

3. ELECTRIC REPAIRING OPERATIONS

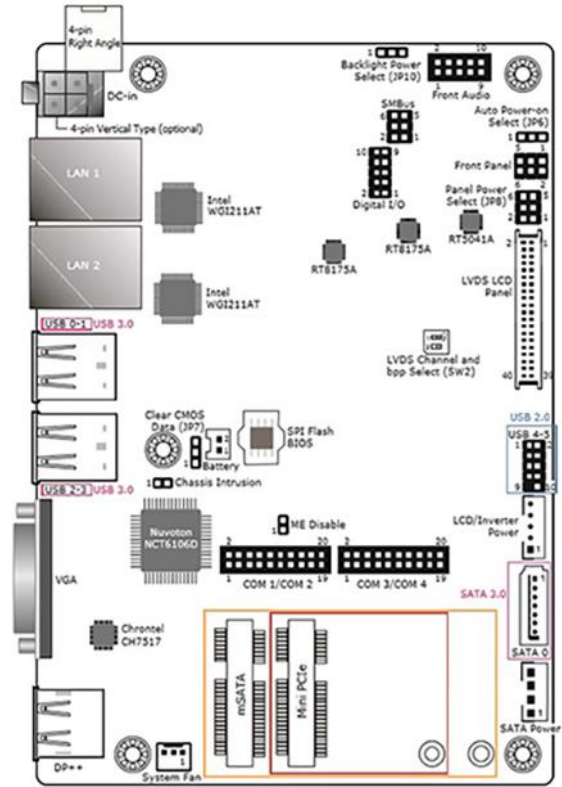
3.1. DIAGNOSIS AND ELECTRONIC PART DESCRIPTION

3.1.1. PC LINUX BOARD

The machine is provided with a Linux PC board on which the high-level machine software is memorised.

The Linux PC board receives the Ethernet connection from the LAN1 port and is internally connected to the MAB board via RS-232. The Linux board has RS-232 and USB ports necessary to connect some accessories like the scale.

The Linux PC board is powered with 12V.



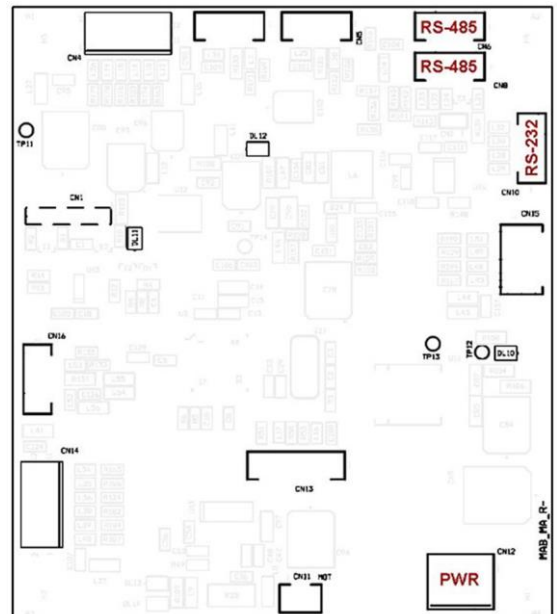
3.1.2. MAIN AUTOMATION BOARD (MAB)

The machine management firmware MAB board is saved on the MAB board. The orders sent by the high-level software are managed at MAB level. This board organises the machine cycle by interrogating and sending orders via RS-485 to the slave boards of the single circuits.

The MAB board is supplied with 24Vdc.

The MAB board controls directly:

- the can presence reflective photocell



3.1.3. SCCB BOARD

Each circuit (colorants, bases, storages, Cartesian axes and autocap) is managed by a dedicated SCCB board addressed according to the machine configuration set in the software.

Each board is powered with 24 V (two separate lines for logics and power) and 48V, controls the digital sensor inputs and integrates the control drivers of two DC 24V peripheral units (DC motor stirring and/or electrovalves) and of one stepper motor.

