken only after having disconnected the electrical power from the equipment. An electrical discharge could cause serious harm or even death.

 Opening the Amico panel may be undertaken only by qualified personnel. An electrical discharge could cause serious harm or even death.

2.2 Installation of the Amico Control Unit

2.2.1 System Components

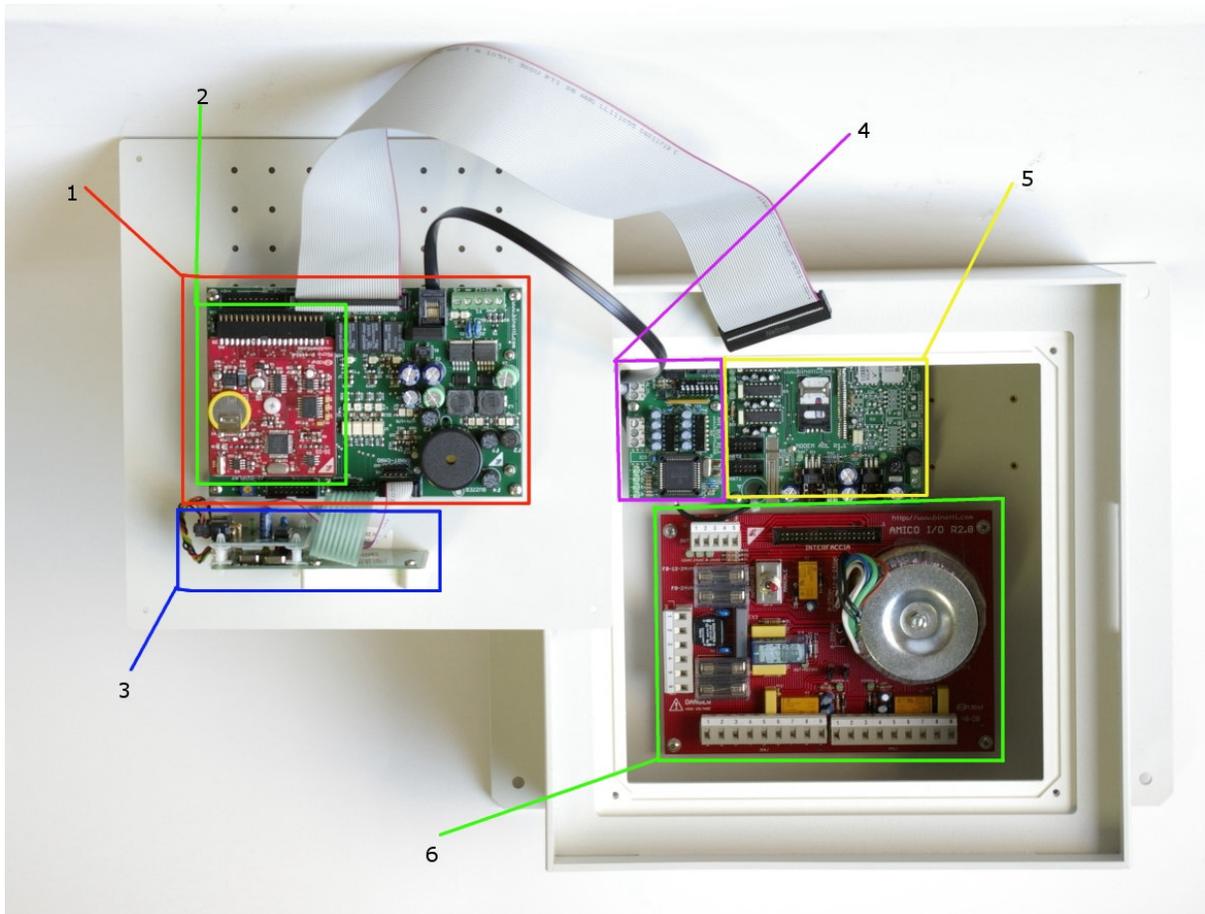


Amico Control Unit detail (Figure 5)

1. Sunshade wings
2. Slot for AmiTag card
3. 20 x 4 display
4. Alphanumeric keypad

Inside of the Amico internal control unit electrical panel there are:

- The Amico I/O electronic data card for the electrical powering of the Amico control unit and the interface with the pump units.
- The Amico 2005r2.0 electronic data card with retro-integrated display.
- The micro-modem for PC connection (optional).
- The GPRS AmicoOnLine modem (AOL) for internet connections and to send SMS messages (optional).
- The AmiTag reader

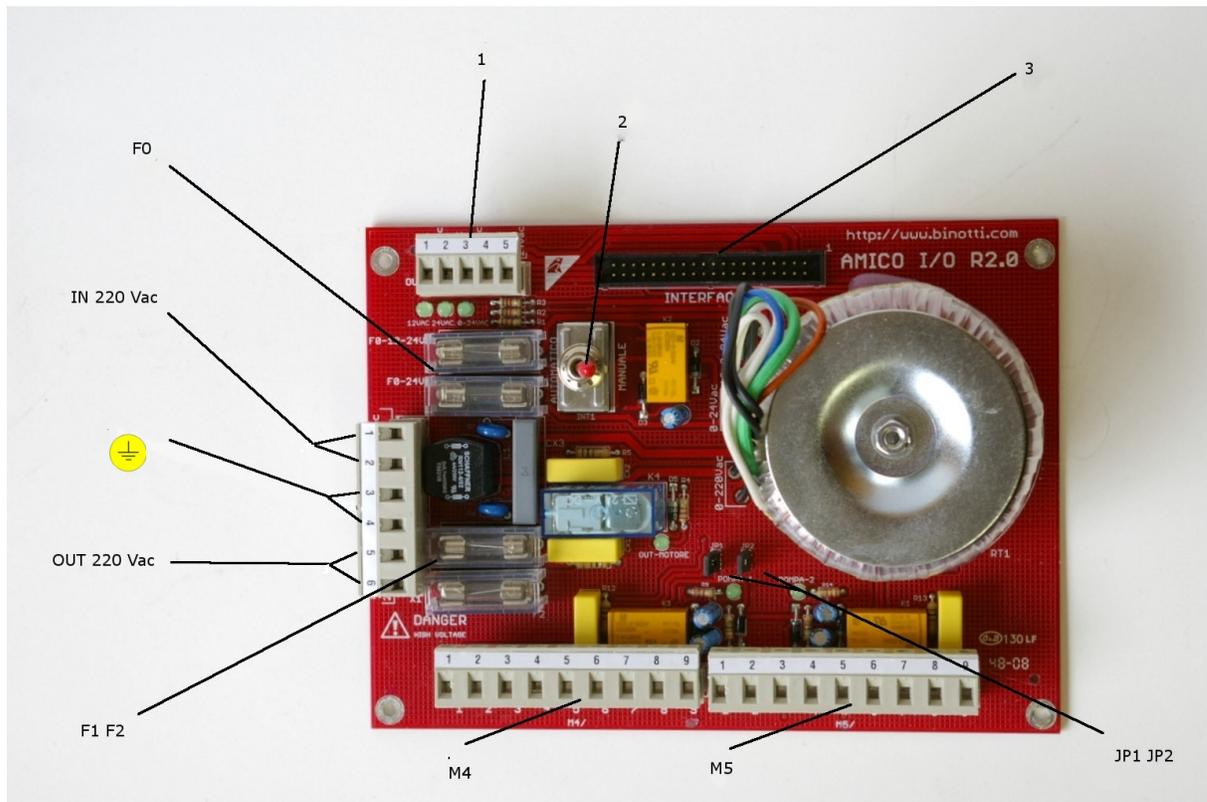


Inside of the control unit (Figure 6)

1. Amico 2005 data card
2. CPU
3. The AmiTag reader
4. AmiBus
5. AmicoOnLine module (or micro-modem for PC connection)
6. I/O data card

2.2.2 Installation Sequence

1. Assemble the electrical control panel to the Amico control unit and run the connection cables as per the regulations in force. All of the Amico control unit cables input/output must be sealed and locked by cable chocks.
2. Attach the impulse emitter on the mechanical head of the distributor and bring the 3 wires (+, -, and channel) inside of the Amico control unit and eventually the 2 contact wires for insertion into the fuel dispenser hand unit.
3. Connect the cables into the M4 terminal strip for pump 1 (if pump 2 is present, repeat the connection on M5).
4. Connect the 220 V AC mains electrical power supply to the Amico control unit on the terminal strip (5) 0-220 V AC by way of a cable with a nominal section of 2.5mm with phase/neutral/earth.
5. Turn the switch to the AUTOMATIC position to activate the control unit.



Amico I/O data card (Figure 7)

- 1: Not used, present only for compatibility with R1.0 Amico Data Card.
- 2: **Selector** automatic/manual: enables the pump operation by deactivating the electronic data card (manual). In manual operation no refuelling is recorded.
- 3: **Flat connector** for connection to Amico 2005 data card

- F0: **fuses** transformer output: *F0-12-24* 3.15A, *F0-24* 3.15A
- IN 220 V AC: 220V 50 Hz electrical power input (1 neutral, 2 phase)
-  : Earth
- OUT 220 V AC: 220V 50Hz electrical power output max 5A
- F1 F2: **fuses**
- M4, M5: **terminal strip** respectively pump 1 and pump 2 (if present).

Pin configuration:

- 1-2 Fuel dispenser hand unit contact (optional connection). Manages a micro switch with a clean contact to activate the pump motor outputs. With the contact closed the outputs are enabled (6-7, 8-9 and OUT 220 on pump 1). To activate it remove the jumper JP1 (pump 1) and JP2 (pump 2).
- 3 + 12 V DC for encoder electrical power supply
- 4 0V encoder
- 5 Encoder Channel
- 6-7 Out 24 V AC for the remote control switch coil. The remote control switch allows the power supply disconnection of a dispenser pump with a 380 V AC motor.
- 8-9 Clean contact NC. The contact is closed when the dispenser pump is enabled.
- JP1, JP2: **JUMPER** to activate the management of the fuel dispenser hand unit in the terminal strip M4, M5 (terminals 1-2) remove the Jumper

The pump motor may be commanded in the following ways:

PUMP 1

The permission of the command data card activates the following outputs in parallel:

- 220v 50Hz output on the OUT MOTOR terminal strip to provide electrical power directly to a small motor (max. 5A)
- Output 24V AC to command a remote control switch on terminals 6-7 of the M4 terminal strip.
- An NA contact that closes to interrupt permission (max 12 V 0.3A) on terminals 8-9 of the M4 terminal strip.

PUMP 2

The permission of the command data card activates the following outputs in parallel:

- Output 24V AC to command a remote control switch on terminals 6-7 of the M5 terminal strip.
- An NA contact that closes to interrupt permission (max 12 V 0.3A) on terminals 8-9 of the M5 terminal strip.

2.2.3 Connection of the mini-modem to the PC (optional)

The connection of the Amico control unit to the PC comes about through a shielded 8 wire cable ($\varnothing 0.5 \text{ mm.}^2$) that connects the pair of mini-modems. One mini-modem is positioned inside of the Amico control unit and the other is connected to the serial port of the PC.



M4 terminal strip (Figure 8)

Mini-modem PC side (Figure 9)

The two mini-modems are connected to the M4 terminal strip (6 contacts) doubling the wires on terminals 1-2 (9V AC power supply from the mini-modem transformer PC side). The connection is made respecting the sequence on both of the connectors

Mini-modem Amico side (M4) Mini-modem PC side (M4)

1	-----	1
2	-----	2
3	-----	3
4	-----	4
5	-----	5
6	-----	6

The mini-modem PC side connects to the serial port (or to the USB-232 adapter) on the PC and is powered by a transformer from the 220 V AC mains.

2.2.4 Installation of the AmicoOnLine (AOL) module for internet connection by way of the GPRS (optional)

The connection of the Amico control unit to the Internet comes about by way of a GPRS enabled telephone SIM card, data or voice (the activation request for GPRS service must be made through a local GSM telephone service provider).

- Insert the telephone SIM card in a normal cell phone and deactivate the request for the PIN code.
- Insert the SIM in the SIM port of the AmicoOnLine module and lock it in by sliding the lock into place.
- Screw down the 4 spacers on the bottom of the container and attach the AmicoOnLine electronic data card.
- Connect the telephone jack to the AmicoOnLine electronic data card mini-modem and to the Amico 3000 electronic data card.
- Turn on the Amico control unit, introduce the Program AmiTag, activate the "Activate GPRS Services" function in the AMICO ON LINE menu (see AmiTag Program)



Positioning of the AmicoOnLine GPRS modem card (Figure 10)

2.2.5 Installation of the AmiBus module for connection of the level probe sensor

The AmiBus electronic data card permits the connection of the electronic data card to the level probe sensor. For the connection to the probe sensor data card refer to the specific diagram.

- Connect the RJIN connector to the Amico2005 electronic data card and the RJOUT connector to the Amico mini-modem or to the AOL electronic data card by way of the cables provided.
- Connect the serial cable to the level sensor probe.
- Assemble the AmiBus data card to its spacers on the lower panel.
- Enable the management of the sensor probe with the Program Tag in the "Sensor Probe on AmiBus" function in the "RESTRICTED PARAMETERS MENU" (see AmiBus Level Sensor Probe 1/2)



Installation of the AmiBus module (Figure 11)

2.3 Configuration of the Amico System

2.3.1 Configuration of the Amico control unit

Initial configuration allows the Amico control unit to know the details of the refuelling plant system, the number of dispenser pumps and cistern tanks connected, the numbering to assign to the dispenser units, in a plant with more than one dispensing device, the type of product dispensed and the code of the company to which the dispensers belong.

2.3.1.1 Configuration of the plant system parameters

1. Introduce the Program Tag and enter the "RESTRICTED PARAMETERS" MENU (see RESTRICTED PARAMETERS MENU)
2. Set up the second pump (connected to the M5 terminal strip) if there is a second pump. ("SET UP PUMP 2" function)
3. Set up the second cistern tank if the 2 pumps are connected to 2 cisterns. ("SET UP CISTERN 2" function)
4. Set the number of litre impulses in the encoders connected to the pumps. ("NUMBER OF IMPULSES PUMPS 1/2" function)
5. Set up the level detection function from the sensor probe ("ANALOGUE LEVEL SENSOR PROBE" function or "LEVEL SENSOR PROBE ON AMIBUS")

2.3.1.2 Configuration of parameters for a multiple plant system

For a multiple plant system, a group of Amico devices belonging to the same user is meant. Even if the data is managed by one single software program, each dispenser unit is assigned a definite number that allows the dispenser unit on which refuelling is performed to be clearly identified.

Optionally, each dispenser unit may be attributed to a certain type of product dispensed and its inclusion in a specific group. In this way refuelling may be limited for specific TAG groups (see AmiDesktop - Programming of the AmiTags).

For example, the Tag for a diesel vehicle will not be able to dispense fuel from a gasoline pump. Or else, the Tag for a vehicle belonging to Group 1 may not have fuel dispensed from a pump belonging to Group 2. In this case:

1. Introduce the Program Tag and enter the "RESTRICTED PARAMETERS" MENU (see RESTRICTED PARAMETERS MENU)
2. Set up the numbering to be assigned to group 1 connected to the M4 terminal strip ("Numbering pump 1" function)

3. Set up the numbering to be assigned to group 2 connected to the M5 terminal strip ("Numbering pump 2" function)
4. Set up the type of product to be dispensed by pump 1/2 ("Numbering pump 1/2" function)
5. Set up the code of the affiliation group for pump 1/2 ("Firm numbering 1/2" function)

2.3.1.3 Configuration of customisable parameters

Customisable parameters are used to customise control unit timing and to correct the system clock.

Insert the Program Tag and enter the "CUSTOMISABLE PARAMETERS" menu (see RESTRICTED PARAMETERS MENU)

There are 2 timing procedures: one is the number of seconds at the beginning of the refuelling and the other, the number of seconds at the end.

The time in seconds at the beginning of the refuelling indicates the maximum amount of time in which the refuelling procedure must begin. If for some reason the refuelling does not start min that time, the motor will be disconnected and it will be necessary to bring the Tag close to the reader again. ("Start refuelling seconds" function)

The time in seconds at the end of the refuelling indicates after how much time the pump motor will be disconnected from the moment that the dispensing stops (even if the fuel dispenser hand unit is not replaced in its seat) ("Stop refuelling seconds" function)

2.3.1.4 Configuration of the stock and of the electronic counters

The stock in the cistern tank allows the calculation of the quantity of product in the cistern subtracting the litres dispensed from the stock value entered. In the configuration with a level probe sensor the logic stock is substituted by that of the sensor probe.

Introduce the Program Tag and enter the "STOCK IN CISTERN" menu (see *CISTERN STOCK MENU*) Verify the litres in the cistern tank by way of the metric dipstick or by way of the litre counter of the tank truck that has unloaded product and insert the value in the cistern ("Cistern Stock 1/2" function)

The electronic counter allows verification, once it has been synchronised with the mechanical counter of the dispenser, that all of the refuellings are carried out with the Amico control unit in operation. In the event that this latter were to be excluded (manual operation) the electronic counter would not run.

Synchronise the electronic and the mechanical counters of the pumps ("Dispenser pump counter 1/2" function)

2.3.1.5 Configuration of the AmiTags to enable refuelling

Once an AmiTag is brought near the Amico reader the control unit reads its characteristics and requests that the operator follow the procedures set out in its parameters. The enabling of refuelling comes about at the end of the requests carried out.

So as to define how to programme the AmiTags, it is necessary, first of all, to either identify the vehicle to be refuelled, the operator, or both. In general, it is more important to identify the vehicle to be refuelled, since the consumption of fuel as a function of the distance travelled or of the meter is referred to the vehicle. In this case it would be necessary to distribute AmiTags to each vehicle that is to be authorised to refuel.

The identification of the operator is added information that might be necessary when drivers change the vehicles they operate daily. The identification of the operator may come about by way of the use of a second "driver" type AmiTag, to be used together with a "vehicle" type, otherwise through the use of a secret identification code (driver code).

The programming of the AmiTag and the creation of driver codes come about by way of the WinAmiFree software and the AmiDesktop Contactless programmer (see par. 2.3.3).

The most frequent programs for the AmiTags are the following:

- Vehicle AmiTag, request Km: when one driver always uses the same vehicle.
- Vehicle AmiTag, Km, request driver code: when it is preferred that the driver also be identified (max. 100 drivers)
- Vehicle AmiTag, Km, request Driver AmiTag: when it is necessary to identify the driver in a secure manner.
- Driver AmiTag and enter the vehicle code number: when it is not possible to utilise the Vehicle AmiTag (ex. drums, street sweepers).

It is also possible to program several refuelling limitations on the AmiTags: for the pump numbers, for the type of product, for affiliation group, for predicted consumption levels as a function of kilometres driven, etc. For further details see the paragraph on AmiDesktop.

2.3.1.6 Configuration of the level probe sensor

A level probe sensor, to provide correct values, must be configured in function of the cistern tank in which it is used. The dimensions, the shape, eventual inclination angles of the tank require that, in order to obtain significant values, the level probe sensor installed be suitably calibrated with a table of values cm/litres. A table of this type may be entered directly into the electronics of the probe sensor, or it may be obtained by calculating the calibration table directly on site with a procedure called "**self-calibration**" (only in the AmicoOnLine versions).

If the calibration table for the cistern is entered into the level probe sensor, enable the "Calibration in the sensor probe" function. Amico will then receive the quantity in litres inside of the cistern from the sensor.

If the calibration table is not present in the sensor, it is necessary to carry out a self-calibration of the system (only with the AOL model).

How to initiate self calibration

- Fill the cistern up to its maximum level. Wait 15 minutes so that the level will stabilise.
- Set the stock value in the function, "Initiate cistern 1/2 calibration" in the "CISTERN STOCK MENU" (the function appears only with the "activate GPRS services" function activated in the "AMICO ON LINE MENU").

After having entered the beginning of the calibration, Amico will transfer the command to the AmicoOnLine server. In the event of an error in the connection, it will be necessary to repeat the operation.

From this moment onward, at each refuelling carried out, the level is transferred to the internet server, which elaborates the calibration table.

- Reach the absolute minimum level possible and replenish the cistern again. The calibration will end automatically.

From this moment onward the cistern level will be calculated by the value received from the probe sensor.

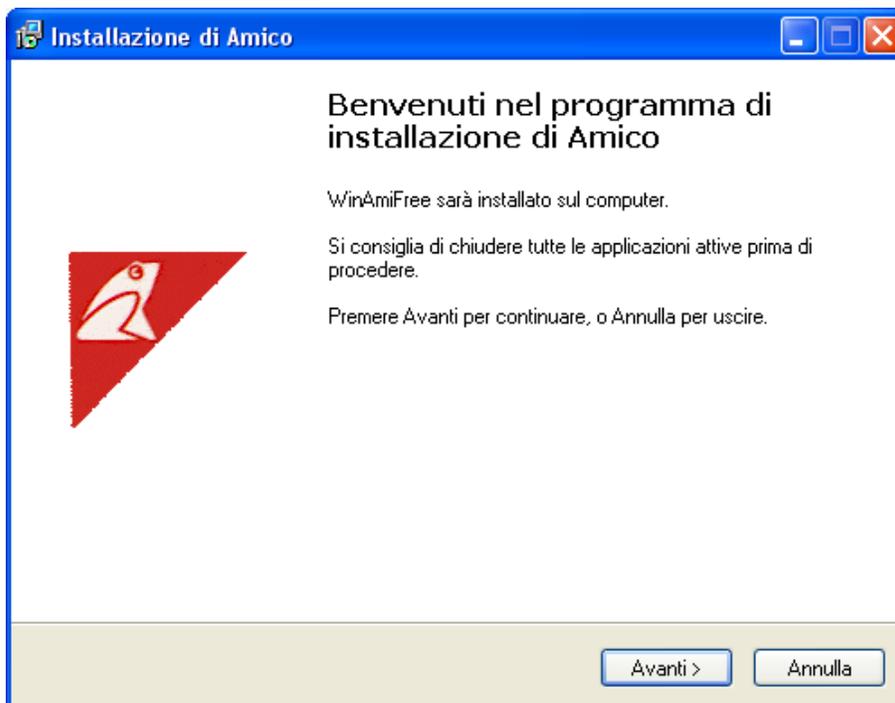
2.3.2 Installation of the WinAmiFree Software

The WinAmiFree Software allows the management of refuellings registered by the Amico control unit on a PC.