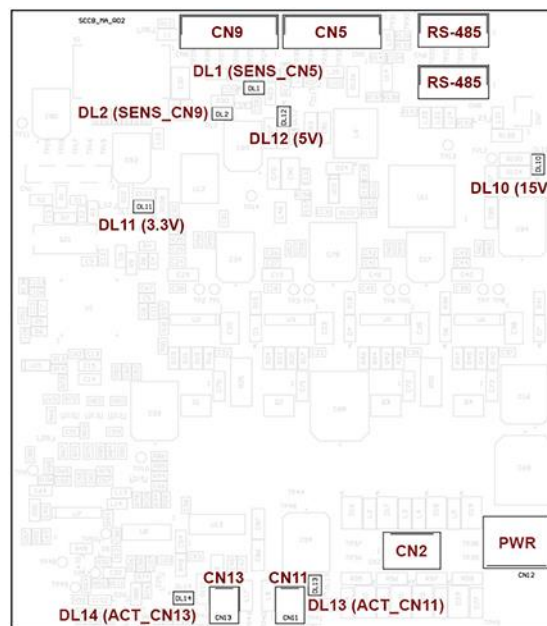
The board generates the necessary on-board service voltage. To facilitate the diagnosis, each power supply features a status LED (on = power connected):

- DL11 = 3.3V
- DL12 = 5V
- DL10 = 15V

In case one or more power supply LEDs is OFF, check the fuse relevant status (see para. 3.2). Likewise, the DC MOT (CN13) and EV (CN11) outputs have a status LED that indicates when they are powered.

Following is a list of the controls of each SCCB board:

CN1 connector is always used for programming and updating the firmware via PICkit (see chapter 4 – PROGRAMMING THE ELECTRONIC BOARDS).



CIRCUIT	CN2	CN5	CN6	CN8	CN9	CN11	CN12	CN13
BASE 1	STEPPER	HOME PHOT.	RS485	RS485	RESERVE	ELECTROVALVE	PWR	STIR MOT
BASE 2	STEPPER	HOME PHOT.	RS485	RS485	RESERVE	ELECTROVALVE	PWR	STIR MOT
COL 1	STEPPER	HOME PHOT.	RS485	RS485	RESERVE	ELECTROVALVE	PWR	STIR MOT
COL 2	STEPPER	HOME PHOT.	RS485	RS485	RESERVE	ELECTROVALVE	PWR	STIR MOT
COL 3	STEPPER	HOME PHOT.	RS485	RS485	RESERVE	ELECTROVALVE	PWR	STIR MOT
COL 4	STEPPER	HOME PHOT.	RS485	RS485	RESERVE	ELECTROVALVE	PWR	STIR MOT
COL 5	STEPPER	HOME PHOT.	RS485	RS485	RESERVE	ELECTROVALVE	PWR	STIR MOT
COL 6	STEPPER	HOME PHOT.	RS485	RS485	RESERVE	ELECTROVALVE	PWR	STIR MOT
COL 7	STEPPER	HOME PHOT.	RS485	RS485	RESERVE	ELECTROVALVE	PWR	STIR MOT
COL 8	STEPPER	HOME PHOT.	RS485	RS485	RESERVE	ELECTROVALVE	PWR	STIR MOT
COL 9	STEPPER	HOME PHOT.	RS485	RS485	RESERVE	ELECTROVALVE	PWR	STIR MOT
COL 10	STEPPER	HOME PHOT.	RS485	RS485	RESERVE	ELECTROVALVE	PWR	STIR MOT
COL 11	STEPPER	HOME PHOT.	RS485	RS485	RESERVE	ELECTROVALVE	PWR	STIR MOT
COL 12	STEPPER	HOME PHOT.	RS485	RS485	RESERVE	ELECTROVALVE	PWR	STIR MOT
X	STEPPER	HOME PHOT.	RS485	RS485	TOT.PHOT.		PWR	
Y	STEPPER	HOME PHOT.	RS485	RS485	TOT.PHOT.		PWR	
CAN STORAGE 1	STEPPER	HOME PHOT.	RS485	RS485	RESERVE		PWR	
CAN STORAGE 2	STEPPER	HOME PHOT.	RS485	RS485	RESERVE		PWR	
CAN STORAGE 3	STEPPER	HOME PHOT.	RS485	RS485	RESERVE		PWR	
CAN STORAGE 4	STEPPER	HOME PHOT.	RS485	RS485	RESERVE		PWR	
LIDS STORAGE 1		HOME PHOT.	RS485	RS485	RESERVE		PWR	DC CAP
LIDS STORAGE 2		HOME PHOT.	RS485	RS485	RESERVE		PWR	DC CAP
AUTOCAP	STEPPER	HOME PHOT.	RS485	RS485			PWR	

3.1.4. SPB BOARD

The SPB board is powered with 24V and produces a 12Vdc on-board voltage, these values are necessary for Linux board, printer and payment system (if any) operation (see figure at the side).

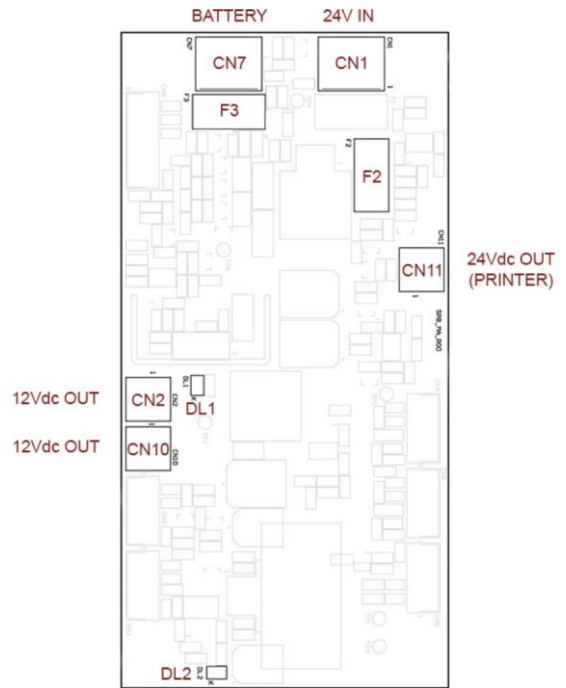
In case of machine switching off or problems to the electric mains (interruptions or voltage dips), the SPB board keeps the Linux board powered at 12V for the time required for the operating system controlled shut-down.

A NI-MH, 16.8V - 1800mAh battery, featuring an internal safety PTC and connected to the board on CN7, is used for the 12V voltage storage function.

The board features two inner fuses:


- F2=0.5A on the charge branch (protection against a charge current above the maximum value tolerated by the battery);
- F3=2.5A on the battery (protection in case of excessive absorption).

DL1 and DL2 LEDs indicate the presence of 12V and 5V, respectively.



3.2. CHECKING AND REPLACING THE NETWORK FUSES

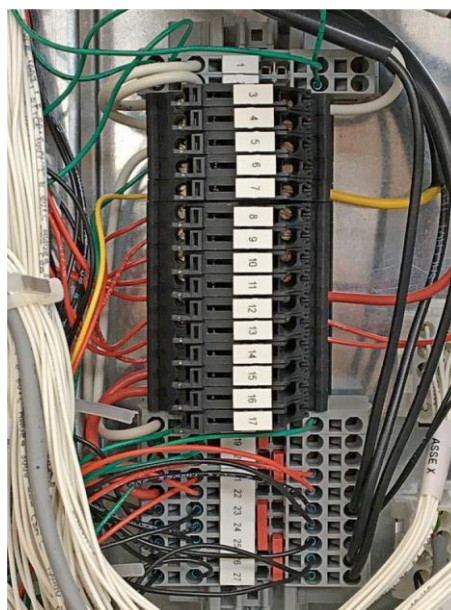
In case of mains malfunction or problems, the safety fuses could blow and cut power. Fuses are located in the fuse holder built in the plug with switch on the back panel (see para. 1.1.2). To replace the interrupted fuse open fuse holder using a flat screwdriver to prise it open. Remove the fuse and its holder and install a new fuse.

	<p>USE ONLY FUSES OF THE SAME TYPE AND THE NOMINAL RATING SHOWN IN THE PRODUCT LABEL.</p> <p>Fuse requirements: EU - IEC 60127 Approval US - UL248-1 and UL248-14 Approval</p>
---	--

3.3. REPLACING THE SECONDARY CIRCUIT FUSES (INTERNAL TERMINAL BOARDS)

In case of malfunction or faults, the safety fuses could interrupt the output power supply of the terminal boards. The fuses are located on the terminal boards located inside the electric panel (see para. 2.1.2.2).