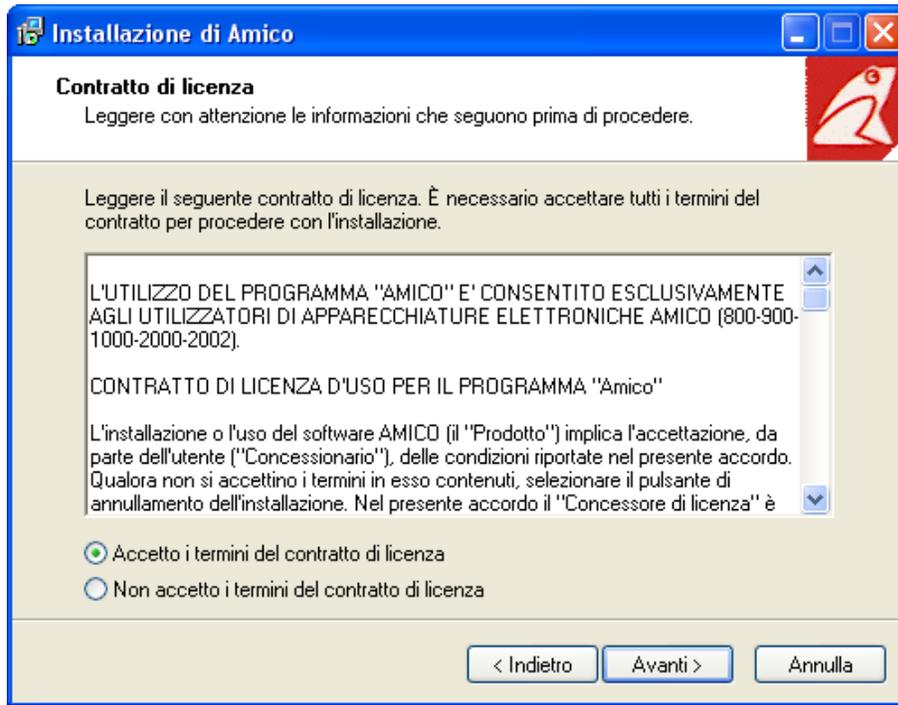
Currently WinAmiFree has been developed only for Windows platforms (from Windows 98 to Vista).

2.3.2.1 Step by step instructions

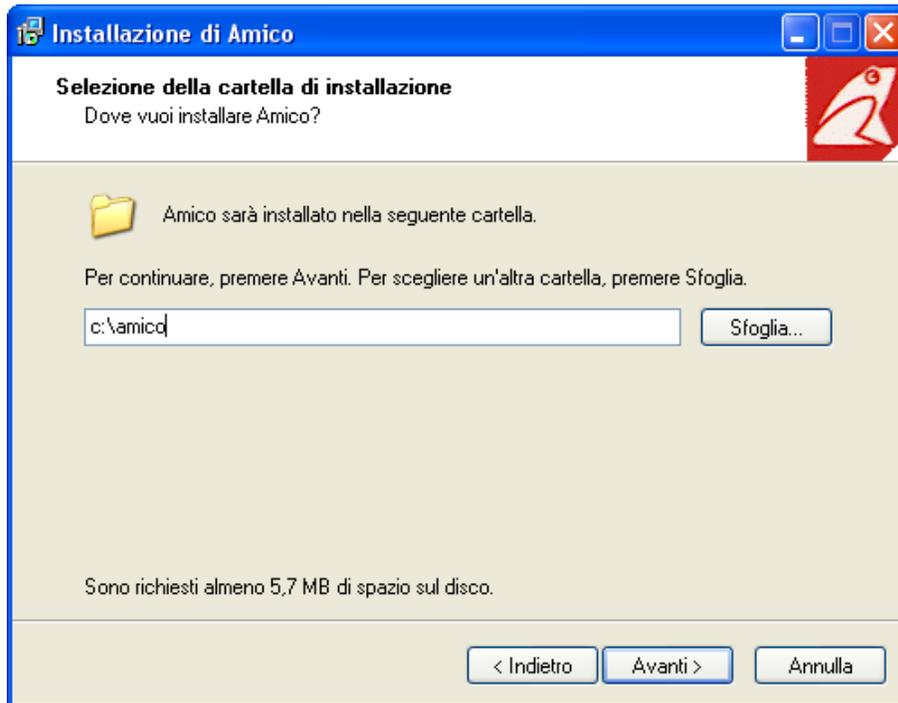
Insert the installation CD in the reader to start up the automatic installation procedure. If it does not start up automatically, it will be necessary to start up the program manually from the CD file: **amicosp.bat**



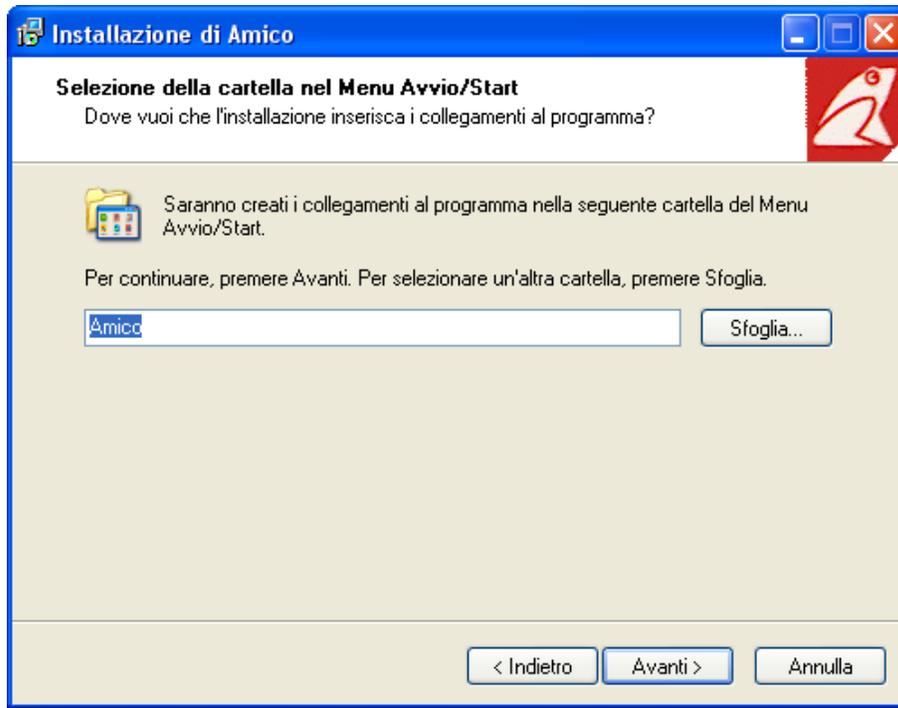
Press Next



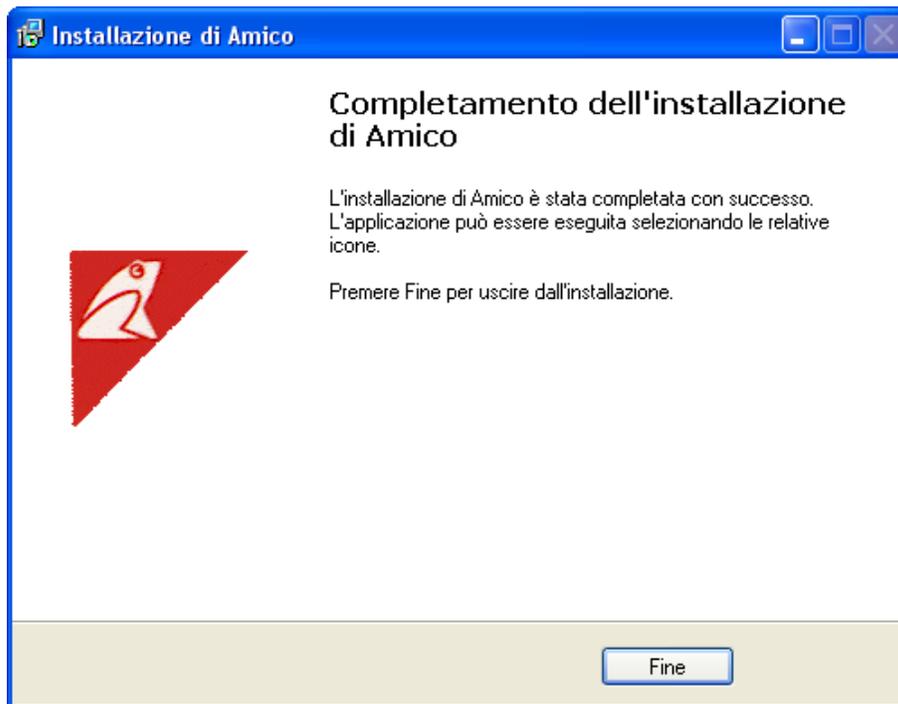
Select the checkbox, "I accept the contract license terms" and press Next [Avanti].



Select the destination folder for the program and press Next (Avanti).



Press Next and then Install.



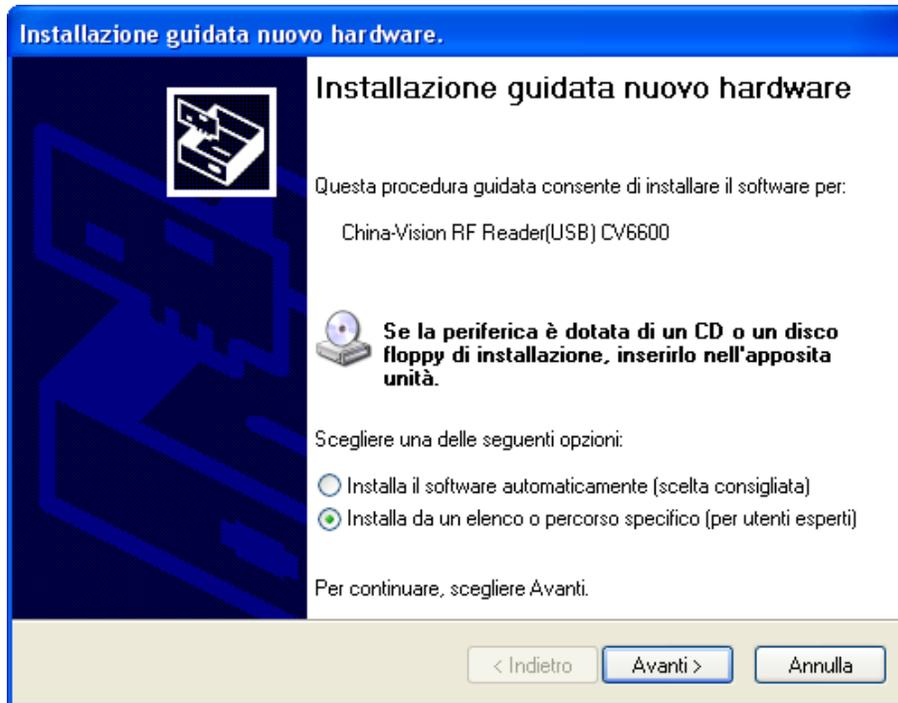
Press End.

The WinAmiFree icon will appear on the desktop.

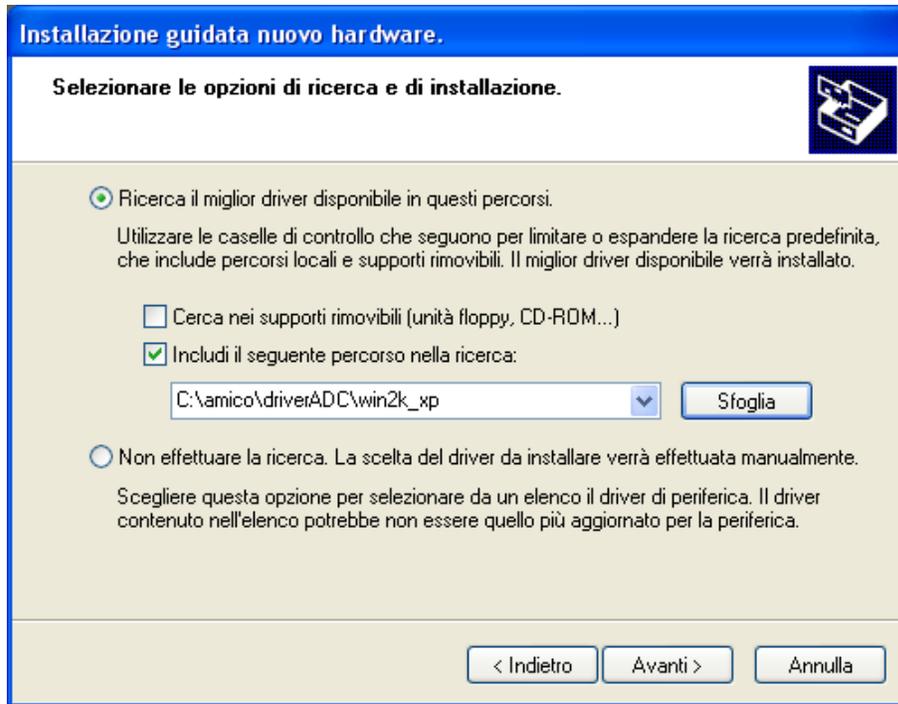
2.3.3 Installation of AmiDesktop Contactless

In the AmiTag Amico versions it is possible to install an AmiDesktop Contactless Reader (optional).

Connect the reader to the PC and wait for the installation procedure guided by the new hardware.



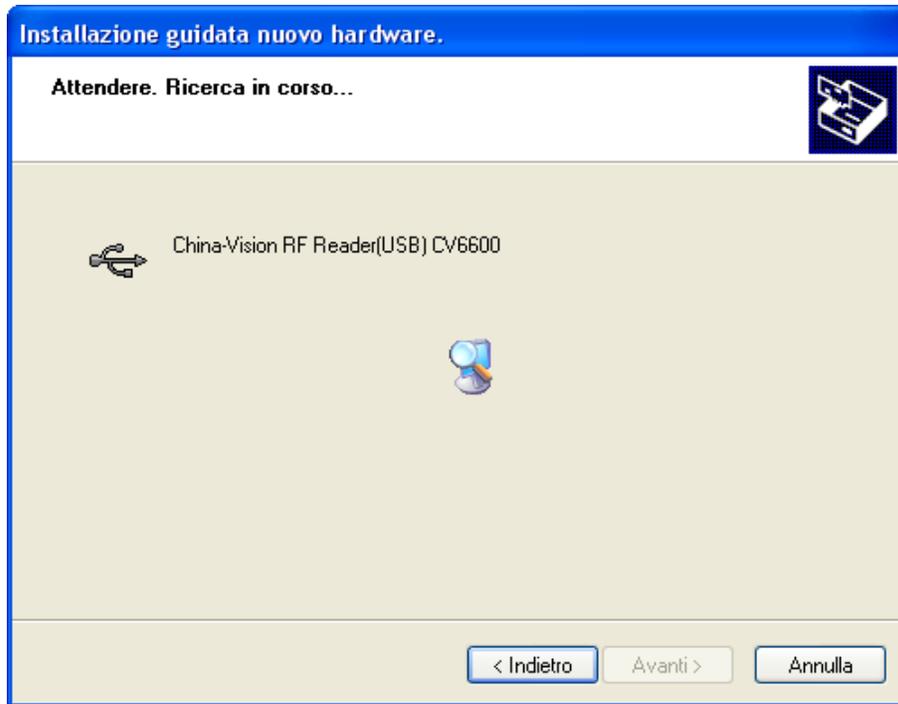
Select the checkbox "Install by a list or specific path" and press Next



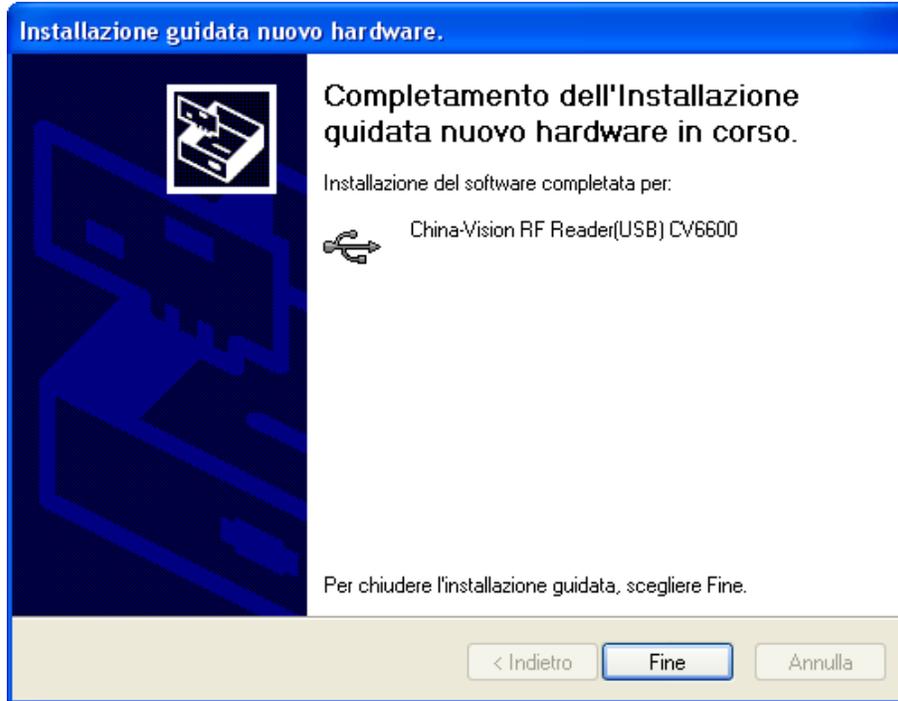
Push Browse



Select the win2kxp folder as in the illustration, in the program installation folder and push OK,



Press Continue



Press End.

2.3.4 Initial Configuration of the WinAmiFree software

Upon the first start up of the WinAmiFree software certain configurations are necessary so as to be able to manage the AmiTags and receive data from the AmicoOnLine server.

2.3.4.1 Enabling AmiDesktop for card codification (optional)

Double click the WinAmiFree icon to execute the program and click the AmiDesktop button.

A message indicating the first execution of the program will appear. Bring the program AmiTag near the reader and confirm the AmiDesktop search.

If the message: "AmiDesktop has been detected" "Program card Valid" is displayed, the program has been configured correctly. Close the program.

2.3.4.2 Enabling AmicoOnLine software for data transfer from the Internet (only for Amico with

AOL module)

Double click the WinAmiFree icon to execute the program and click the AmicoOnLine button.

If the AmiDesktop has already been configured for AmiTag programming, the AmicoOnLine software will automatically import the machine code, otherwise 2 AmiTag Program codes will be requested: the machine code and the unlock code. Enter the printed codes and the software will be configured.

To verify the operation of the internet connection, it is necessary to have carried out a refuelling using one of the AmiTags provided and it is necessary that Amico transmit this to the AmicoOnLine server.

To acquire data on the PC, click on the Acquisition Data button. All of the data not yet downloaded will be transferred to the WinAmiFree software.

In the event that the call was to not go through, the following points need to be verified:

- **Is the Internet connection active?** Verify by way of Internet Explorer if the Internet connection is active, entering the site address: <http://www.amico-on-line.it> in the address bar.
- **Is Windows firewall active and blocking the program?** Technically the data is transferred to the program by way of an HTTP call on the 80 port by the AmiOnLine.exe program to the server www.amico-on-line.it. It might be necessary to inform the firewall that the program is authorised to carry out these calls.
- **Is the internet connection managed by a proxy server?** Generally the setting of the proxy is imported automatically. If it were to become necessary to set them manually, perform the following operations:
 - Enter the code 021070 in the data entry box "Config".
 - Enter the access data requested.

2.3.4.3 Enabling direct connection via cable (Amico micro-modem)

Double click the WinAmiFree icon to execute the program. Therefore, click the Acquire Data button.

The detection of the type of connection is requested. Press OK.

You are asked if you want to try a TCP network connection. Press NO.

The search on the serial port is requested. Press OK.

The PC begins its search on the communications ports. Once Amico is detected a confirmation message appears.

2.4 Quick Start Up

To verify the proper operation of the system, follow the instructions below: for more detailed information refer to the "User Manual" section.

2.4.1.1 First Refuelling

Get the Vehicle No. 1 AmiTag and the Data Download AmiTag if a manual data download is intended.

Turn on Amico by shifting the switch inside of the control unit towards the left. 3 beeps indicate the system reset. On the display the firmware version message appears for a few seconds and afterwards the message:

INSERT AMITAG

01-01-2009 08:00:00

Insert an AmiTag into the slot. The Amico control unit will read its characteristics and will ask the operator to follow the procedure set out by its parameters. The enabling of refuelling comes about at the end of the requests carried out.

Below the more frequent programs will be described.

2.4.1.1.1 AmiTag Vehicle and kilometre request from the odometer

ENTER KM/HRS: _____
VEHICLE: 001



Enter the kilometres read on the odometer of the vehicle and press

Extract the AmiTag and begin refuelling.

2.4.1.1.2 AmiTag Vehicle, request kilometres and request driver code

DRIVER CODE: _____
VEHICLE: 001

Enter driver code for his/her identification (see 04.9.4)

```
ENTER KM/HRS:_____
VEHICLE: 001
DRIVER    001
```

Enter the kilometres read on the odometer of the vehicle and press
Extract the AmiTag and begin refuelling.



2.4.1.1.3 AmiTag Vehicle, request kilometres and Driver AmiTag

First insert Driver AmiTag.

```
INSERT VEHICLE TAG
DRIVER: 001
```

Insert Vehicle AmiTag.

```
ENTER KM/HRS:_____
VEHICLE: 001
DRIVER      001
```

Enter the kilometres read on the odometer of the vehicle and press
Extract the AmiTag and begin refuelling.



2.4.1.1.4 Driver AmiTag and enter the vehicle number to be refuelled

First insert Driver AmiTag.

```
ENTER VEHICLE NUMBER_____
DRIVER: 001
```

Enter the vehicle number to be refuelled and press



```
ENTER KM/HRS: _____  
VEHICLE: 001  
DRIVER: 001
```

Enter the kilometres read on the odometer of the vehicle and press



Extract the AmiTag and begin refuelling.

2.4.1.1.5 Check and verify the kilometres and any eventual errors

Amico carries out a check of the kilometres entered and, if specified in the parameters of the Vehicle AmiTag, it may block refuelling in the event of a kilometre reading error. Or else, it may predetermine the maximum quantity of litres to be dispensed as a function of the consumption set on the AmiTag (see paragraph "Block on Kilometres").