- In order to replace the fuses, proceed as follows:
- make sure the machine is disconnected from the power supply as described in para. 2.0.3.
- Remove the side panel as shown in paragraph 2.1.2 and find the fuse-holding terminal boards.



- Find the circuit of the interrupted power supply line and take a fuse with a correct rating according to the diagram to the side.

1			48V X-Y
2			48V B1-B2
3	5x20mm F2,5A 250Vac		48V B1-B2
4	5x20mm F2,5A 250Vac		48V X-Y
5	5x20mm F2A 250Vac		48V CONTAINERS
6	5x20mm F4A 250Vac		48V COLORANTS
7	5x20mm F2A 250Vac		12V LINUX
8	5x20mm F1,5A 250Vac		24V PRINTER
9	5x20mm F4A 250Vac		24V COLORANTS
10	5x20mm F150mA 250Vac		24V MAB
11	5x20mm F1A 250Vac		24V X
12	5x20mm F1A 250Vac		24V Y
13	5x20mm F1A 250Vac		24V B1
14	5x20mm F1A 250Vac		24V B2
15	5x20mm F1,5A 250Vac		24V AUTOCAP
16	5x20mm F1,5A 250Vac		24V T1-T2
17	5x20mm F1A 250Vac		48V CONTAINERS
18			48V CONTAINERS
19			24V CONTAINERS
20			24V CONTAINERS
21			24V T1-T2
22			24V T1-T2
23			GND
24			
25			
26			
27			

- Lift the fuse holder until it is possible to manually remove the damaged fuse.
- Insert the new fuse in the fuse holder.
- Close the fuse holder by slightly pressing on it.
- Reposition and fix the machine rear panel using the previously removed screws.

WARNING: use only fuse of the same type and with the same nominal rating specified by the manufacturer.

3.4. REPLACING THE POWER SUPPLY UNITS

In case of an electric fault in one or more power supply units of the machine, proceed as follows to replace them:

- make sure the machine is disconnected from the power supply as described in para. 2.0.3.
- To reach the power supply unit compartment remove the rear panel as described in paragraph 2.1.1. to reach the electric panels, then remove the internal protections as described in paragraph 2.1.2.
- Disconnect the wiring between the power supply unit to be replaced and the rest of the machine.
- Remove the power supply unit by fitting a small flat screwdriver in the suitable retaining tab and remove the unit from the DIN bar.
- Fit the new power supply unit manually on the DIN bar.
- Reconnect the power supply unit to the wiring according to the attached wiring diagram.
- Reposition the previously removed protection panel.

WARNING: use only genuine spare parts supplied by the manufacturer.



3.5. REPLACING THE MAX BOARD

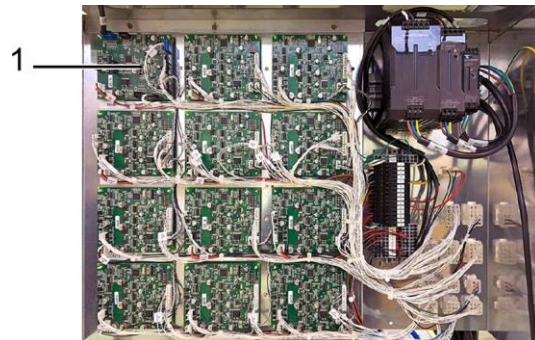
To replace the MAB boards, proceed as follows:

- make sure the machine is disconnected from the power supply as described in para. 2.0.3.
- Remove the rear panel as described in paragraph 2.1.1. to reach the electric panels, then remove the internal protections as described in paragraph 2.1.2.
- Disconnect the power supply and signal cables from the board (1) to be replaced.
- Remove the board by releasing it from the plastic supports on its corners.
- Insert a new board on the supports having care not to damage its components.

WARNING: Use an already programmed board or the suitable programmer to install the correct firmware. To reprogramme the boards refer to chapter 4.

- Restore the electric connections.

MAKE SURE THAT THE TERMINATION JUMPER ON CN7 (2) IS PRESENT ON THE NEW BOARD.



3.6. REPLACING THE SCCB BOARD

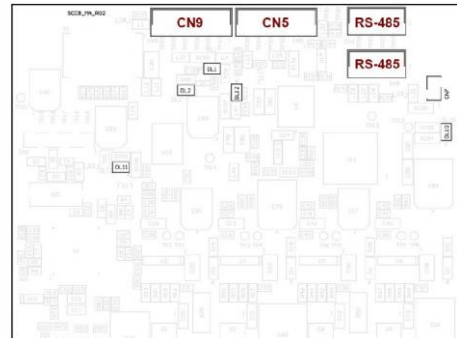
- make sure the machine is disconnected from the power supply as described in para. 2.0.3.
- Remove the rear panel as described in paragraph 2.1.1. to reach the electric panels, then remove the internal protections as described in paragraph 2.1.2.

Find the SCCB board to be replaced by referring to what is indicated in paragraphs 2.1.2.2 and 2.1.2.3, then proceed as follows.

- Disconnect the power supply and signal cables from the board.
- Remove the board by releasing it from the supports (1) on its corners.
- Insert a new board on the supports having care not to damage its components.

WARNING: Use a board already programmed with the function of the replaced board. To reprogramme the board refer to chapter 4.

- Restore the previously disconnected connections according to the wiring diagram.



MAKE SURE THAT THE TERMINATION JUMPER ON CN7 (2) IS NOT PRESENT ON THE NEW BOARD.

3.7. REPLACING THE PRINTER

If the problems of label printing can not be solved with the ordinary maintenance operations, it is necessary to replace the printer.

To replace the printer proceed as follows:

- disconnect connector (1) located between the PC unit and the printer. It is easy to see it on the machine left side door.
- Loosen the 4 M4X12 socket head screws + D4 washer + D5 washer for screw (1), having care not to damage the wiring fixed to the upper left screw of the printer support.



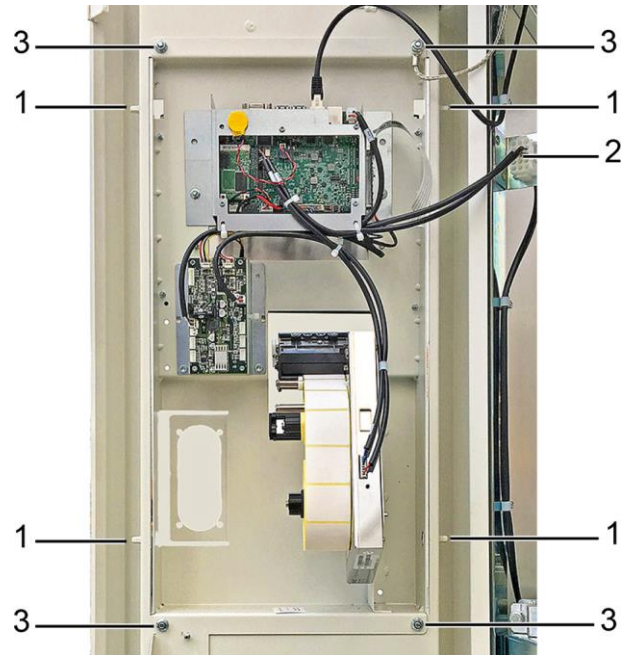
- Position the new printer on the relevant support using the just removed 4 M4X12 socket head screws + D4 and D5 washers.
- Pay attention to reposition the wiring in the suitable retainer on the support upper left corner.
- Reconnect all connectors of the wirings between printer and PC unit.



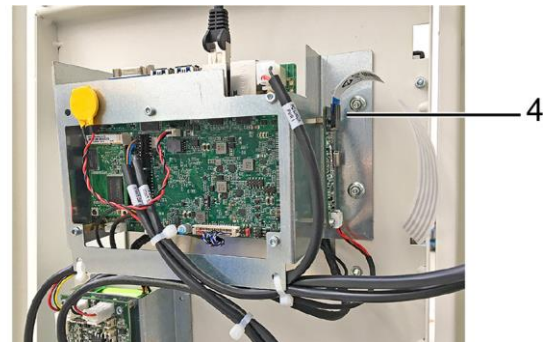
3.8. REPLACING THE LINUX PC BOARD/DISPLAY UNIT

In case of malfunction replace the PC – display unit as follows:

- open both doors (left and right) of the machine.
- Remove the external cover of the LH door by loosening the 4 M5X16 socket head screws + D5 washers (1) on the panel external corners.