If the kilometres value entered is not within the range preset on the AmiTag, there will appear the following message on the display:

```
Km. Error. Confirm?  
Km. Previous: 00001  
Vehicle: 001  
Kilometres: 999999
```

Or else, in the event that a blockage was set in function of the kilometres:

```
KM. ERROR!!!!  
VEHICLE: 001  
Km. 00001
```

In the event that the AmiTag is extracted before entering the kilometres there will appear on the display:

```
INSERT TAG VEHICLE!
```

To permit that checks on the kilometres driven be carried out in multiple plant systems, Amico must be able to write the kilometres entered on the AmiTag itself. In this case it is necessary to insert the AmiTag once again.

If there were no errors in the data entered or in the sequences requested, the following message will appear on the display:

Dispense at Pump 1

Carry out refuelling within 60 seconds. After 60 seconds of inactivity, Amico will disconnect the dispenser pump motor (parameters that may be set during the configuration phase).

In the AOL module version (AmicoOnLine), the following message appears:

INTERNET CONNECTION:
DOWNLOAD REFUELLINGS 001

and the refuelling is immediately transferred to the AmicoOnLine server. In the other versions the refuelling is memorised.

Verify on the Amico display the correspondence of the litres dispensed, pushing the  button:

Litres 0000 00

If the data is downloaded manually, insert the Download Data AmiTag and wait for the download of the tests. For example:

DOWNLOAD REFUELLINGS 003

PLEASE NOTE: The manual download function on the Data Download AmiTag is disabled in the AOL version (AmicoOnLine).

2.4.1.2 Download data onto a Personal Computer with WinAmiFree software.

For a detailed description of the data download operations, see paragraph 4.5 Download refuelling data.

To download refuelling data to a PC from the refuellings memorised on the AmiTag Data Download card, click on the "Download data from the card" button.

The data is read, inserted into the PC archive and deleted from the AmiTag card.

2.4.1.2.1 Manual data download from Data Download AmiTag

To download refuelling data memorised on the Data Download AmiTag onto the PC, click on the "Download data from card" button. The data is read, and saved to the PC archive and deleted from the AmiTag.

2.4.1.2.2 Download data from cable connection

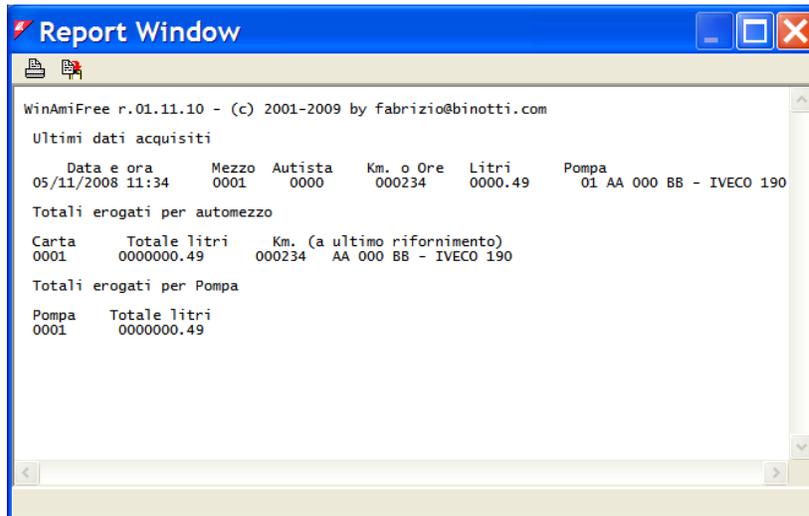
Click on the "Data Acquisition" button. The PC connects to the Amico control unit and downloads the refuellings in memory. The data are saved in the archive and deleted from the Amico memory.

2.4.1.2.3 Download data from the Internet connection (AmicoOnLine)

Activate the PC internet connection. If it isn't activated, click on the AmicoOnLine button and then on the "Data Acquisition" button. The WinAmiFree software downloads the data from the AmicoOnLine server and saves them to the historical archive.

2.4.1.3 WinAmiFree software main functions

Click on the "Latest Data Acquired" button to visualise the refuellings carried out.



The date and time of the refuelling, AmiTag number that refuelled, the driver number (only with the 2 AmiTags function), and the kilometres on the odometer at the moment of the refuelling and the litres dispensed are listed.

At the end of the refuelling list there is a summary of the total litres dispensed from that pump and by AmiTag.

The last data download report is of little significance. It is much more interesting to be able to request a report for a given period and to be able to list the refuellings, grouping them by vehicle so as to be able to analyse consumption. To do this, click on the "Historical Archive" button.



Demonstrative data has been inserted in the program so as to demonstrate its functions. Select the year 1995 to use the test data.

In the DA lines: A: It is necessary to enter the time period in which one is interested in seeing the refuellings. Some more often used periods have been preset in the first bar. Otherwise it is necessary to manually select the start date and end date.

The historical archive reports may be requested by averages (grouped by vehicle) or else chronologically (grouped in time order).

Click averages to see the consumption report (remember to set the initial date at the year 1995 to see these test data). Scroll down the bar until reaching the vehicle 523.

Report Window

```

----- Automezzo :0523
  Data e ora   Autista   Km.      Litri    Percorsi  Km/L    P.      Nome autista
01/07/1996 17:48 0014    035025   0269.06
04/07/1996 04:31 0001    036083   0332.36   1058    03.18   01
05/07/1996 18:10 0001    037050   0342.08   0967    02.82   01
08/07/1996 07:28 0001    037718   0250.08   0668    02.67   01
09/07/1996 16:41 0001    038579   0311.36   0861    02.76   01
10/07/1996 18:36 0001    039235   0247.48   0656    02.65   01
12/07/1996 17:26 0001    040349   0386.46   1114    02.88   01
15/07/1996 16:23 0001    040920   0000.80   0571    01      01
15/07/1996 16:25 0001    040920   0182.32   AAAA    03.11*  01
16/07/1996 15:41 0001    041574   0233.54   0654    02.80   01
17/07/1996 16:42 0001    042141   0181.70   0567    03.12   01
19/07/1996 04:48 0001    042876   0282.44   0735    02.60   01
22/07/1996 17:43 0001    043499   0182.56   0623    03.41   01
24/07/1996 11:58 0001    043319   0352.76
26/07/1996 15:05 0001    045701   0436.14   2382    05.46   01
29/07/1996 16:16 0001    046289   0272.20   0588    02.16   01
30/07/1996 16:05 0001    046890   0181.86   0601    03.30   01
31/07/1996 17:52 0001    047403   0166.32   0513    03.08   01

----- Totale litri erogati           :4611,52  Consumo medio in km/l: 03,14
----- Chilometri percorsi calcolabili:12558

----- Automezzo :0524
  Data e ora   Autista   Km.      Litri    Percorsi  Km/L    P.      Nome autista
  
```

The list of the refuellings carried out on this vehicle may be seen for the period considered. The refuellings data are the date, the time, the driver (only using the second pass card) the litres dispensed and, from the second refuelling of the period, the kilometres driven and the consumption average in Km/litre.

Analysing the different refuelling lines it may be noted that the refuelling of 24/07/1996 has a kilometre setting that is surely in error. Indeed the previous ones are higher. The consumption cannot be calculated.

Clicking on the refuelling of 24/07/1996 a window opens that allows the kilometres entered to be manually corrected so as to be able to verify consumption.

Correzione dei chilometri

Numero commessa: Varia num. automezzo:

Data e Ora	Autista	Chilometri	Litri	Percorsi	Km/L	Litri/Ore
22/07/1996 17-43	0001	043499	0182.56	0623	03.41	03.41
24/07/1996 11-58	0001	<input type="text" value="43319"/>	0352.76			
26/07/1996 15-05	0001	045701	0436.14	2382	05.46	05.46

The refuelling selected is in a central position preceded and followed by 2 others. Moving by trial, the presumed kilometrage entered at 044319 and in the data cell Km/L the consumption is immediately calculated based upon the new kilometres entered.

Data e Ora	Autista	Chilometri	Litri	Percorsi	Km/L	Litri/Ore
22/07/1996 17-43	0001	043499	0182,56	0623	03,41	03,41
24/07/1996 11-58	0001	044319	0352,76	0820	02,32	00,43
26/07/1996 15-05	0001	045701	0436,14	1382	03,16	03,16

Another system for correcting the Km is that of having them coincide with the next refuelling. The consumption will be calculated on the next refuelling with the sum of litres dispensed in the two refuellings.

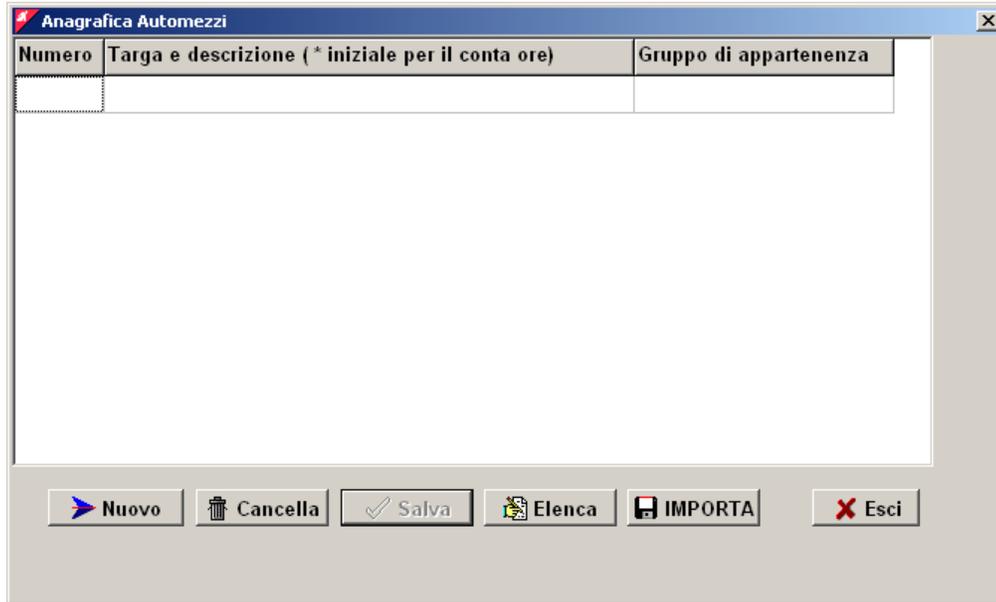
Data e Ora	Autista	Chilometri	Litri	Percorsi	Km/L	Litri/Ore
22/07/1996 17-43	0001	043499	0182,56	0623	03,41	03,41
24/07/1996 11-58	0001	045701	0352,76	2202	06,24	00,16
26/07/1996 15-05	0001	045701	0436,14	^	02,79	02,79

Click on the Save button and the changes are saved in the refuelling archive.

Exit the historical archive to look at the last but no less important procedure for the completion of the description of the main functions.

The reports seen up to now are not very legible in that for identification of the vehicles there has been a number that corresponds exclusively to the AmiTags. It is therefore necessary to create a table with the license plate and the description of the vehicles and associate it to the Tag number so as to improve the report analysis.

Click the Vehicle button.



The vehicle archive is still empty. Click the New button and the first vehicle record of the table will be created with the number 1. Click a few times on the New button to prepare the list of vehicles to be entered and then enter in the license plate and description columns the information for each vehicle.

IMPORTANT: Entering the asterisk * as the first character, the program assumes that the vehicle has no odometer but a time counter. Consequently in the consumption averages report the consumption will be indicated with the ratio of Litres/Hour instead of Km/Litre.

For a detailed description of the functions shown see paragraph 4.3.2 Vehicle identification list.

3 User Manual

3.1 Amico control unit use

3.1.1 Turning on and operator panel description

To access the Amico control unit, turn the automatic/manual switch to automatic.

Once the "Amico" electronics are turned on, for several seconds the following message will appear on the display:

```
AMICO 3000 R.2.0  
MACHINE CODE: 0  
PUMP NUMBER: 01  
SET LITRE: 100
```

In the first line the Amico software version will be visualised (firmware). This manual refers to the version indicated at the beginning of this manual.

The machine code identifies the user code. All of the Amico systems with this code may enable refuelling with an AmiTag programmed with the same code.

The pump number identifies the numbering of the dispenser pump inside of a multiple plant system. In single plant systems the pump number is 1.

Set Litres are the number of impulses from the impulse generator needed to make a litre of fuel. This parameter is configured in the installation of the plant system.

Several seconds after turn-on the following message will appear on the display:

```
INSERT AMITAG
```

```
01-01-2009 12:00
```

In this moment Amico has excluded the controlled pumps and, in order to carry out refuelling, an AmiTag must be inserted into the reader slot.



Push the  button to visualise the electronic dispenser counters.

```
Dispenser pump counter No. 1  
00000000.00
```



Push the  button to visualise the updated stock values in the cistern tanks.

Level in No. 1 cistern
Litres: 000000.00
Litres: 0



Push the  button to visualise the electronic partial litre counter for the last refuelling

Litres:
0000.00 0000.00



Push the  button to restart Amico.

These function buttons are active even during a refuelling, allowing, in this way, the possibility to see the evolution of the situation in real time.

To carry out a refuelling, follow the procedure described in the quick start 2.4

3.1.2 Optional requests during refuelling enabling

The AmiTags that enable refuelling may be codified with additional functions apart from the standard, by way of the AmiDesktop Contactless programmer and the WinAmiFree software. These functions vary the Amico operations, which customise the requests in function of the parameters read on the AmiTag inserted (see 4.9 AmiDesktop - Programming of the AmiTags)

3.1.2.1.1 Request secret code (PIN code)

The pin code allows the utilisation of the AmiTag only after having entered it. It may be set both on the Vehicle AmiTag and on the Driver AmiTag. On the vehicle Tag it is only usable if the vehicle is always used by the same driver. The PIN code, different from the driver code, is not identifying.

3.1.2.1.2 Request driver code

The driver code is a secret code to be given to the drivers so as to be able to identify them during refuelling. To activate the driver codes it is necessary to follow the procedure below:

- Create the list of the driver codes on the AmiTag Program, by way of the WinAmiFree software and the AmiDesktop Contactless programmer.
- Insert the AmiTag Program in the Amico control unit to transfer the codes there.

- Set up the "Request driver code" function on the Vehicle AmiTags which will have to request the driver code.

Once the Vehicle AmiTags are introduced, there will be a request for a driver code to be entered and that code will be substituted, in the refuelling memory, with the corresponding driver number.

3.1.2.1.3 Request job order number (cost centre)

The job order number is a 2 number code that is requested of the operator as additional information. There are no checks made on this data entered. In the historical archive of the WinAmiFree software it is possible to put a filter on the job order number so as to have only the refuellings with that job order number. This is a generic function for the resolution of different situations.

3.1.2.1.4 Request dispenser number

When Amico is configured with 2 pumps, before refuelling, there is a request made for which pump will be used. The selection comes about automatically when:

- There is only one pump connected to Amico;
- One pump is already in use;
- There are limitations on the pump number, on the company or on the product to be dispensed;
- A cistern tank is empty and there is a block on the stock reserve in the active cistern tank.

3.1.2.1.5 Entry of outside refuelling data

Refuelling carried out with dispensers not connected to the Amico equipment, such as refuelling performed at roadside sales points, is what is meant by external refuelling. The driver, at the time of the refuelling on Amico, must manually enter the litres dispensed externally, so as to permit a correct calculation of the consumption average.

Push the "cistern" button before entering the kilometres.



Enter the external litres and press . Continue with the normal refuelling procedure.

Two refuellings are memorised with the same date, same kilometres but different litres, one of which is on pump 99, which indicates the manual refuelling entry, so as to distinguish it from that made by Amico.

3.1.3 Error messages during the enabling of the refuelling

Read error

The AmiTag is not operational or has been inserted too slowly. Repeat the operation.

First insert Driver AmiTag.

The Vehicle AmiTag was inserted before the Driver Tag.

Km error; previous Km

The Km value entered is lower or higher than the autonomy of the vehicle, in relation to the previous refuelling.

Push  and correct the kilometres. Or else, push  to continue.

Km error, push OK <D> external litres

Just as in the previous message but without the possibility of continuing because there is a blockage on the entry of the kilometres set on the AmiTag.

Reinsert Vehicle Tag

The Vehicle AmiTag was extracted before the kilometres were entered. Reinsert it into the reader.

Code Error

The PIN code or the driver code entered is not correct. At each attempt to enter, the error message increases the wait time so as to avoid an attempt at guessing what the code is.

3.1.4 End refuelling: memorisation and transmission of data to the AmicoOnline server.

Enabling refuelling is denied by Amico in one of the following conditions:

- The SECONDS TERM FOR REFUELLING has elapsed. The seconds since the flow of fuel has been stopped, the timing (def. 20 sec) may be changed in the function Seconds Term for Refuelling in the CUSTOM PARAMETERS MENU. Timing begins, for example,

when the automatic dispenser hand unit starts. If the operator does not initiate the top up procedure, the refuelling is stopped.

- The SECONDS TERM FOR INITIATE REFUELLING has elapsed. The seconds since on the display the message appeared saying "DISPENSE" have passed and the refuelling has not been begun. The timing (def. 60 sec) may be changed in the Seconds Initiate Refuelling function in the CUSTOM PARAMETERS MENU. This timing is useful for the case in which an operator forgets to refuel when it has been enabled, avoiding that fuel be dispensed to another vehicle.
- The dispenser hand unit has been replaced in the pump and [the hand unit is connected to Amico.](#)
- The maximum number of litres dispensed has been reached, limited by the kilometres driven or by the limitation on litres that may be dispensed.
- A power failure has turned Amico off.

Once the fuel has been dispensed, the refuelling is memorised and, in the versions with the AOL modem (AmicoOnLine), the refuelling is transmitted to the AmicoOnLine server. The transmission is carried out by way of a GPRS call through the telephone service provider chosen. On the display the following message will appear:

```
INTERNET CONNECTION:  
DOWNLOAD REFUELLINGS: 1
```

If there happened to be some problem with the connection, the following message will appear on the display:

```
CONNECTION FAILED  
MESSAGE: <message>
```

And the refuelling remains memorised in the Amico memory. It will be transmitted at the end of the next refuelling. The possible error messages are the following:

- NoSimIns - The telephone SIM card has not been inserted or has been inserted incorrectly.
- PIN Error - Remove PIN code from SIM
- RifNoIns- Wait for data transmission in the AOL module buffer.
- NoGprs - The GPRS signal is not present. This should be only a momentary problem of the telephone service provider, or the SIM card is not enabled for GPRS.
- NoSignal - There is not sufficient signal from the antenna. Connect an external antenna or shift the position of the present one.
- NORISP - The AOL module does not respond. Wait 5 minutes and retry. In the event of negative response, check and verify the connection.

When a refuelling cannot be transmitted, it remains in the Amico memory, which at the end of the next refuelling will attempt to retransmit it. If for a long period it were not possible to transmit the refuellings, once the connection has been restored, Amico will transmit only 10 refuellings at a time at the end of each new refuelling, so as to avoid too long a wait for the operators to carry out their refuellings. Therefore, a sufficient number of refuellings will have

to be carried out so that all of the refuellings are transmitted to the server. The server will not calculate the reserve stock for Amico because it is not capable of calculating it correctly until all of the refuellings have been completely transmitted.

3.1.5 AmiTag Program

The AmiTag Program is a special card that allows the fuel depot manager to operate Amico so as to obtain reports on refuelling carried out, update the fuel stock levels in the cisterns, disable supply cards, modify certain timers and operational parameters and transfer the list of the driver codes enabled for refuelling.

- *Introduce the program card into the reader*

On the display the following message will appear.

PROGRAM CARD
LOADING CODES...

The list of driver codes loaded on the Data Download AmiTag is loaded into the Amico memory, even if they are not used. The driver codes are used to identify the operators through entering a secret code, when it is specified, by the Request driver code function on the Vehicle AmiTag. 99 is the maximum number of driver codes. These are programmed by the WinAmiFree software, through the AmiDesktop Contactless programmer on the AmiTag program (see link...)

and afterwards,

- *STOCK MENU*

To navigate the menus and functions refer to the program card diagram.

The rules for navigation are the following:

- This button  is the confirmation button. It corresponds to accepting the message visualised in the display, confirming the data set and the access to the menu functions.
- This button  is the negation button. It corresponds to the wish to not execute that which is proposed on the display. During data entry it corresponds to the zeroing out of the same so as to be able to modify them.
- This button  locates the navigation in the first menu "STOCK MENU".

- This button  allows the exit from navigation.
- The menu headings are in Upper case letters, the functions in lower case.
- To enter into a menu or a function push this button 
- To skip to the next menu or to the next function push 

Example:

To activate the function "Set Date and Time" in the "CUSTOM PARAMETERS MENU":

1. Insert the program AmiTag and extract it when requested.
2. Push  5 times to go to the CUSTOM PARAMETERS MENU.
3. Push  to go to the first function.
4. Push  to activate the function.
5. Enter the year and push 
6. Enter the month and push 
7. Enter the day and push 
8. Enter the hour and push 
9. Enter the minutes and push 
10. Push the button  to exit from the program card

CISTERN STOCK MENU	MENU DISAB. TAG VEHICLE	MENU DISAB. TAG DRIVER	MENU AMICO ONLINE	MENU TEST OPERATION	MENU CUSTOM PARAMETERS	RESTRICTED PARAMETERS MENU
Correct Stock 1	Disable AmiTag	Disable AmiTag	Activate GPRS	Start Test Functions	Set Date and Time	Set up Pump 2
Correct Stock 2	Enable AmiTag	Enable AmiTag			Seconds Start Refuel.	Set up Cistern 2
Start Calibration 1	List AmiTags Deact.	List AmiTags			Seconds End Refuel.	Numbering pump 1
Start Calibration 2	Enable all Tags	Enable all Tags			Numbering pump 2	
Reserve Minimum 1	Disable all Tags	Disable all Tags			Numbering Product 1	
Reserve Minimum 2					Numbering Product 2	
Block Dispensing 1					Numbering Company 1	
Block Dispensing 2					Numbering Company 2	
Counter Pump 1					Contact Dispenser unit 1	
Counter Pump 2					Contact Dispenser unit 2	
					Analogue level sensor probe 1	
			Analogue level sensor probe 2			
			Amibus level sensor probe 1			
			Amibus level sensor probe 2			
			Calibration in the sensor probe			
			Number set/litre 1			
			Number set/litre 2			
			Self calibration pump 1			
			Self calibration pump 2			
			Zero out operations memory			
			Modify Machine Code			

Only if the AmicoOnLine function is not active and there is no level sensor probe.

Only if there is the second cistern

Only if there is the level sensor probe and the calibration is not in the probe.

Only if there is a pump no. 2

3.1.5.1 CISTERN STOCK MENU

The stock menu allows the operations of replenishment of the cisterns, the setting of the control levels on the reserves to be recorded, and the setting of the electronic pump counters connected. The sub-menus that have to do with the second cistern or the second pump are active only in the case of the actual connection of a second pump or a second cistern.

3.1.5.1.1 Correct Stock Cistern 1 / 2

This allows the setting of the quantity of a product in a cistern. The stock will be reduced by the quantity of litres dispensed at each refuelling.

Enter the number of litres in cistern 1 and push



The function is not active if the AOL (AmicoOnLine) module or if the level sensor probe is present.

Note: the same operation may be made by the Personal Computer in the equipment connected by cable or to AmicoOnLine

3.1.5.1.2 Start Calibration Cistern 1/2

This function is active only if the level sensor probe without internal calibration is present in the Amico with AOL module (AmicoOnLine)

For additional information on how to initiate a calibration, see [How to initiate a self calibration](#).

This allows the setting of the quantity of product in a cistern and to initiate the self calibration of the level probe sensor.

Enter the number of litres in stock in the cistern and push



Amico connects to the AmicoOnLine server and transmits the command to initiate calibration. In case of error in the connection repeat the procedure.

3.1.5.1.3 Set minimum reserve in Cistern 1/2

This allows the setting of an alarm level for the stock in the cistern, beyond which the operator will be notified, at the moment of refuelling, with a message on the Amico display.

```
INSERT AMITAG
***MINIMUM RESERVE***
01-01-2009 12:00
```

Enter the number of litres at which point a notification will be activated. Press



3.1.5.1.4 Set Dispensing Block Cistern 1/2

This allows the setting of a blocking level for the stock in the cistern, beyond which the operator will be notified, at the moment of refuelling, with a message on the Amico display.

```
INSERT AMITAG
***MINIMUM RESERVE***
01-01-2009 12:00
```

Refuelling will not be enabled until a new replenishment of the stock has taken place.

Enter the number of litres at which point a block in the cistern will be activated. Press



3.1.5.1.5 Set Counter Pump 1/2

This allows the setting of the electronic counter of the litres dispensed from the pump permitting the verification that the Amico electronics were excluded, during refuelling.

Enter the number of litres indicated by the mechanical pump counter (without decimals) and press



3.1.5.2 MENU DISABLE VEHICLE AMITAG

This allows the Vehicle AmiTag to be disabled if lost or not yet issued.

The AmiTags are disabled in the Amico memory. If they were to be inserted into the reader the AmiTag would be disabled.

ATTENTION! The AmiTag number to be disabled is the card number not the vehicle number.

3.1.5.2.1 Disable an AmiTag

Enter the Tag number to be disabled and push



Note: the same operation may be made by the Personal Computer in the equipment connected by cable or to AmicoOnLine.

3.1.5.2.2 Enable an AmiTag

Enter the Tag number to be enabled and push



Note: the same operation may be made by the Personal Computer in the equipment connected by cable or to AmicoOnLine.

3.1.5.2.3 List AmiTags Disabled

This visualises the list of all the disabled AmiTags. On the display the number of the first Tag disabled appears.

```
MENU
DISABLED VEHICLE TAGS
<OK>NEXT<NO>EXIT
<↓>
```

Push  to scroll the list or else  to exit.

3.1.5.2.4 Enable all Tags

This enables all Tags so as to be able to carry out refuelling.

Push 1 and  to enable all Tags.

3.1.5.2.5 Disable all tags

This disables all Tags from being able to carry out refuelling. This enables those authorised with the Enable an AmiTag function.

Push 1 and .

3.1.5.3 MENU DISABLE DRIVER AMITAG

These are the same functions as MENU DISABLE VEHICLE AMITAG, but they disable the Driver AmiTag.

3.1.5.4 MENU AMICO ON LINE

In this menu it is possible to inform AMICO that inside of it the module AOL (AmicoOnLine) is connected for the connection of Amico to the AmicoOnLine server.

Activating the following function the transfer of data will take place online by way of a telephone SIM card.

Activating the online operation, the following services will automatically be activated:

- Refuellings are transferred to the server immediately after having been completed.

- The stock is synchronised to that of the server and may not be varied with the Program Tag.
- If the level sensor probe is activated, the auto calibration of the cistern is activated.
- The minimum reserve message is sent by SMS to the manager.

3.1.5.4.1 Activate GPRS services

Press 1 and  to activate the connection to the AmicoOnLine server.

3.1.5.5 MENU TEST OPERATION

This is used to carry out general operational tests of the Amico control unit.

3.1.5.5.1 Operational Test Active

This function performs a test on all of the electronic components, verifies the organisation of the memory, Data Check, etc. Eventual problems are highlighted on the display (notify service assistance).

3.1.5.6 CUSTOM PARAMETERS MENU

The custom parameters are those parameters that are variable from one plant to another as a consequence of what kind of use is requested of Amico, and of its position in the fuelling plaza.

3.1.5.6.1 Set Date and Time

This allows the update of the Amico internal clock-calendar.

Enter the parameters requested in sequence and press . The parameters requested are:

- Enter the year
- Enter the month
- Enter the day
- Enter the time (0-23)
- Enter the minutes

3.1.5.6.2 Seconds Start Refuel.

This allows the variation of the number of seconds from the enabling of the refuelling to the beginning of the refuelling. If within this time in seconds refuelling does not begin, Amico disconnects the dispenser, requiring the reinsertion of the AmiTag. It is set at 60 seconds.

Enter the number of seconds and press .

3.1.5.6.3 Seconds End Refuel.

This allows the number of seconds from the stop of the automatic pump hand dispenser to the beginning of the top up. If, within this time in seconds, the top up does not begin, Amico considers the refuelling finished and disconnects the dispenser pump. It is set at 20 seconds.

Enter the number of seconds and press 

3.1.5.7 RESTRICTED PARAMETERS MENU

The Restricted Parameters Menu is to be used exclusively by the installer. It contains parameters for the connection of Amico to the dispenser pumps. Its functions are protected by an initial password so as to avoid that by accident, the fuel depot manager may compromise the system.

Enter installer password and press 

3.1.5.7.1 Set up Pump 2

This allows the management of a second dispenser pump at the same time as the first.

Setting up the second dispenser pump, Amico will modify the following characteristics:

- Once the pass card has been inserted and the refuelling has been enabled "INSERT AMITAG" will appear again on the display so as to allow the enabling of the second dispenser pump.
- The menu functions pertaining to pump 2 are enabled.
- Before refuelling, the selection of the number of the pump where one is to refuel is requested, if not specified in the AmiTag limitations.
- If not specified in the function "Set up cistern 2" the litres dispensed from pump 2 are subtracted from the stock in cistern 1.

ATTENTION! To correctly subtract from the stocks of the cistern from both pumps it is necessary that each dispenser pump have its own encoder with the same number of impulses/litre.

3.1.5.7.2 Set up Cistern 2

Allows the management of a second cistern connected to pump 2.

Setting up the second cistern, Amico will modify the following characteristics:

- The menu functions pertaining to cistern 2 are enabled.
- Litres dispensed from pump 2 will be subtracted from cistern 2.

3.1.5.7.3 Numbering pump 1/2

This allows the numbering to be attributed to each dispenser to be customised, so as to diversify the count on a multiple plant system.

The utilisation of this function is to be attributed to the possible connection of more than one Amico device to the same PC, where the pump number is used for distinguishing the plant systems.

What is meant by numbering pump 1 is the number to be attributed to the pump connected to the M4 terminal strip of the Amico data card in/out while the 2 pump is that which is connected to the M5 terminal strip. The refuellings transferred to the PC will be associated with the pump indicated.

3.1.5.7.4 Numbering Product 1/2

This allows the attribution of a filter on the type of product dispensed. Setting the same number on the Vehicle AmiTag, it is possible to dispense only the specified product. For example, setting 1 as the product number on the no. 1 pump and 2 as the product number on pump 2, the AmiTags with product 1 limitation may dispense only on pump 1.

3.1.5.7.5 Numbering Company 1/2

This allows the attribution of a company code belonging to a dispenser. In the multiple plant systems it allows an AmiTag to refuel only from pumps belonging to that particular company. For example, setting 1 as the company number on pump 1 and 2 as the company number on pump 2, the AmiTags with company 1 limitations will be able to refuel only from pump dispenser 1.

3.1.5.7.6 Contact Dispenser unit 1/2

This allows the blocking of refuelling upon replacement of the dispenser hand unit in its seat, without waiting for the end refuelling timer.

In order to function, the dispenser hand unit contact must be connected to the Amico I/O.

3.1.5.7.7 Analogue Level Sensor Probe 1/2

This allows the enabling of the analogue level sensor probe (0-5 V).

3.1.5.7.8 AmiBus Level Sensor Probe 1/2

This allows the management of the cistern level to be enabled by way of a sensor probe connected to the AmiBus.

3.1.5.7.9 Calibration in the sensor probe

If the calibration table of the cistern has been entered into the sensor probe, set this heading. Amico will ask the sensor probe for the number of litres in the cistern and not just the mm.

3.1.5.7.10 Number set/litre 1/2

This allows the indication of the numbers/litre transmitted by the encoder assembled to the heads of the distributor pumps.

ATTENTION! (In event of the substitution of the encoder with one of a different type)

Before changing the number of impulses/litre:

- Download the data from the personal computer.
- Zero out the total litres dispensed (versions with internal printer).
- Notify the stock and electronic counter values.

After having changed the number of impulses/litre:

- Correct the settings of the cistern stocks and the electronic counters.
- Check and verify the truthfulness of the data set by way of fuel dispensing.

3.1.5.7.11 Self calibration pump 1/2

This is used to manually change the number of impulses/litre by 0.1 units more or less.

3.1.5.7.12 Zero out operations memory

Completely zeroes out the refuelling memory.

3.1.5.7.13 Modify machine code

Allows the variation of the Amico Machine Code so as to be able to attribute it to a new user,

3.2 SMS function from a cell phone to AmicoOnLine

A series of functions recallable by way of SMS from a cell phone in the AmicoOnLine versions are available. The telephonic SIM card in the AOL module must be enabled for sending SMS (Short Message Service).

3.2.1 List of Commands

AOL GIAC Requests the stock in the cistern

AOL GESTORE Requests the registration as manager of the alerts.

3.2.2 Description of SMS Commands

3.2.2.1 Requests the stock in the cistern

In order to receive the stock in the cistern value, in real time, send an SMS to the telephone number of the AOL module with the message:

AOL GIAC

The AOL module will send a return message to the number that made the request with the stock in the cistern tank. The AOL module receives the stock value at the end of each refuelling. If the request were to arrive after turning off the Amico control unit, the message, "stock not available" will be returned until such a time as the first refuelling is accomplished.

3.2.2.2 Registration of the Manager for reception of the automatic notifications

The 'Manager' is the telephone number of the person assigned to receive the alarm SMS on the cistern stock. The alarm notifications are for minimum reserve in the cistern and dispenser pump block, which may be set in the cistern stock menu. When the level goes below the alarm level, at each refuelling, an alarm SMS is sent to the manager's number.

To register as manager, send an SMS to the AOL module number with the message:

AOL MANAGER

The AOL module will answer with the message, "You are the new AmicoOnLine manager".

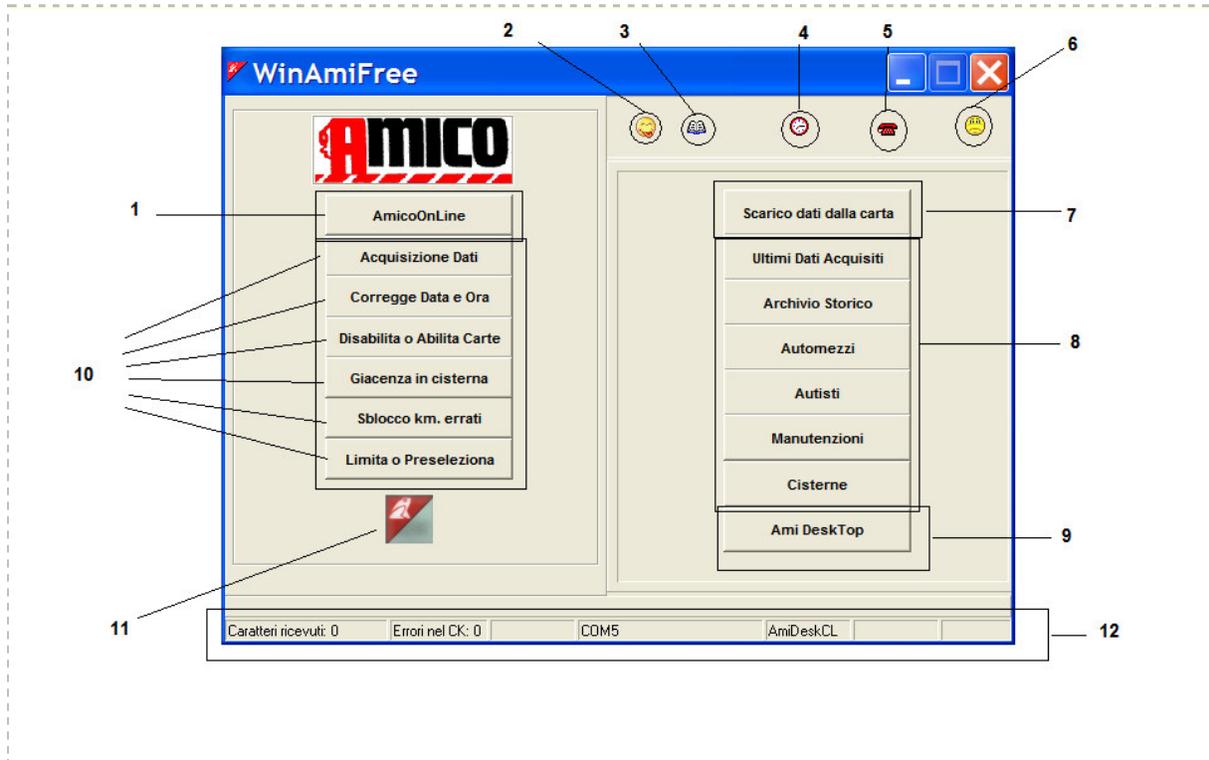
4 WinAmiFree - management Software

4.1 Introduction

The WinAmiFree software gives access to the management of the dispensing data memorised by the Amico equipment, allows the entering of the vehicle and driver identification lists, creates reports on consumption averages and on litres dispensed, allows the downloading of data, manages periodic maintenance procedures and at kilometric deadlines and permits AmiTag programming.

4.2 Main Screen

To launch the program, click on the WinAmiFree icon on the PC desktop.



1. This is the button for the execution of the AmicoOnLine software and for connection to the On Line versions of Amico.
2. Language Selection
3. System events record
4. Automatic data acquisition each hour from the direct cable connection.
5. Remote telephone connection or by IP address.
6. Verify new updates on Internet.
7. Download data from the Data download AmiTag.
8. Buttons for the management of data and the identification lists.
9. AmiDesktop for the programming of the AmiTags.
10. Buttons for direct connection by cable
11. Software version: download the latest version and remote assistance (help)
12. Status Bar

4.3 Identification lists

The identification lists allow the association of the AmiTag number to the description of the vehicle or to the driver (operator who will carry out the refuelling) to improve the legibility and interpretation of the reports.

4.3.1 Driver Identification List

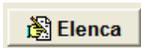
The driver number must correspond to the driver number on the AmiTag that will be given to him/her, or else to the number associated with the driver code on the AmiTag program.

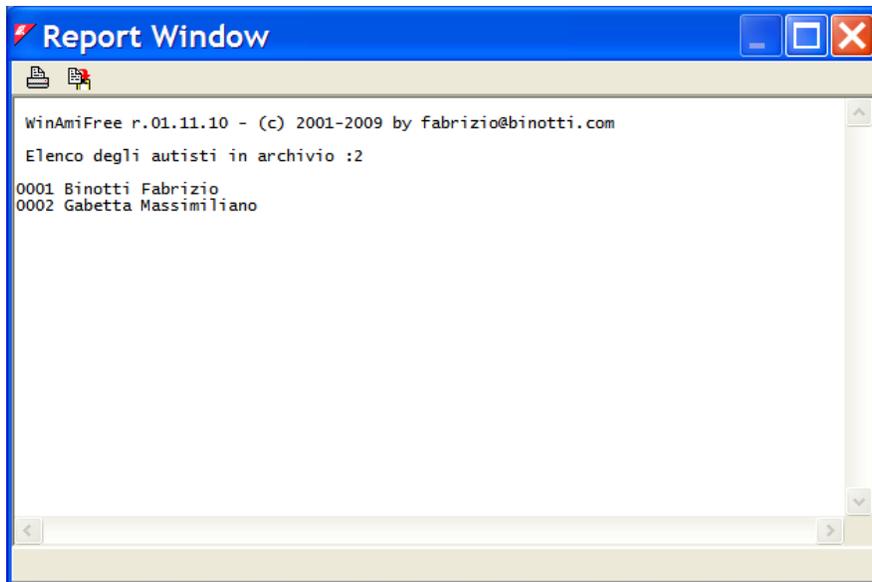
Click the button  to enter into the driver identification List.



To insert a new driver, click on the button.  A new driver identification number will be entered that is higher than the last one entered.



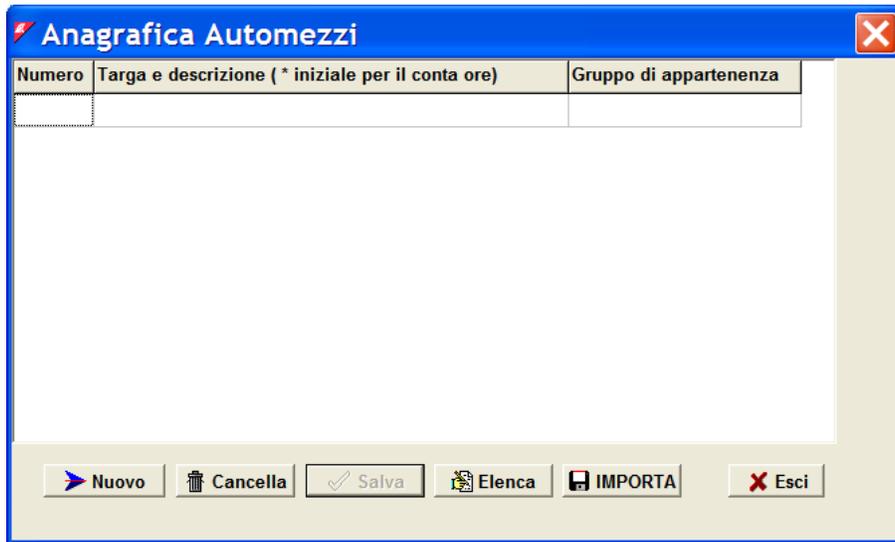
The button  allows the Windows Report to be opened with the list of the drivers entered, so as to allow its printing or insertion on the clipboard.

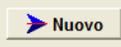


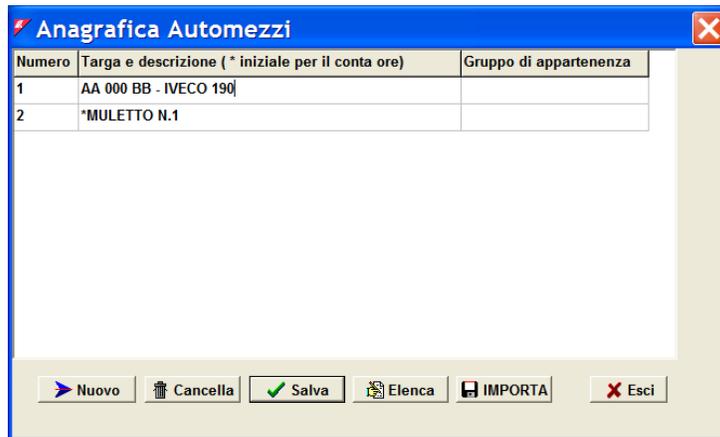
4.3.2 Vehicle identification list

The vehicle number must correspond to the vehicle number on the AmiTag which will be assigned to it, or else the vehicle number entered by the operator in the AmiTag Driver function + Enter vehicle number.

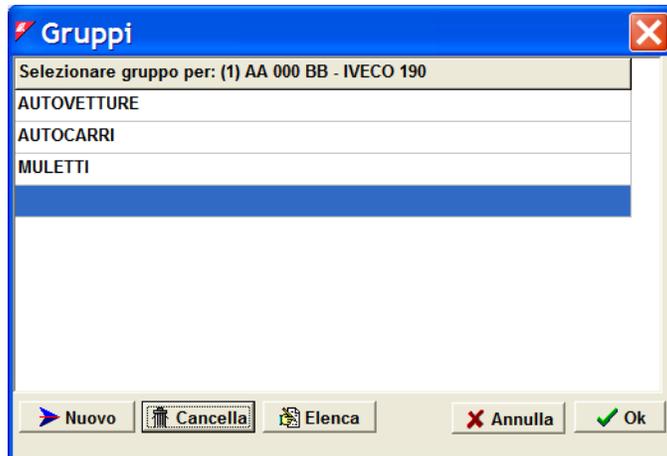
Click the button  to enter into the vehicle identification list.



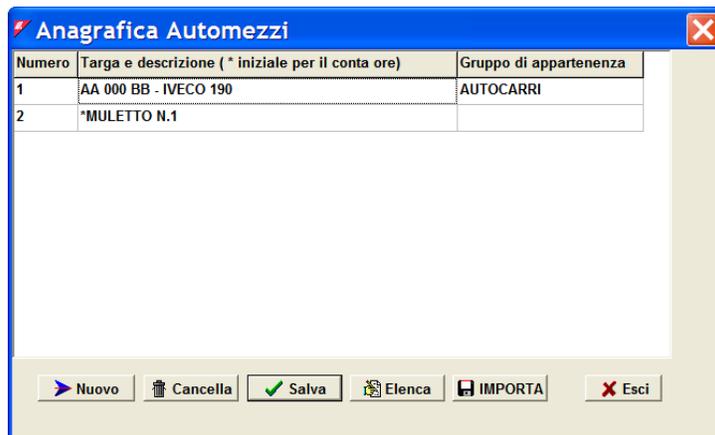
To insert a new vehicle, click on the button . A new vehicle identification number will be entered that is higher than the last one entered. By convention, if the first character in the description is an *(asterisk) the software calculates consumption of the vehicle at litres/hour instead of km/litre.