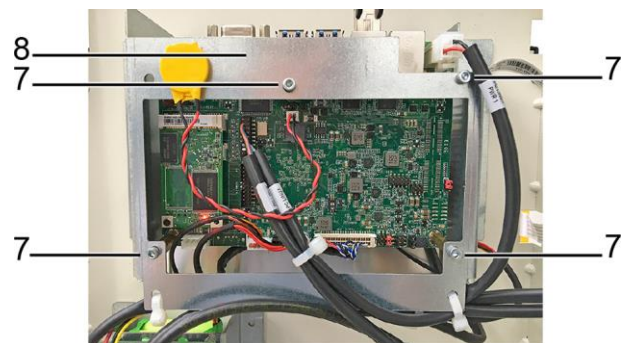
- Disconnect the connector between PC and display (4), as shown in the figure and the power supply wiring of display (5).



- Remove the display by loosening the 4 M3X12 socket head screws + D3 washers and the relevant nuts (6) located on the corners of the display. Take care not to pull the wirings at the back!
- Disconnect the connectors located on display rear side.



- To remove the PC board, use a 2.5mm Allen wrench to loosen the M3x6 screws (7) securing the stud bolts (integral with the board) to the metal support (8).



Reassembly:

- Replace the damaged components and refit the display and the PC board using the previously removed screws and nuts; then restore all the electric connections.

3.9. REPLACING THE SPB BOARD AND THE BATTERY

If any repair operation is required, replace the parts as follows:

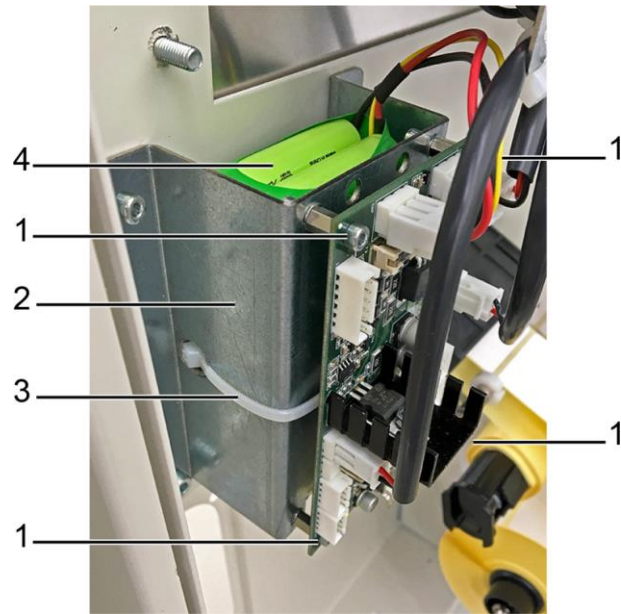
Board replacement

- Loosen the 4 M3x6 retaining screws (1) to release board from support (2), then disconnect wirings and proceed to replacement.

Battery replacement

- Use a cutter to cut tie (3) securing battery (4) inside support;
- Disconnect battery and replace it with the spare one;
- Secure battery to support using a new tie.

NOTE: FOR REPLACEMENT, USE ONLY GENUINE SPARE PARTS SUPPLIED BY THE MANUFACTURER



3.10. REPLACING THE PAYMENT SYSTEM

In case of any problems to the payment system (optional), contact the Alfa technical service and request the replacement with a genuine spare part.

3.11. LTE ROUTER SETTINGS

When a hard-wired ethernet network is not available, it is still possible to obtain a remote connection to the machine via an LTE Router.

A VPN client - duly installed and set up - is necessary to connect to the machine.

3.11.1. CONNECTION VIA VPN CLIENT ON WINDOWS 7 AND 10

To install the VPN Client, proceed as described below:

- Open an internet browser at <https://openvpn.net/index.php/open-source/downloads.html>
- Click “openvpn-install-2.4.4-I601.exe” (1) and download the file.

Please note that OpenVPN 2.4 installers *will not* work on Windows XP.

If you find a bug in this release, please file a bug report to our [Trac bug tracker](#) first, either using the [openvpn-devel mailinglist](#) or the developer IRC channel (help take a look at our official [documentation](#), [wiki](#), [forums](#), [openvpn-users mailing list](#), [irc.freenode.net](#)).