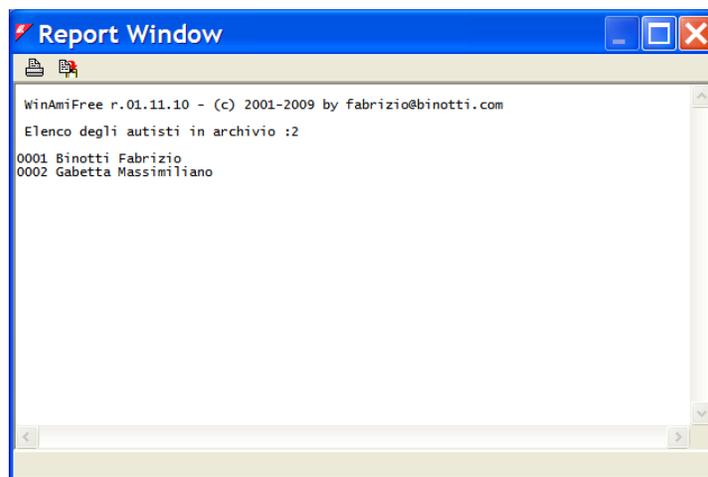
The vehicles may be combined into affiliation groups. In the archive it will be possible to filter the refuellings for one of the groups inserted. To enter an affiliation group click on the Affiliation Group data entry box of a vehicle, then enter all of the affiliation groups.



Double click or push OK on the name of the group to associate it to a vehicle.

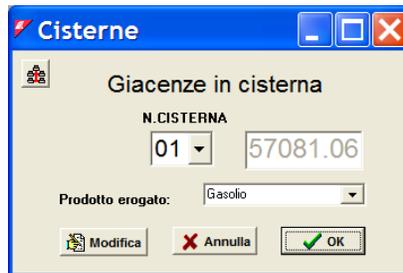


The button  allows the Windows Report to be opened with the list of the drivers entered, so as to allow its printing or its copying onto the clipboard.



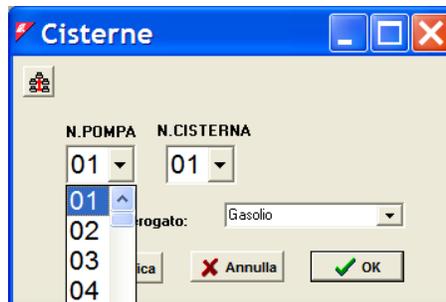
4.3.3 Products in the cisterns

In the consumption averages analysis of the litres dispensed, it is necessary to differentiate the type of product dispensed from the pumps: for example to separate consumption of diesel fuel from that of urea or motor oil. To set the type of product in the cistern click on the button 

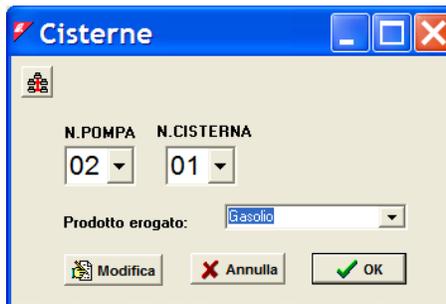


First of all it is necessary to inform the program of the configuration of the plant system, that is, to specify the combination of the pump number with the cistern. For example, considering a multiple plant system with 2 Amicos: the first is connected to pump 1 and pump 2, which are both connected to a diesel fuel cistern; the second is connected to pump 3 with one cistern of diesel fuel and pump 4 connected to a cistern of urea.

Click on the symbol  click Yes and select the pump 1



Associate pump 1 to cistern 1 and to diesel and repeat the operation for pump 2.



Associate pump 3 and pump 4 to their respective cisterns.



In the archive from this point on it will be possible to use the filter for the type of product.

4.4 Report window

All of the reports requested of the WinAmiFree program will be visualised in the report windows in a text form. The reports may be printed or copied to the clipboard in Windows.



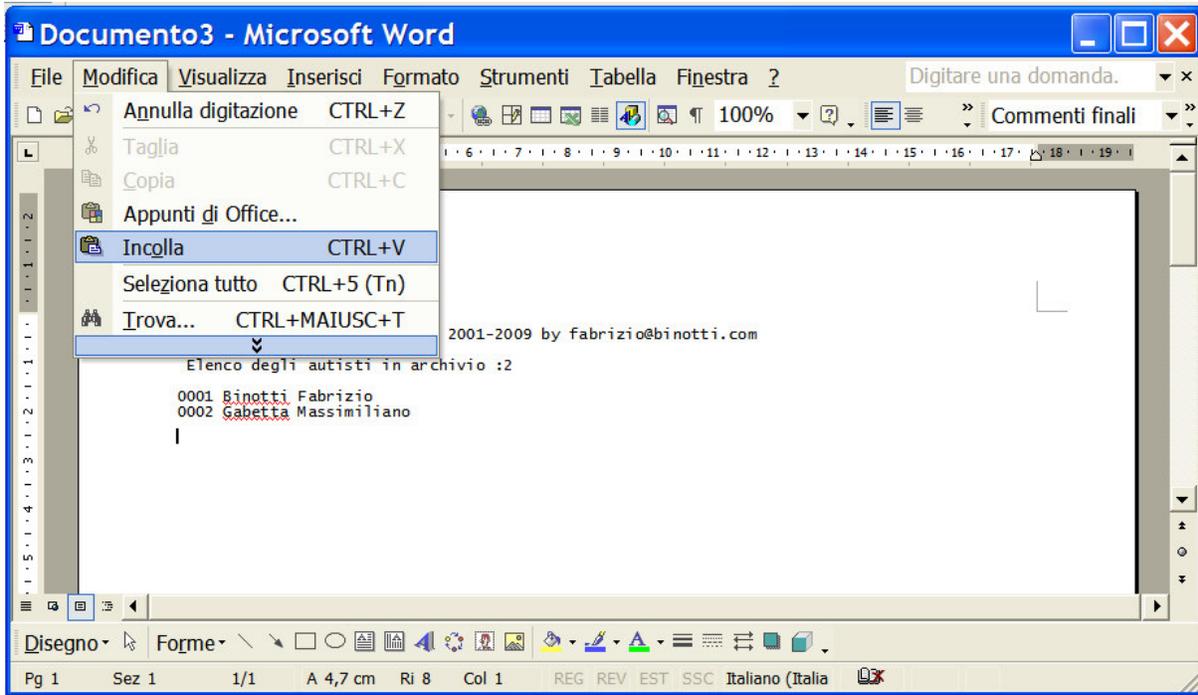
To print the report, click on the button  and select the printer.

To copy the report into a word processor or an e-mail, click the button .



Open the program where the report is to be copied and push ctrl+V or else select the PASTE function.

Ex. in Word:



4.5 Download refuelling data.

The WinAmiFree software acquires the refuellings of fuel from the Amico control units on the PC for the elaboration and writing of the report. As a function of the type of connection with the data acquisition equipment it must be carried out with appropriate buttons.

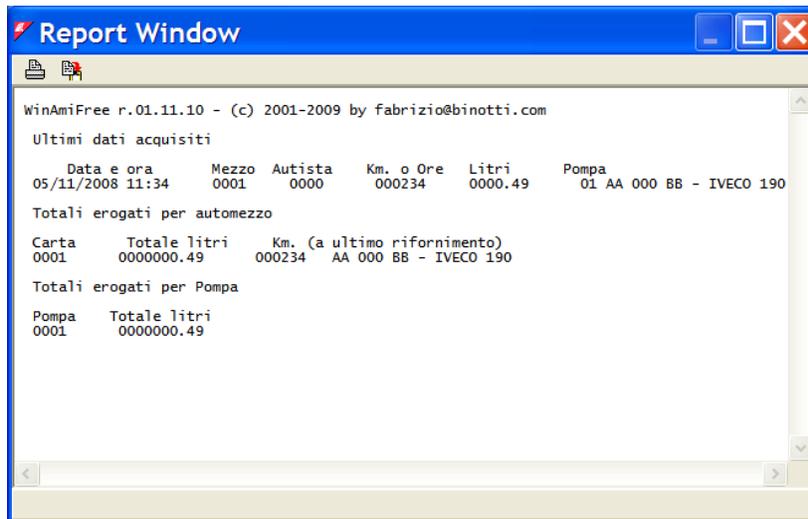
4.5.1 Functions for data download from the Data Download AmiTag

For data download from a Data Download AmiTag previously inserted into the Amico control unit, bring the Data Download AmiTag close to the AmiDesktop Contactless and click the button.

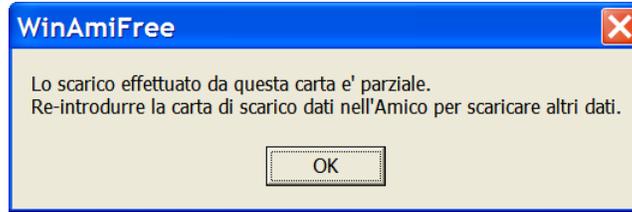
Scarico dati dalla carta

Ultimi Dati Acquisiti

The data downloaded may be immediately verified with the button.



A Data Download AmiTag may contain no more than 100 refuellings. If there were to be more in the Amico memory, after the download the following message will appear:

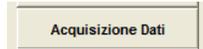


It is necessary to insert another Data Download AmiTag into Amico to finish the data download.

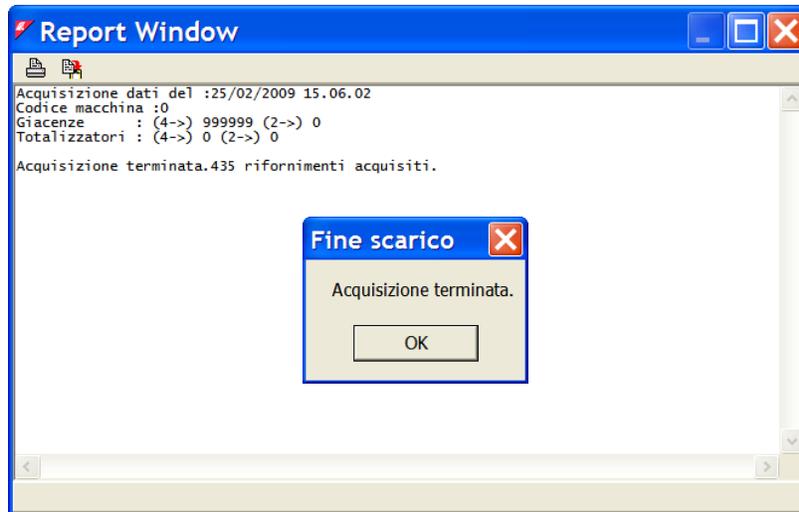
In the event that there were problems with the data download caused by wear of the AmiTag, it is possible to recover the last 800 refuellings memorised from the Amico memory and re-download them programming a backup download on the Data Download AmiTag. For this function see the paragraph Data Download AmiTag.

4.5.2 Functions for data download from a direct connection by way of cable.

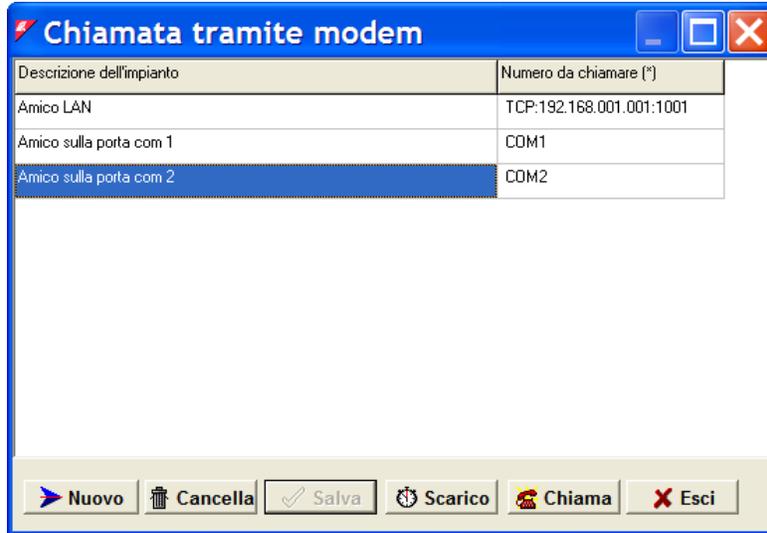
To download data from a direct connection by way of cable click on the button



The data download request is sent to Amico connected by way of a cable.



Generally, only one Amico is connected to a PC during the cable connection. In certain cases there may be more than one serial port with several Amicos connected. Otherwise the connection may be made through the use of a TCP-232 converter, which makes a virtual serial port in a TCP socket. In this case, in order to manually manage the selection of the connection use the button 



For remote connections it is possible to insert a telephone number to make a call by way of a telephone modem (this is for compatibility with old systems) or else it is possible to insert the name of the serial port with which the connection is to be made (Ex. COM1 COM2 etc.) or else the TCP address of Amico if connected by way of an ethernet-232 adapter (Ex. TCP:192.168.001.001:1001)

To configure the program to the connection desired click on the connection line and then on the button 

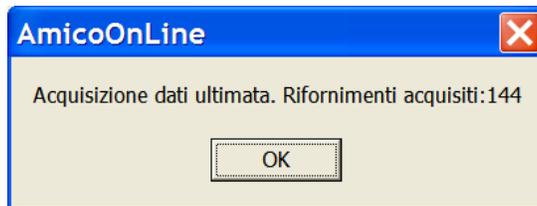
4.5.3 Functions for the data download from the AmicoOnLine server

For data acquisition from the Amico with AOL module from the AmicoOnLine server the AmiOnLine software needs to be used. This may be carried out by clicking on the

 button.



Click on the  button



All of the refuellings not yet downloaded by Amico belonging to the Amico code visualised will be acquired.

4.6 Archive of refuellings

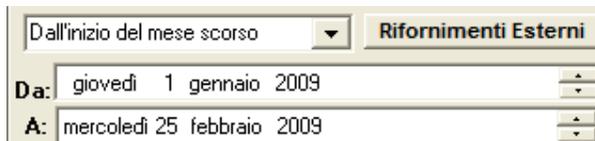
All of the data acquired, independently of the data download method, will be placed in the refuelling archive, where it is possible to request reports on the consumption of fuel.



4.6.1 Refuelling visualisation filters

Before requesting a report it is possible to select some filters that allow the evaluation of only a part of the refuellings in the archive.

- Selection of the period of time



Select a period that has been pre-set or else manually enter the start date and the end date.

- Product

Prodotto: <Tutti i prodotti>

In plant systems with more than one product, this allows the filter for only one product dispensed, so as to not mix the products in the analysis of the consumption averages.

- Group

Gruppo:

In the vehicle identification lists it is possible to associate an affiliation group to each vehicle (ex: TRUCKS, AUTOMOBILES, EARTH MOVERS, etc.).

This filter allows the list of refuellings to be made for just one group.

- DRIVER:

Autista:

Allows the filter of all of the refuellings performed by one driver (only if identified by the Driver AmiTag or by a driver code)

- VEHICLE:

Automezzo:

This allows the filter of the refuellings for the vehicle selected.

- From vehicle number... to vehicle number...

Dal mezzo n. **al n.**

Only the refuellings of vehicles within the specified interval will be visualised.

- PUMP NUMBER:

Sulla pompa n.

Filters the refuellings at the pump indicated.

- Automatic pump number filter

Ripeti per ogni n. pompa

This recreates the report selected automatically, varying the filter on the number of the pump selected for all of the pumps in the refuelling archive.

- Job order number

Num. commessa

If the request for the job order number has been set on the vehicle pass card, it filters the refuellings for that job order.

- Only total dispensed

Visualizza solo i totali

This eliminates the individual refuellings lines from the report, showing only the totals.

4.6.2 Average consumption report

This is the report that groups the refuellings by vehicle to analyse the average kilometric consumption.

Set the filters that are desired and click on the button **Medie**

WinAmiFree r.01.11.10 - (c) 2001-2009 by fabrizio@binotti.com

1. Storico dati acquisiti dal 01/07/1996 al 10/07/1996 sulla pompa1 (automezzi dal n.0501 al n.0502)

Medie chilometriche

2. Automezzo :0501

Data e ora	Autista	Km.	Litri	Percorsi	Km/L	P.	Nome autista	N.Comessa
01/07/1996 04:56	0031	522503	0160.10			01		
02/07/1996 17:28	0001	523161	0210.08	0658	03.13	01	Binotti Fabrizio	000
04/07/1996 03:18	0001	524041	0285.04	0880	03.08	01	Binotti Fabrizio	000
04/07/1996 15:32	0001	524541	0153.88	0500	03.24	01	Binotti Fabrizio	000
06/07/1996 09:13	0001	524960	0140.06	0419	02.99	01	Binotti Fabrizio	000
09/07/1996 03:06	0001	525709	0245.06	0749	03.05	01	Binotti Fabrizio	000
09/07/1996 17:18	0001	526027	0105.02	0318	03.02	01	Binotti Fabrizio	000
10/07/1996 15:31	0001	526183	0060.04	0156	02.59	01	Binotti Fabrizio	000

3. Totale litri erogati :1359,28 Consumo medio in km/l: 03,06
Chilometri percorsi calcolabili:3680

4. Automezzo :0502

Data e ora	Autista	Km.	Litri	Percorsi	Km/L	P.	Nome autista	N.Comessa
01/07/1996 19:00	0014	068362	0250.16			01		
03/07/1996 18:48	0001	069595	0400.02	1233	03.08	01	Binotti Fabrizio	000
05/07/1996 18:31	0001	070692	0300.14	1097	03.65	01	Binotti Fabrizio	000
09/07/1996 18:12	0001	071570	0300.20	0878	02.92	01	Binotti Fabrizio	000
10/07/1996 18:46	0001	072132	0180.62	0562	03.11	01	Binotti Fabrizio	000

5. Totale litri erogati :1431,14 Consumo medio in km/l: 03,19
Chilometri percorsi calcolabili:3770

Totale erogati per Pompa

Pompa	Totale litri
0001	0002790.42

6. 7. 8. 9. 10. 11. 12. 13.

1. Filters set before report creation
2. Vehicle Heading, AmiTag number, license plate and description
3. Vehicle refuelling
4. Total litres dispensed to that vehicle and average consumption for the period.
5. Total litres dispensed per pump
6. Date and time of the refuellings
7. Kilometres entered by the operator at the moment of refuelling.

8. Litres dispensed
9. Kilometres driven since the previous refuelling (or hours passed)
10. Consumption average in Km/litre
11. Pump number from which the refuelling was made
12. Name of the driver (only if identified by the Driver AmiTag or by the driver code).
13. Job order number (only if requested by the Vehicle AmiTag).

When the kilometres entered are not coherent with respect to those previously entered, the partial consumption average is not calculated.

The consumption averages for the period are calculated on the refuellings with the corrected partial average.

When 2 refuellings in sequence have the same Km, the average consumption is calculated on the second refuelling, summing the litres dispensed in both.

Kilometres driven are the sum of the driven column

4.6.3 Data modification and Km correction

In the report of the consumption averages it is possible, by clicking on a refuelling, to carry out the modification of the data and manually correct the settings of the mistaken kilometres.

Click on a refuelling.

Data e Ora	Autista	Chilometri	Litri	Percorsi	Km/L	Litri/Ore
09/07/1996 17-18	0001	526027	0105.02	0318	03.02	03.02
10/07/1996 15-31	0001	26183	0060.04	0156	02.59	02.59
11/07/1996 14-52	0001	526529	0110.02	0346	03.14	03.14

It is possible to change kilometres entered erroneously by the operator. If the exact kilometrage of the vehicle at the moment of the refuelling is not known, set the same kilometres as those given in the previous refuelling. In this manner the average will be calculated by summing the average of the two refuellings.

To change other data from the refuellings, click on the button



To delete a refuelling selected click on the button



4.6.4 Chronological Report

This is the report that allows the listing of the refuellings carried out ordered by date and time.

Set the filters that are desired and click on the button

Cronologico

1. Filters set before report creation
2. Refuellings
3. Total dispensed per vehicle
4. Total dispensed per pump

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Storico dati acquisiti dal 01/07/1996 al 01/07/1996 sulla pompa1 (automezzi dal n.0500 al n.0530)

Data e ora	Mezzo	Autista	Km.	Ore	Litri	Pompa
01/07/1996 03:17	0524	0001	455462		0350.10	01
01/07/1996 04:04	0526	0021	082934		0190.34	01
01/07/1996 04:56	0501	0031	522503		0160.10	01
01/07/1996 05:22	0517	0011	060270		0110.22	01
01/07/1996 14:19	0511	0002	150410		0037.46	01
01/07/1996 16:29	0517	0007	070200		0403.08	01
01/07/1996 16:40	0516	0008	416000		0110.06	01
01/07/1996 16:45	0503	0009	166070		0240.02	01
01/07/1996 17:09	0526	0011	083446		0173.18	01
01/07/1996 17:40	0524	0004	455975		0150.00	01
01/07/1996 17:48	0523	0014	035025		0269.06	01
01/07/1996 19:00	0502	0014	068362		0250.16	01
01/07/1996 19:08	0521	0023	415630		0167.02	01
01/07/1996 20:05	0522	0023	105954		0176.02	01

Totali erogati per automezzo

Carta	Totale litri	Km. (a ultimo rifornimento)
0501	0000160.10	522503
0502	0000250.16	068362
0503	0000240.02	166070
0511	0000037.46	150410
0516	0000110.06	416000
0517	0000513.30	070200
0521	0000167.02	415630
0522	0000176.02	105954
0523	0000269.06	035025
0524	0000500.10	455975
0526	0000363.52	083446

Totali erogati per Pompa

Pompa	Totale litri
0001	0002786.82

4.6.5 Counter report of litres dispensed

The load and unload report allows the reconstruction of the pump's counter at the end of the day. It is necessary to set the counter value at 23:59 of the previous day for the period chosen and the theoretical value at 23:59 will be calculated for each day.

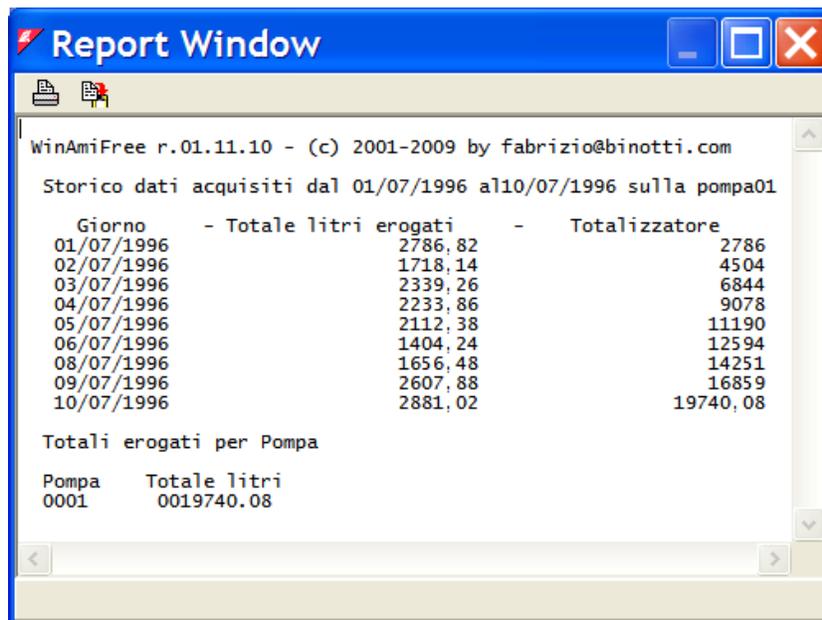
Push the button

Carico e scarico



Enter the counter at 23:59 of the day previous to the beginning of the period.

Enter the pump number and push 



4.6.6 External refuellings

External refuellings are those that are carried out on the roadway or at pumps not managed by the Amico system. So that the WinAmiFree software is able to correctly calculate the consumption averages it is necessary to have the external refuellings as well. They may be entered in two ways: directly by the operator onto Amico at the time of refuelling, or else by the WinAmiFree software, in the Archive.

Click on the button **Rifornimenti Esterni**

The screenshot shows a dialog box titled "Inserimento rifornimenti ...". It contains the following fields and values:

- Automezzo: 0000
- Autista: 0000
- Data e Ora: sabato 28 febbraio 2009, 9.53.06
- Chilometri: 000000
- Litri: 0000,00

Buttons at the bottom: INSERISCI, CANCELLA, and OK.

Enter the Vehicle AmiTag number, or select from the list, the driver, the date and time of the external refuelling and the litres. Click the button **INSERISCI**

The screenshot shows the same dialog box after data entry. The fields are now populated with specific values:

- Automezzo: 0002 (dropdown menu shows "0002 *MULETTO N.1")
- Autista: 0002 (dropdown menu shows "0002 Gabetta Massimiliano")
- Data e Ora: sabato 28 febbraio 2009, 10.53.06
- Chilometri: 123456
- Litri: 0000,00

The INSERISCI button is highlighted. Below the buttons, the following data is displayed:

```
0002,0002,123456,99,0045.00,10,53,20090228,032
0001,0001,123456,99,0010.00,09,53,20090228,032
```

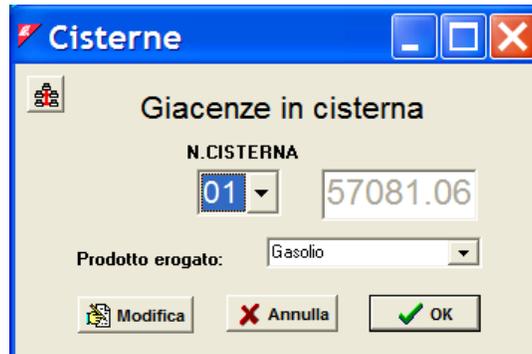
Repeat the operation for all of the refuellings to be entered and press, . External refuellings will be entered on pump number 99 to distinguish them from internal ones.

4.7 Cistern Stock

Cistern stocks may be calculated in a rational manner, by way of the difference between the litres dispensed and those supplied. Or they may be calculated physically, by way of the level sensor probe inserted into the cistern (only with the AmicoOnLine version).

4.7.1 Calculation of the stocks with the manual data download on the Data Download AmiTag.

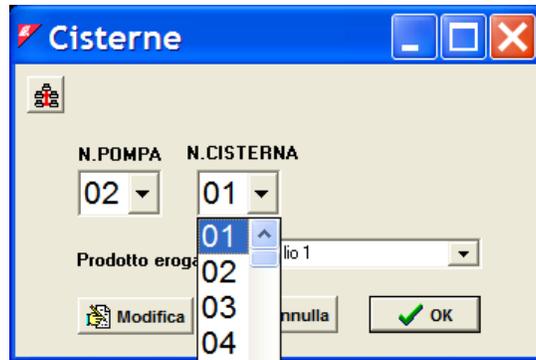
To calculate the stock in a cistern from a manual download of the Data Download AmiTag, use the  button in the main menu.



The stock visualised in this screen is decreased at each data download, for a value that corresponds to the sum of the litres dispensed. To change the value of the cistern, click on the  button and make the change.

ATTENTION! Before making a correction of the cistern value, download the data from the Amico control unit so that eventual refuellings in memory can be subtracted from the correction made.

Cisterns are automatically created for each pump. If there is more than one pump connected to a cistern, it is necessary to configure the program to deduct product from only one stock. For example, if pump 2 is still connected to cistern 1, click on the  button to enter into the configuration change, select pump 2 and associate it to cistern 1.



Press  to save the configuration.

4.7.2 Stock calculation with direct connection via cable

In the cable connection, stock is calculated by Amico and reassembled in the office when requested. To visualise the stock click on the  button.



1. Stock calculated by Amico
2. Mask for the insertion of changes in the cistern
3. Button to record an addition to the cistern. The litres added will be summed to those currently present.
4. Button to record a transfer in the cistern. The litres added will substitute the current stock.

To enter a replenishment of the cistern, enter the litres to be added to the stock in the data entry window and click the button.

To correct the current stock, enter the current litres in stock in the data entry window and click the button.

4.7.3 Stock calculation by way of the AmicoOnLine server

In the AmicoOnLine versions, the stock is calculated by the AmicoOnLine server and transmitted to the WinAmiFree software and to Amico. To visualise the stock, click on **AmicoOnLine** and then afterward, on the **Giacenze in cisterna** button.

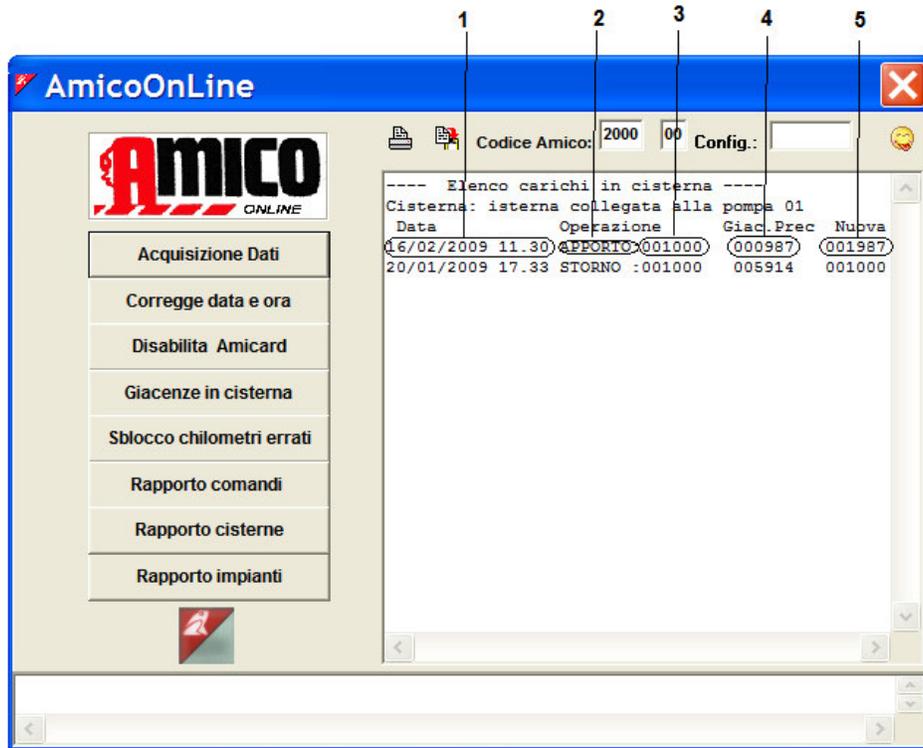


1. Current stock calculated by the AmicoOnLine server
2. Button to record an addition to the cistern. The litres added will be summed to those currently present.
3. Mask for the entry of litres to add or to transfer
4. Button to record a correction of the cistern. The litres added will substitute the current stock.
5. Stock calculated by the level sensor probe (00000 if not present).
6. Select the cistern. One cistern is identified by the pump number 1 numbering by Amico, which is connected to it.
7. Button to change the description of the cistern
8. Date and time of the last change in the stock on the AmicoOnLine server.

To enter a replenishment of the cistern, enter the litres to be added to the stock in the data entry window (3) and click the **Apporto->** button.

To correct the current stock, enter the current litres in stock in the data entry window (3) and click the **<-Storno** button.

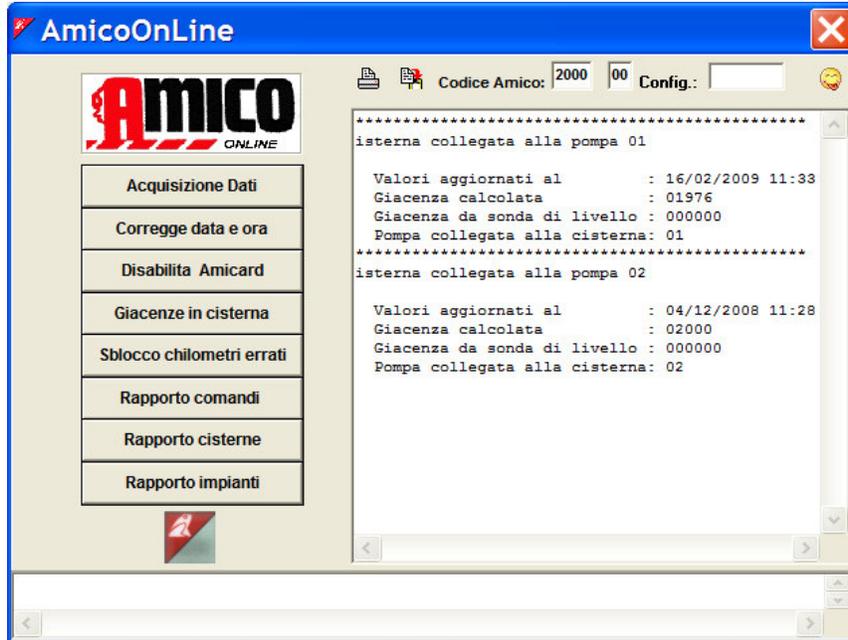
To visualise the history of the replenishments and the transfers carried out on the cistern selected click on the button **Rapporto dei carichi in cisterna**



1. Date and time of the insertion
2. Type of operation carried out: addition or transfer (correction)
3. Litres added in the variation
4. Stock in cistern before the variation
5. Stock in cistern after the variation

To request a report for all of the cisterns connected click the button

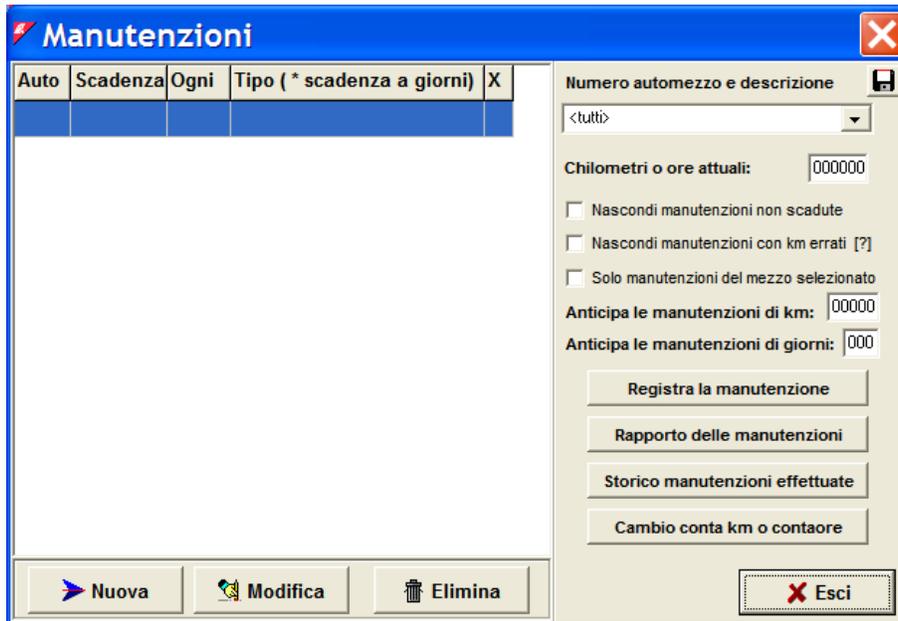
Rapporto cisterne



4.8 Scheduled Maintenance

Scheduled maintenance management allows alarm notifications upon expiry of kilometric maintenance or on established dates to be obtained.

Click on the  button.



4.8.1 Connection to vehicle maintenance

To set maintenance it is necessary to associate them and customise them for each vehicle.

Click on the  button to create a new combination

Inserimento di una n...

Automezzo: 0001 AA 000 BB - IVECO 190 AUTOCA

Chilometraggio attuale: 000001

Anteporre il simbolo * per le manutenzioni a scadenza in giorni

Manutenzione: []

Manutenzione da effettuare ogni: 000000

Prossima scadenza al km (o ore): 000000 km (o ore)

Annulla OK

Select the vehicle on which the maintenance is to be entered and name the maintenance or else, choose one from the list. Each new maintenance procedure entered will be saved to the list. Enter the number of kilometres that must be driven for each maintenance procedure and the kilometre reading from the vehicle the last time that the procedure was performed.

Inserimento di una n...

Automezzo: 0001 AA 000 BB - IVECO 190 AUTOCA

Chilometraggio attuale: 000001

Anteporre il simbolo * per le manutenzioni a scadenza in giorni

Manutenzione: Cambio Olio Motore

Manutenzione da effettuare ogni: 030000

Prossima scadenza al km (o ore): 100000 km (o ore)

Annulla OK

Press  and confirm the changes.

Confirm the entry of a new maintenance procedure, this time with a time expiry. Enter the maintenance procedure with an initial *(asterisk). By convention this indicates to the program that this has to do with a procedure that has an expiry in days (ex. registration payment).

Inserimento di una n...

Automezzo: 0001 AA 000 BB - IVECO 190

Chilometraggio attuale: 000001

Anteporre il simbolo * per le manutenzioni a scadenza in giorni

Manutenzione: *Bollo

Data prossima scadenza: giovedì 1 maggio 2003

Manutenzione da effettuare ogni: 365 giorni

Annulla OK

Press  and confirm the changes.

Manutenzioni

Auto	Scadenza	Ogni	Tipo (* scadenza a giorni)	X
0001	01/06/09	000365	*Bollo	
0001	100000	030000	Cambio Olio Motore	X

Numero automezzo e descrizione: 0001 AA 000 BB - IVECO 190

Chilometri o ore attuali: 120000

Nascondi manutenzioni non scadute

Nascondi manutenzioni con km errati [?]

Solo manutenzioni del mezzo selezionato

Anticipa le manutenzioni di km: 000000

Anticipa le manutenzioni di giorni: 000

Registra la manutenzione

Rapporto delle manutenzioni

Storico manutenzioni effettuate

Cambio conta km o contaore

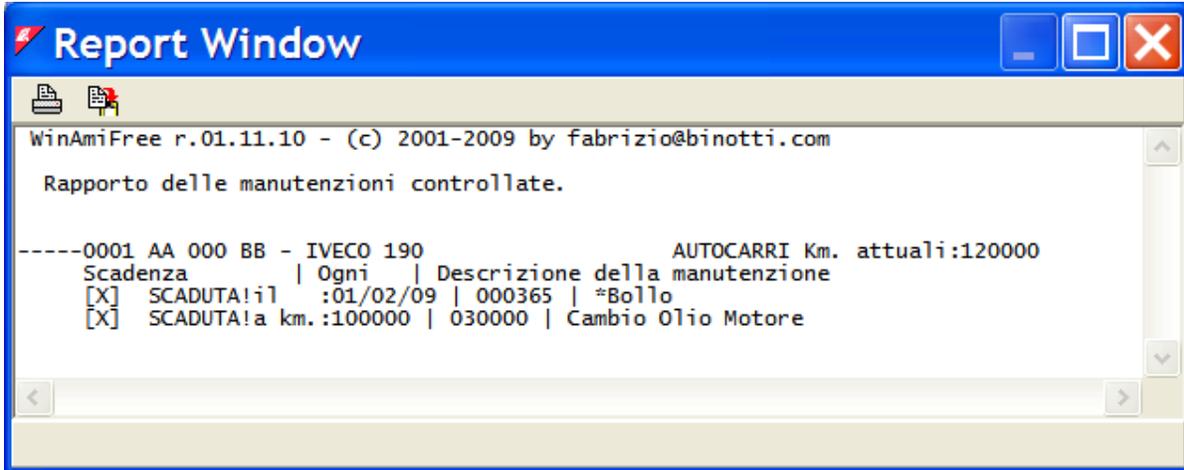
Nuova Modifica Elimina Esci

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19

- 1 Vehicle AmiTag number
- 2 Next maintenance deadline in Km, hours or at an established date.
- 3 Frequency of the Maintenance deadlines in Km, hours or days.
- 4 Maintenance procedure description
- 5 Expired (X), Kilometre error(?) or else not expired (empty)
- 6 Button for the entry of a new maintenance procedure
- 7 Button for the modification of the parameters of a maintenance procedure
- 8 Button for the elimination of a maintenance procedure
- 9 AmiTag number and description of vehicle selected.
- 10 Actual kilometres or hours on the vehicle, updated by the acquisition of refuellings.
- 11 Filter to hide visualisation of scheduled maintenance procedures not yet expired.
- 12 Filter to hide scheduled maintenance procedures of vehicles with incoherent kilometrage.
- 13 Filter to view only scheduled maintenance procedures of vehicle selected.
- 14 Filter to anticipate scheduled kilometric maintenance procedures deadlines.
- 15 Filter to anticipate scheduled kilometric maintenance procedures on a set date.
- 16 Button to record scheduled maintenance procedures carried out.
- 17 Button to create a report of scheduled maintenance procedures.
- 18 Button to create a report of the history of scheduled maintenance procedures saved.
- 19 Button to recalculate deadlines after the change of an odometer.

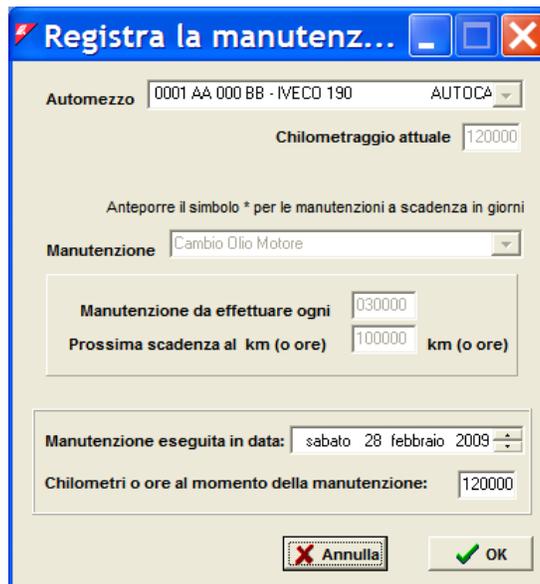
4.8.2 Verification of expired scheduled maintenance procedures

Upon each acquisition of data, the WinAmiFree updates the current odometer readings of the vehicles and checks if there are expired scheduled maintenance procedures. In the main screen it is possible to visualise the updated situation. Clicking on the filters it is possible to hide those that are not expired and those with incoherent odometer readings. Scheduled maintenance procedures are visualised with an X after the description. To have a report of the expired scheduled maintenance procedures set the appropriate filters (9-11-12-13) and click on [Rapporto delle manutenzioni](#)



4.8.3 Saving scheduled maintenance procedures performed

When a new scheduled maintenance procedure is carried out, it is necessary to record it in the WinAmiFree software to eliminate the notification of the expired scheduled maintenance procedure and reset the check for the next deadline. Select the scheduled maintenance procedure in the main screen and click on the **Registra la manutenzione** button.



Enter the date and time and the kilometres of the vehicle on which the scheduled maintenance procedure has been completed and press **OK**. The scheduled maintenance procedure will be updated the next deadline.

4.8.4 Odometer change and recalculation of the deadlines

When a vehicle breaks an odometer or else if it goes over 100,000 kilometres, it is necessary to inform the WinAmiFree software so that it can recalculate the deadlines as a function of the new odometer reading. Push the **Cambio conta km o contaore** button

Cambio conta km o ca...

Automezzo: 0001 AA 000 BB - IVECO 190 AUTOCA

Chilometraggio attuale: 120000

Anteporre il simbolo * per le manutenzioni a scadenza in giorni

Manutenzione: *Bollo

Ultimi kmore segnati dal vecchio conta kmore: 000000

Chilometri percorsi con il conta kmore guasto: 000000

Kmore iniziali del nuovo conta kmore (0 nuovo): 000000

Annulla OK

Enter the data requested:

- Kilometres (or else hours) read on the old odometer when it malfunctioned;
- Kilometres (or else hours) driven with the odometer when it malfunctioned;
- Kilometres (or else hours) read on the new odometer at the beginning,

and press **OK**

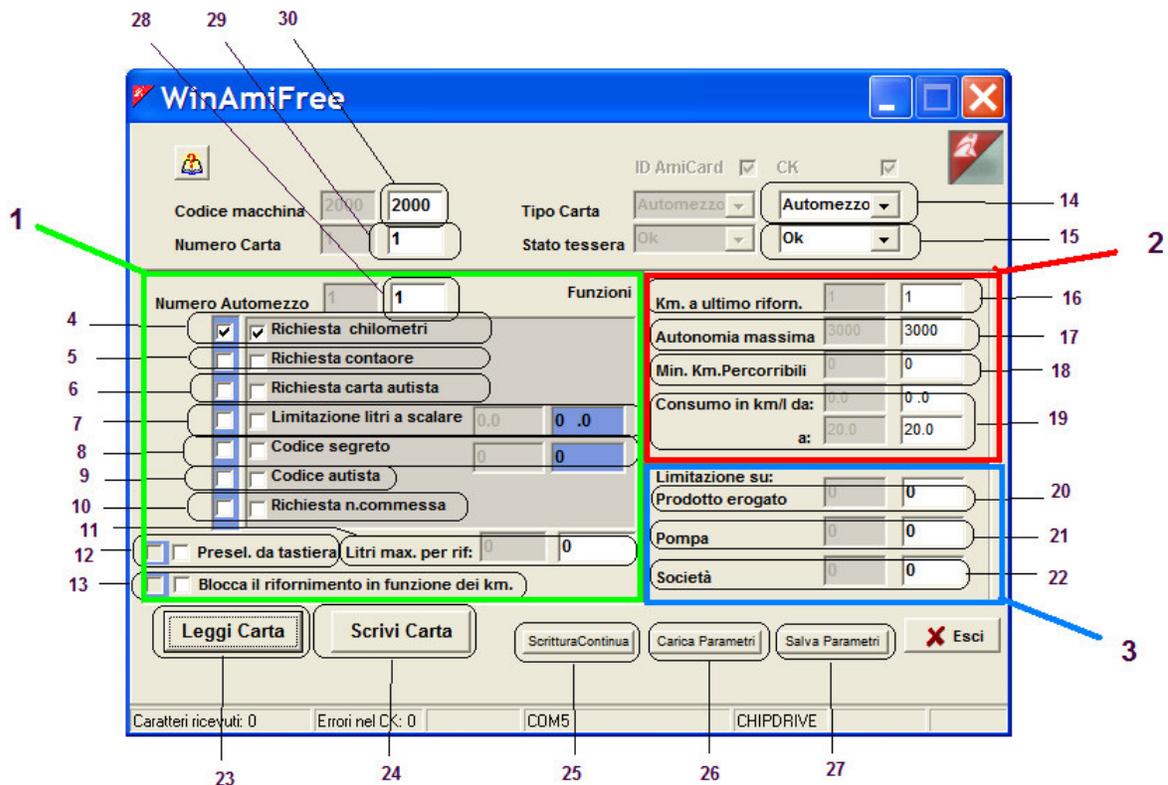
The deadlines will be recalculated

4.9 AmiDesktop - Programming of the AmiTags

Programming of the AmiTags comes about by way of the Contactless AmiDesktop programmer (optional) and permits the change of the requests that will be carried out by the Amico control unit. There are different types of AmiTags, independent of the format chosen, key rings or pass cards. To enter into the AmiTag programming, bring the AmiTag close to the reader and click the button 

In the screen of the AmiTag reading each field has 2 data boxes: the left one in grey, without possibility of modification, is the reading of the parameters; the right one in white is the mask for the new values that will be written on the AmiTag.

4.9.1 VEHICLE AMITAG



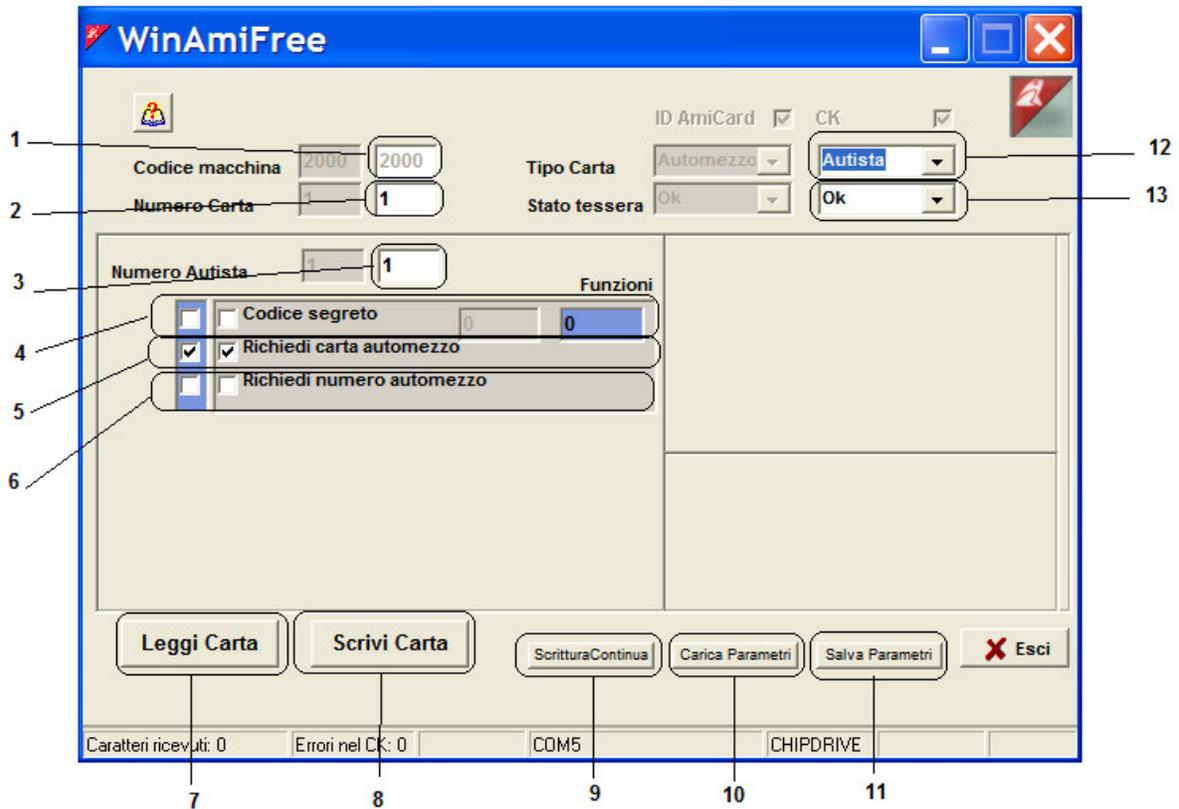
1. Window for the functions that may be set to enable refuelling.
2. Window for the check of kilometres and the predetermination of consumption.

3. Window for the blockages in multiple plant systems.
4. Request for kilometres read on the odometer. This function is necessary for the calculation of consumption averages.
5. Request for the hours read on the vehicle counter: substitutes the kilometre request.
6. Request driver card: this is requested at the insertion of a driver type AmiTag for his/her identification.
7. Litre deduction limitation, only for previous systems
8. Secret code: request for the PIN code to be entered in the data box on the right. If the operator does not have this code s/he cannot use the AmiTag
9. Driver Code: to be used as an alternative to function 6. Requests that the driver enter one of the 99 codes codified on the AmiTag program to be identified.
10. Job order number request: this is requested upon the operation of entering the job code number or cost centre to which the refuelling is to be attributed.
11. Maximum litres to be dispensed in a refuelling: predetermines a refuelling limit to a maximum number of litres to be dispensed during a refuelling.
12. Keyboard pre-selection: only for compatibility with previous systems.
13. Refuelling block in function of kilometres: this blocks refuelling if the kilometres entered are not within the parameters indicated in point 2 and predetermines the refuelling as a function of the consumption average.
14. Type of AmiTag: the VEHICLE AmiTag is used for the identification of the vehicle that is being refuelled, allowing in this way a control of consumption.
15. Card pass status: may be OK for a valid AmiTag or DISABLED if it has been inserted in the control unit after having been disabled.
16. Km. since last refuelling: this is the entering of the odometer reading or of the vehicle counter entered by the driver at the last refuelling carried out. A zero value in this field indicates a new AmiTag or unblocked from the kilometre check until the next refuelling.
17. Maximum autonomy: indicates the number of kilometres (or hours) that the vehicle may have been driven since the last refuelling. The kilometres entered are considered in error if greater than the sum of the kilometres at the last refuelling and those of the maximum autonomy (16 + 17 in figure)
18. Minimum kilometres driven: indicates the how many kilometres (or hours) the vehicle must have been driven to have then been refuelled. The kilometres entered are considered in error if less than the sum of the kilometres at the last refuelling and those of the minimum to be driven (16 + 18 in figure)
19. Consumption in km/litre from ... to ...: indicates the maximum and minimum consumption estimated for this vehicle, so as to predetermine the maximum number of litres to be dispensed as a function of kilometres driven. For example, if the kilometres at the last refuelling are 10,000, the consumption set is from: 2 to 4 km/litre and the operator would enter 10,500. The refuelling is predetermined at 250 litres: the maximum number of litres that could have been consumed after 500 kilometres driven.
20. Limits the operation of this AmiTag on the pumps that dispense the product indicated. 0 indicates that there are no limits on the product. The products

dispensed are numbered in the Amico equipment, at the heading Product Numbering P. 1/2.

21. This limits the operation of this AmiTag on the pump number indicated. 0 indicates that there is no limit on the pump number. The pumps are numbered in the Amico equipment under the heading of Pump Numbering 1/2.
22. This limits the operation of this AmiTag on the pumps belonging to the company indicated. 0 indicates that there are no limitations on the company number. The companies affiliated with the pumps are defined in the Amico equipment under the heading Company Numbering P. 1/2.
23. Button to read the AmiTag parameters
24. Button to write changes on the AmiTag.
25. Button to write the AmiTag and increase by one the card number and the vehicle number. This is used when several AmiTags are to be written in succession.
26. Button to reload the parameters of a card that was saved.
27. Button to save the parameters of this card so as to be able to recall them.
28. Vehicle number: is the number with which the vehicle is identified inside of the WinAmiFree software. In the vehicle identification list it is the number associated with the description and with the license plate of the vehicle.
29. Card number: is the number that identifies the AmiTag and is used exclusively for disabling it in case of its being lost.
30. Machine code: is the number that identifies the Amico control unit or a group of Amico equipment, on which the same AmiTag may refuel. It identifies the user. It must be communicated when requesting new AmiTags.

4.9.2 Driver AmiTag

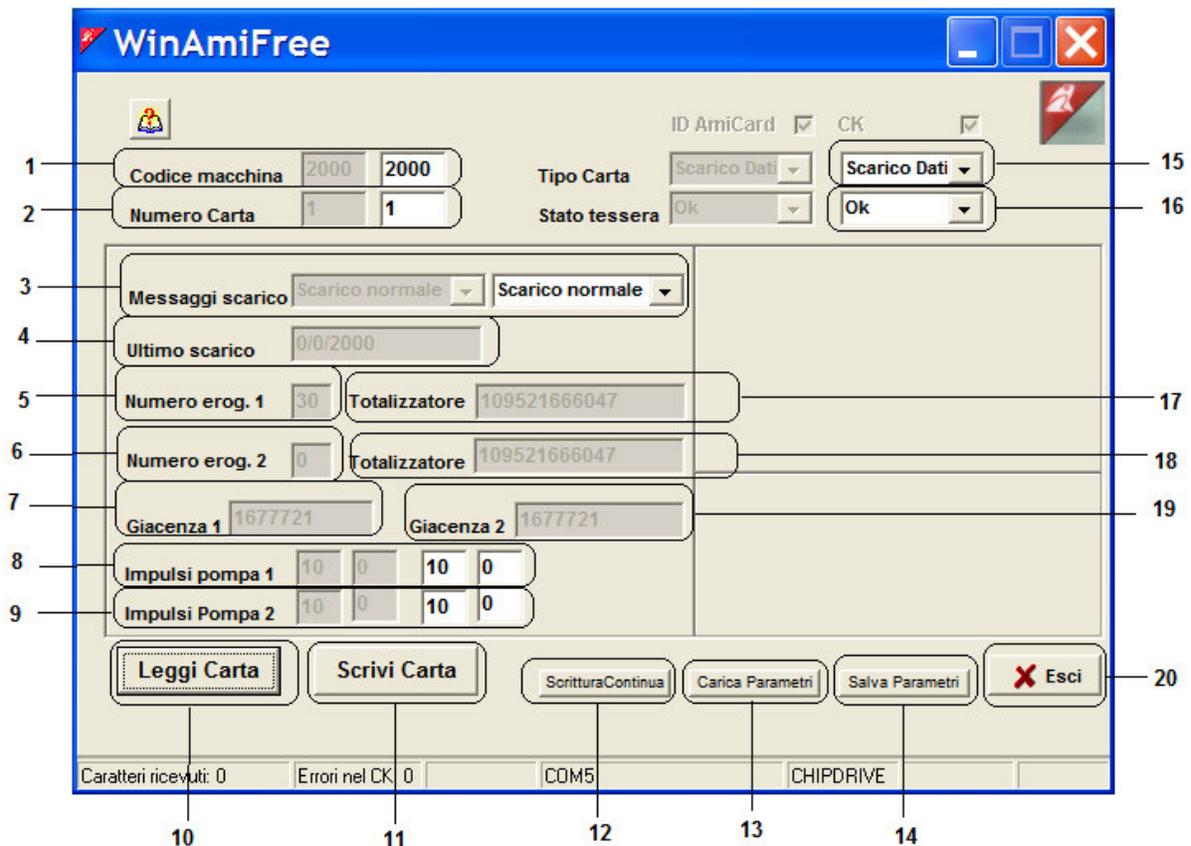


1. Machine code: is the number that identifies the Amico control unit or a group of Amico equipment, on which the same AmiTag may refuel. It identifies the user. It must be communicated when requesting new AmiTags.
2. Card number: is the number that identifies the AmiTag and is used exclusively for disabling it in case of its being lost.
3. Driver number: this is the number with which the driver is identified inside of the WinAmiFree software. In the driver identification list the number is associated with the name and surname of the driver.
4. Secret code: request for the PIN code to be entered in the data box on the right. If the operator does not have this code s/he cannot use the AmiTag
5. Request vehicle card: This Driver AmiTag must be utilised together with a Vehicle AmiTag to enable refuelling. On the Vehicle AmiTag the instruction, *request driver card* must have come up.
6. Request Vehicle number: The entering of the vehicle number corresponds to the insertion of a Vehicle AmiTag with that number. Being an entry it is not possible to set the functions present on the Vehicle AmiTag. The only preset function is the kilometre request.
7. Button to read the AmiTag parameters
8. Button to write changes on the AmiTag.

9. Button to write the AmiTag and increase by one the card number and the driver number. This is used when several AmiTags are to be written in succession.
10. Button to reload the parameters of a card that was saved.
11. Button to save the parameters of this card so as to be able to recall them.
12. Card type: the Driver AmiTag is used to identify the operator who is carrying out the refuelling.
13. Card pass status: may be OK for a valid AmiTag or DISABLED if it has been inserted in the control unit after having been disabled.

4.9.3 Data Download AmiTag

The Data Download AmiTag allows a manual transfer of refuelling data from the Amico control unit to the PC. On one Data Download AmiTag about 100 refuellings may be transferred; any remaining will be transferred on the next download. The Data Download AmiTag may also be used to recover the last **800** refuellings memorised by the Amico system in the event in which there were a need to recover them.



1. Machine code: is the number that identifies the Amico control unit or a group of Amico equipment, on which the same AmiTag may refuel. It identifies the user. It must be communicated when requesting new AmiTags.
2. Card Number: the Data Download AmiTag must always be numbered 1.
3. Download Messages: indicates the actual status of the AmiTags. These statuses may be:
 - Normal download: Inserting it in the Amico the oldest 100 refuellings in memory will be downloaded.
 - Backup download: Inserting it in the Amico the last 800 refuellings will be recovered and the 100 oldest will be downloaded.
 - Download OK: there is data to be downloaded from the WinAmiFree software. The AmiTag will not be able to be used any longer to download data until its zeroing out with the  button in the main screen.
 - Backup Ok: There are backup data to be downloaded.
 - Download Error: The download was not completed. Repeat the operation.
 - Backup Error: The setting up of the backup download was not completed. Repeat the operation.
 - Partial Download: The download was successfully completed but there are still refuellings in the Amico memory. Download the data again.
4. Last download: Date and time of the last data download.
5. Dispenser Number 1: indicates the numbering given to pump 1.
6. Dispenser Number 2: indicates the numbering given to pump 2.
7. Stock 1: indicates the stock in the Amico display at the moment of the data download.
8. Pump 1 Impulses: indicates the number of impulses per litre for pump 1.
9. Pump 2 Impulses: indicates the number of impulses per litre for pump 2.
10. Button to read the AmiTag parameters
11. Button to write changes on the AmiTag.
12. Button to write the AmiTag and increase by one the card number and the vehicle number. This is used when several AmiTags are to be written in succession.
13. Button to reload the parameters of a card that was saved.
14. Button to save the parameters of this card so as to be able to recall them.
15. Card Type: the Download Data AmiTag is used to transfer the refuelling data.
16. Card pass status: may be OK for a valid AmiTag or DISABLED if it has been inserted in the control unit after having been disabled.
17. Pump counter 1: indicates the electronic counter for pump 1 in the Amico display at the moment of the data download.
18. Pump Counter 2: indicates the electronic counter for pump 2 in the Amico display at the moment of the data download.
19. Stock 2: indicates the stock in the Amico display at the moment of the data download.
20. Exit: exits the AmiTag programming

4.9.4 Program AmiTag

The Program AmiTag is used for the programming of the Amico operational parameters and for the transferral of driver codes from the PC to the Amico control unit.

4.9.5 Command transmission to the Amico control unit

For the Amico versions connected directly to the PC via cable or by way of the AmicoOnLine server, the WinAmiFree software permits the transmission of commands for remote management.

4.9.5.1 Command transmission in the direct cable connection

In the direct cable connection it is possible to transmit certain commands without having to work the Amico keyboard in the AmiTag program menus.



1. Correct date and time: transmits the PC clock to the Amico control unit to correct the internal clock.
2. Disable or enable cards: allows the blocking of an AmiTag from refuelling: enter the card number, (not the vehicle number) to be disabled.
3. Unlock kilometre error: Allows the kilometres at the last refuelling of a vehicle to be zeroed out, so as to allow it to be refuelled.

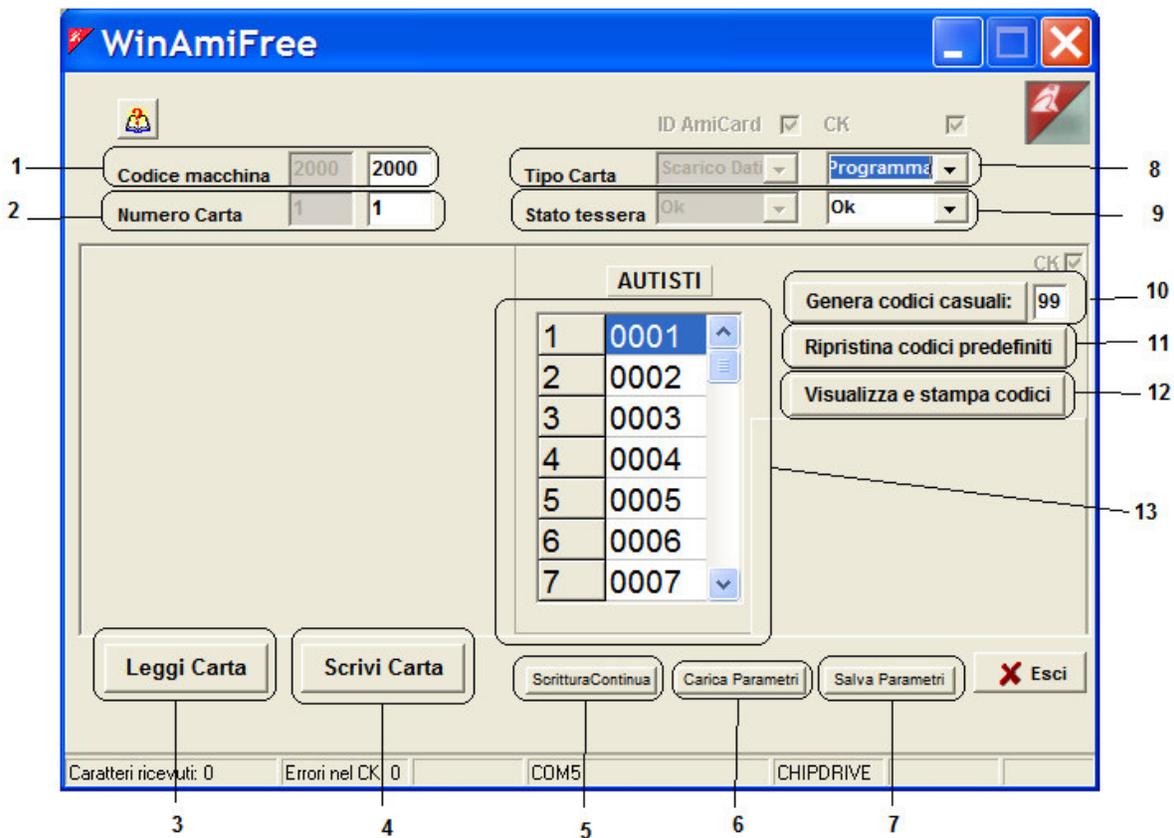
4.9.5.2 Command transmission to the AmicoOnLine server

In the connection by way of the AmicoOnLine server it is possible to transmit certain commands without having to work the Amico keyboard in the AmiTag program menus. The

commands transmitted will be memorised by the AmicoOnLine server and transmitted to the Amico at the end of the next refuelling.



1. Correct date and time: transmits the AmicoOnLine server date and time to the Amico control unit to correct the internal clock.
2. Disable AmiTags: allows the blocking of an AmiTag from refuelling: enter the card number, (not the vehicle number) to be disabled.
3. Unlock kilometre error: Allows the kilometres at the last refuelling of a vehicle to be zeroed out, so as to allow it to be refuelled.
4. Command report: allows the visualisation of the list of the commands transmitted and the status of their reception. Their reception status may be:
 - IN LINE. The server is waiting for a refuelling to be made to transmit the command to Amico.
 - RECEIVED. Amico received the command.
 - CANCELLED. Amico cancelled the reception of the command. It must be retransmitted.

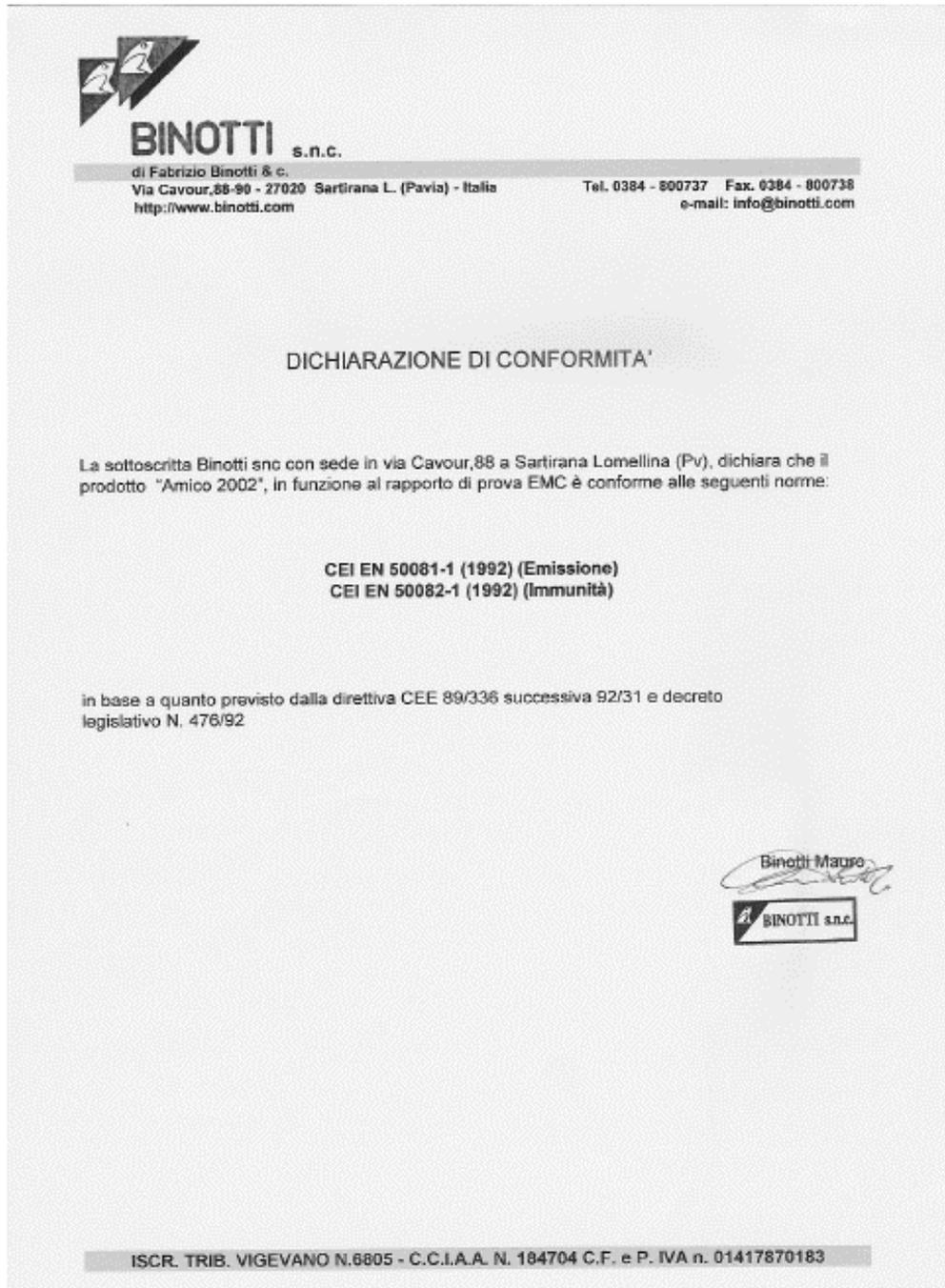


1. Machine code: is the number that identifies the Amico control unit or a group of Amico equipment, on which the same AmiTag may refuel. It identifies the user. It must be communicated when requesting new AmiTags.
2. Card Number: in the Data Download AmiTag it must always be numbered 1.
3. Button to read the AmiTag parameters
4. Button to write changes on the AmiTag.
5. Button to write the AmiTag and increase by one the card number and the vehicle number. This is used when several AmiTags are to be written in succession.
6. Button to reload the parameters of a card that was saved.
7. Button to save the parameters of this card so as to be able to recall them.
8. Card type: The Program AmiTag is used to program Amico.
9. Card pass status: May be OK for a valid AmiTag or DISABLED if it has been inserted in the control unit after having been disabled.
10. Random codes Generation: it generates random codes for driver identification. At each click of this button the codes are changed.
11. Recover predefined codes: recovers default driver codes.
12. Display and print codes: Displays driver codes in the windows report.

List driver codes: contains the list of codes the drivers must enter for their identification. The driver number in the right hand column must correspond to the name and surname of the driver in the driver identification list, the driver code, in the right hand column, and the code that the driver must enter in the Amico control unit so as to be identified. The driver codes are requested by the Request driver code function on the Vehicle AmiTag.

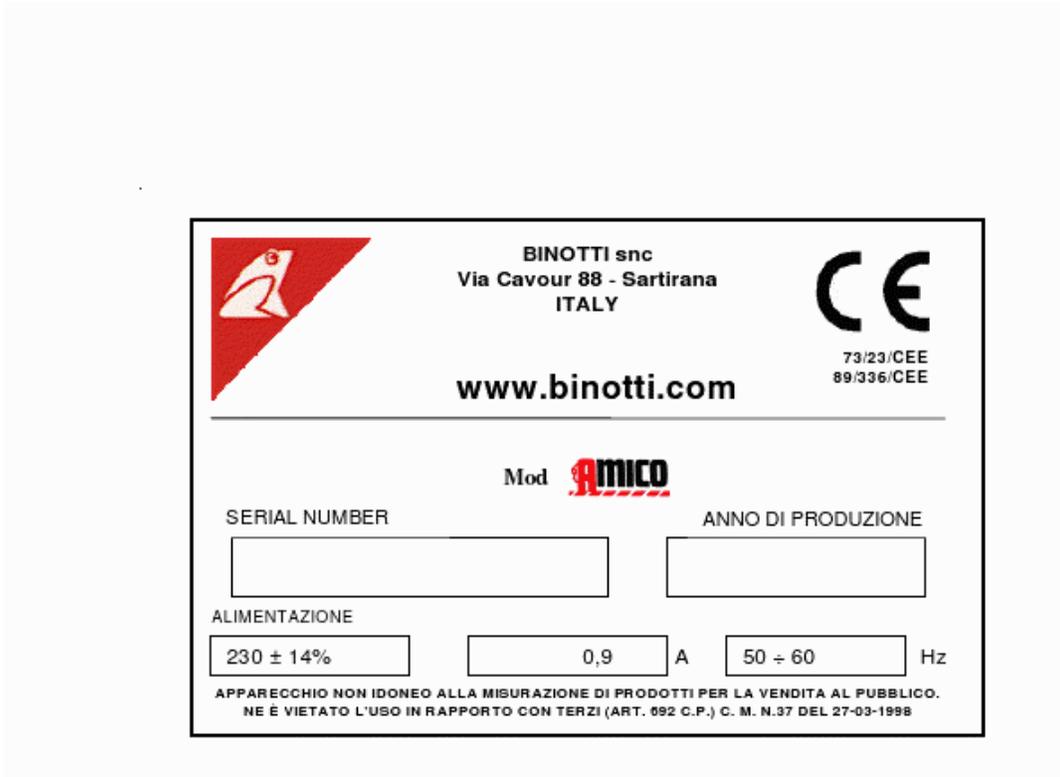
5 Attachments

5.1 CE conformity



Declaration of CE conformity (Figure 12)

5.2 CE Tag



CE Tag (Figure 13)

5.3 Containers

Dimensions expressed in mm

 A photograph of the Amico Container CA-01. It is a white, rectangular device with a protective cover that is partially open, revealing a keypad and a small screen. The keypad has buttons for 'OK', 'No', '0-9', 'A', 'B', 'C', 'D', and a 'CE' mark. The Amico logo is visible at the bottom left of the keypad area.	<p>Dim. max L 370 x H 290 x D 175 (P370 with protective cover)</p> <p>Weight 4 Kg</p>
 A photograph of the Amico Container CA-02. It is a white, rectangular device with a protective cover that is open, revealing a keypad and a screen. Below the keypad is a slot for a card or document. The keypad has buttons for 'OK', 'No', '0-9', 'A', 'B', 'C', 'D', and a 'CE' mark. The Amico logo is visible at the bottom left of the keypad area.	<p>Dimensions Dim. max L 370 x H 450 x D 175 (P370 with protective cover)</p> <p>Weight 7 Kg</p>

Container CA-01 (Figure 14)

Container CA-02 (Figure 15)



Container CA-03 (Figure 16)

Dim. max L 241 x H 241 x D 90
Weight 3 Kg



Container CA-04 (Figure 17)

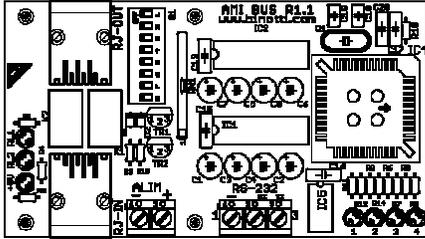
Dim. max L 245 x H 465 x D 135
Weight 4 Kg



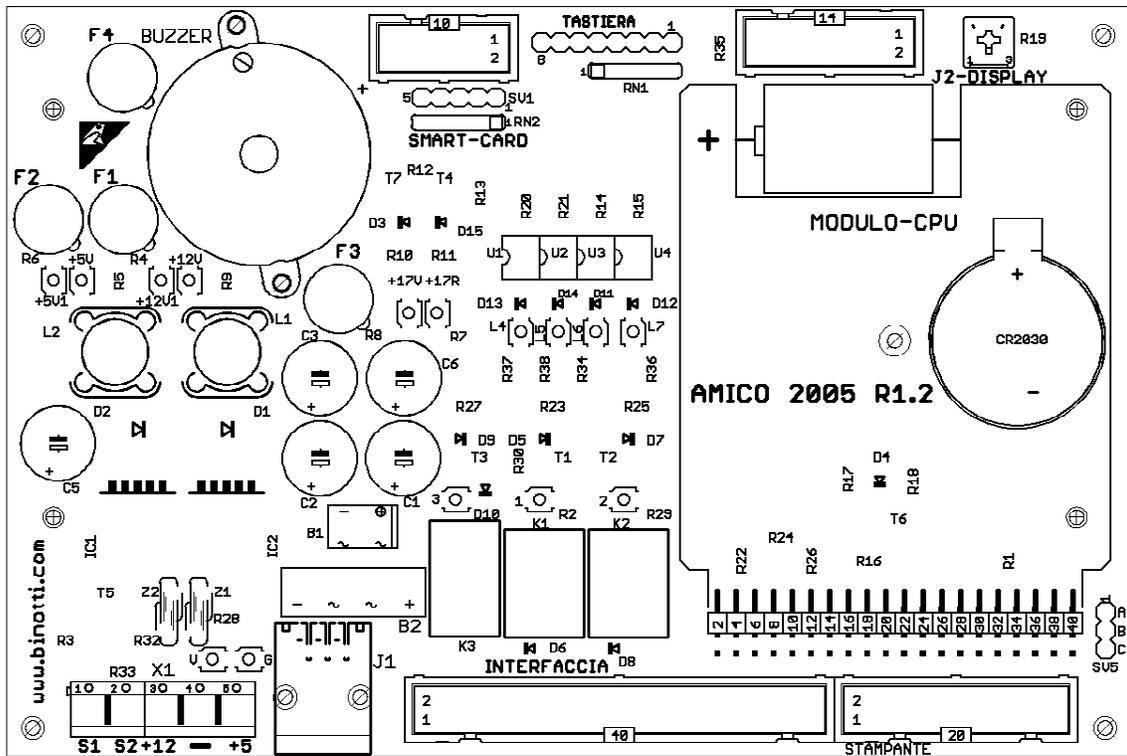
Dim. max L 410 x H 340 x D 360
Weight 8 Kg

Container CA-05 (Figure 18)

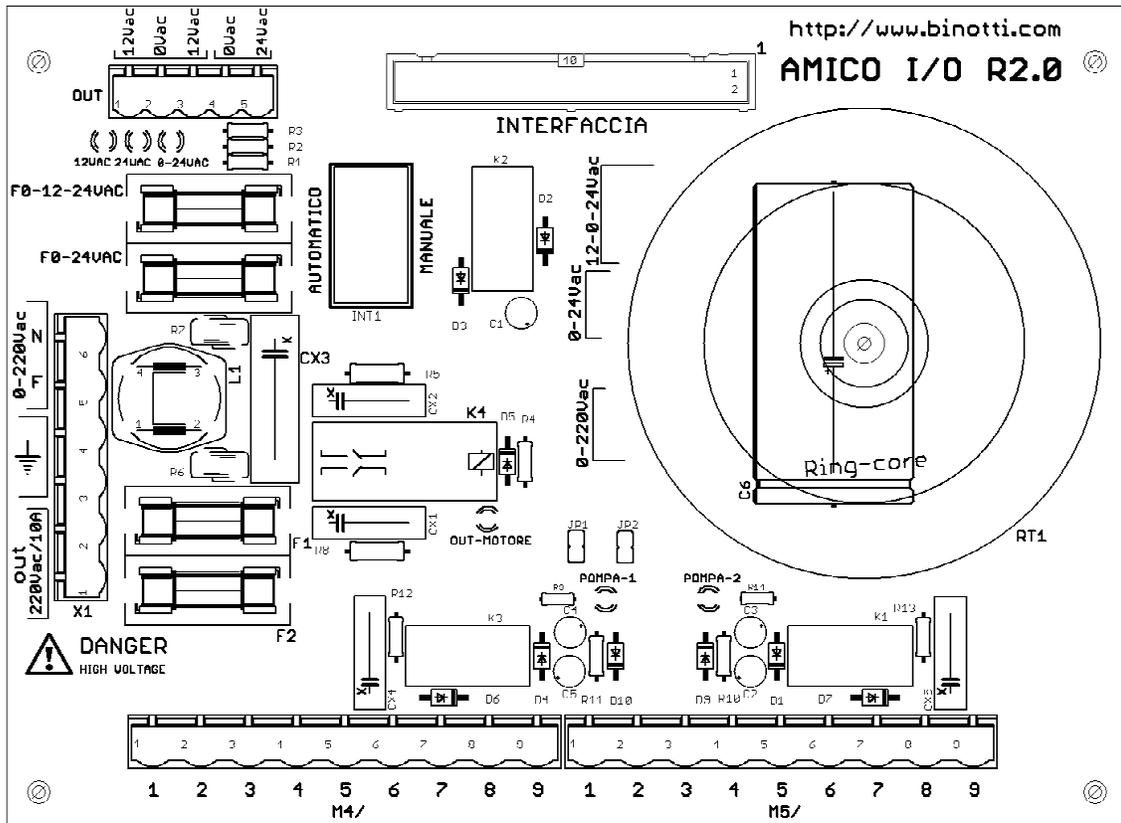
5.4 Component location



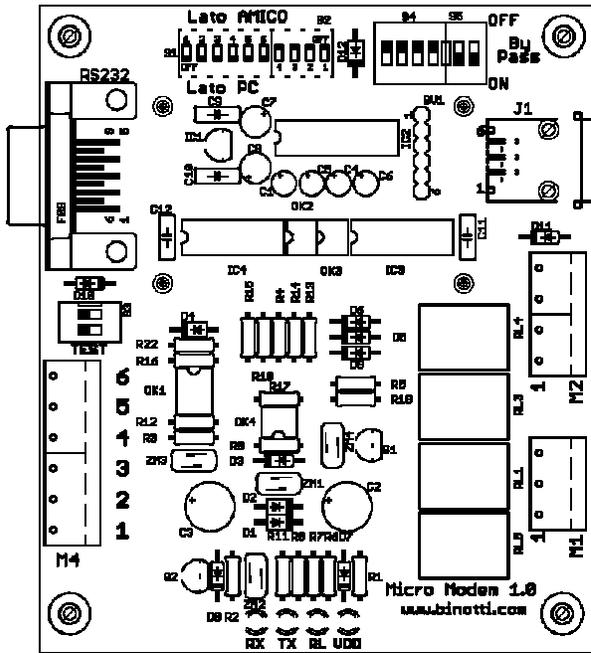
AmiBus (Figure 19)



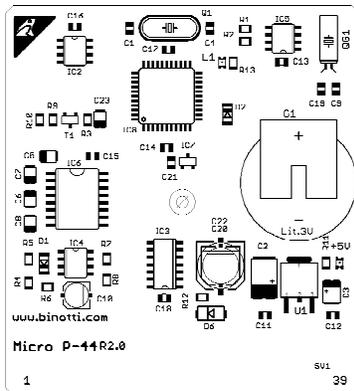
Amico 2005 (Figure 20)

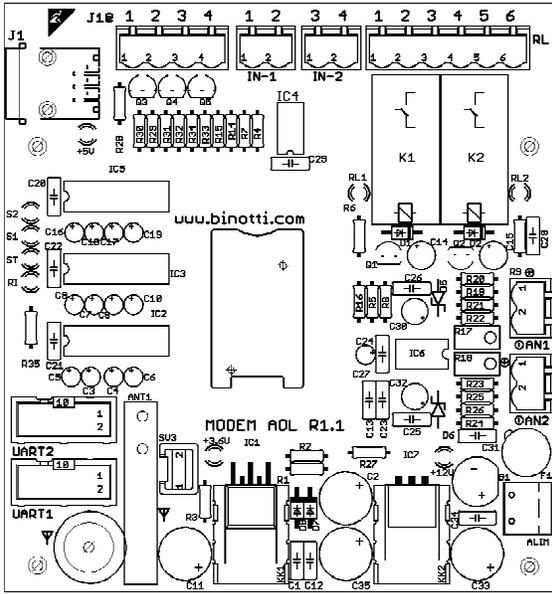


Amico I/O (Figure 21)



Micro-modem (Figure 22)





Model AOL (Figure 24)

5.5 Specifications

Device power supply	220V \pm 15% (phase-neutral)	Minimum basic operation for making the Amico device operational
Absorption	min 0.1 A max 1A - 3.5 A	With all of the options present at rest With the TTL printer operational
Line frequency	50-60Hz	
Fuses	F 0-12-24 F 0-24 F3-F4 IN 220 F5 OUT 220	3.15A 3.15A 2A 10A
Maximum altitude	1000 m	
Operational temperature	-20° C - +40° C -10° C - +40° C	without printer option with printer option
Operational relative humidity	30% to 90 %	
Storage temperature	-25° C - + 60° C	
Storage relative humidity	10% to 90 %	
Dimensions max (appendix A)		
- Container CA-01	L 370 x H 290 x D 175	P370 With protective hood
- Container CA-02	L 370 x H 450 x D 175	P370 With protective hood
- Container CA-03	L 241 x H 241 x D 90	
- Container CA-04	L 245 x H 465 x D 135	
- Container CA-05	L 410 x H 340 x D 360	

Weight		Considering all of the options included
- Container CA-01	4 kg	
- Container CA-02	7 kg	
- Container CA-03	3 kg	
- Container CA-04	4 kg	
- Container CA-05	8 kg	
Protection grade	IP55	
Conservation time of dispensing data	10 years	
Conservation time of momentary data in case of power failure during dispensing.	10 years	
Conservation time of date and time in case of power failure.	1 year	
Average life span of clock batteries	6 years	

Connector Terminal X1	
1 = N	Connection with external line NEUTRAL
2 = L	Connection with external line PHASE
3 = Earth	Connection for Grounding
4 = Earth	Connection for Grounding
5 = Out N	NEUTRAL output motor connection MAX load 10 A
6 = Out L	PHASE output motor connection MAX load 10 A

OUT terminal (not used, maintained only for compatibility)	
1 = 12 V AC	Connection 12-0-12 with Amico 2000 R1.0 data card Max load 3 A
2 = 0 V AC	Connection 0-24 with Amico 2000 R1.0 data card Max load 3 A
3 = 12 V AC	
4 = 0 V AC	
5 = 24 V AC	

Output terminals M4-PUMP1

1 = 0V 2 = Nozzle 3 = +12V DC 4 = 0V 5 = Ch1-pulser 6 = Out 24 V AC 7 = Out 24 V AC 8 = Out N/O 9 = Out N/O	Clean contacts normally open, max 1A, $\cos\phi = 1$, max 30 V DC or 24 V AC. Max section of cables 2.5 mm ² . Digital counter input pump 1, 10mA @ 24 V DC	
Output terminals M5-PUMP 2		
1 = 0V 2 = Nozzle 3 = +12V DC 4 = 0V 5 = Ch2-pulser 6 = Out 24 V AC 7 = Out 24 V AC 8 = Out N/O 9 = Out N/O	Clean contacts normally open, max 1A, $\cos\phi = 1$, max 30 V DC or 24 V AC. Max section of cables 2.5 mm ² . Digital counter input pump 2, 10mA @ 24 V DC	
OPTION PRINTER TTL 24 column		
Average operational time of printer mechanism	About 1.0 million receipts 10 lines per receipt	
Average operational time of printer head mechanism	About 1.5 million receipts 35 mm printed per receipt	
Printer paper Printer ribbon	Plain paper 57 mm diam. 50 .EPSON ERC-09	
COMMAND PUMP COUNTER POWER SUPPLY OPTION		
Additional power supply	400 V + -10% (Phase-phase)	Added to the tri-phase system in case of motor power supply command
Maximum upper fuse protection	16 A	The same for both motors
Maximum power permitted	2 x 3 KW	3KW per motor
Maximum current permitted	6 A	Per motor
Line frequency permitted	50-60Hz	Depends on motor piloted
Cable section	2.5 mm ²	Maximum one conductor per terminal
Terminal tightening torque	0.8 Nm	

MOTOR OVERLOAD PROTECTION DEVICE OPTION:

In the event of the powering of a pump motor above 0.5 KW, a motor protection overload device must be made available in the case that it has not already been provided for on site. the thermal protection device must be chosen as a function of the absorption indicated on the motor plate.

IMPORTANT: *In the event that both motor options are put into place, the ratings must be identical. In other words, if the power of the motor relative to pump no. 1 is 0.5 KW the same must go for the motor relative to pump no. 2. The same goes for motors of a higher rating as well.*

MICRO-MODEM REMOTE CONNECTION VIA CABLE OPTION

Encased power supply	9 V AC	Utilisation inside of buildings. Connectible to the office PC via RS232 serial port with DB9connector.
Frequency	50 – 60 Hz	
Absorption	100mA	
Maximum Distance	200 metres	Connection with cable suitable for the installation, with 6 wires of which 2 x section = 1mm ² 4 x section = 0.5 mm ² + shield

PLEASE NOTE: Average time for download of 100 refuellings → about 60 seconds

REMOTE CONNECTION VIA GSM-GPRS MODEM

External electrical power or power supply. Output 5 V DC	RJ 45/6	connected internally to AMICO 2005 data card
Absorption	50 mA at rest 400 mA in trasmission	
Connection	GSM GPRS network	A SIM card with data transmission contract furnished by a mobile telephone provider is necessary.
Type of calling Modem	GSM GPRS Modem	

PLEASE NOTE: Average time required for download at the end of refuelling is → 1 min.

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End Manual