Source Tarball (gzip)	openvpn-2.4.4.tar.gz	GPG
Source Tarball (xz)	openvpn-2.4.4.tar.xz	GPG
Source Zip	openvpn-2.4.4.zip	GPG
Installer, Windows Vista and later	openvpn-install-2.4.4-I601.exe	GPG

1

NOTE: the GPG key used to sign the release files has been changed since OpenVPN 2.4.4-I601, as well as the new GPG public key are available [here](#).

We also provide static URLs pointing to latest releases to ease automation. For more information, see [here](#).

- Open the downloaded file, then press “Next” (2) on the following screen page.



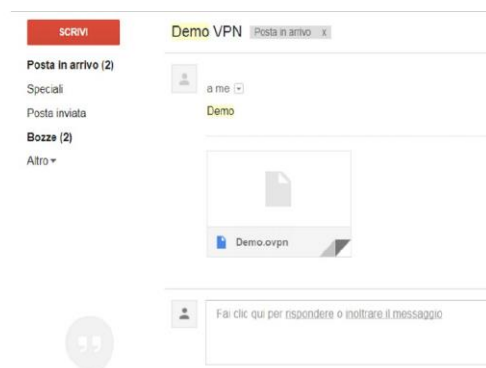
2

- Check the boxes indicated in the figure on the side, then press “Next”.

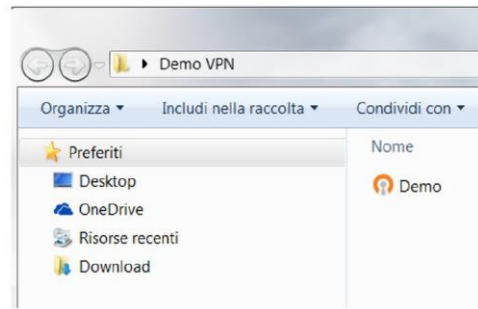


To connect to the machine via the VPN Client, proceed as described below:

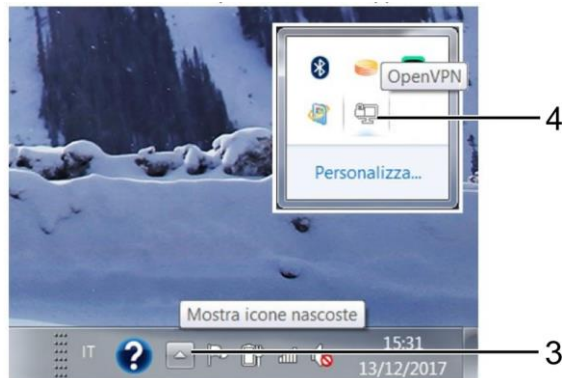
- Download the file containing the login credentials sent by Alfa via email.



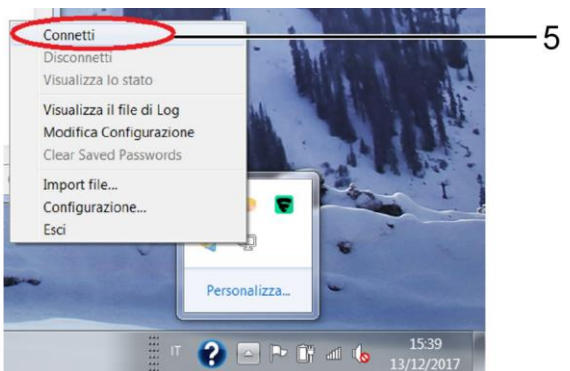
- Save the file containing the credentials in C:/programs/OpenVPN/Config
- Make sure you save it as an “.opvn” file.



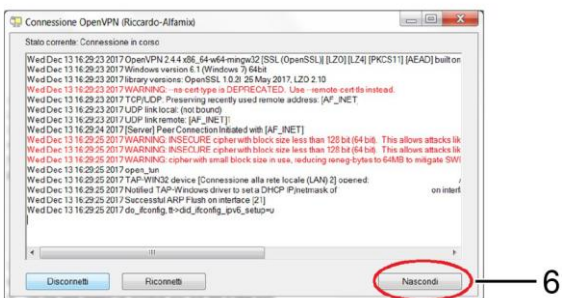
- On Windows Toolbar, click the arrow icon “show hidden icons” (3) then find the icon “OpenVPN” (4) in the pop-up.



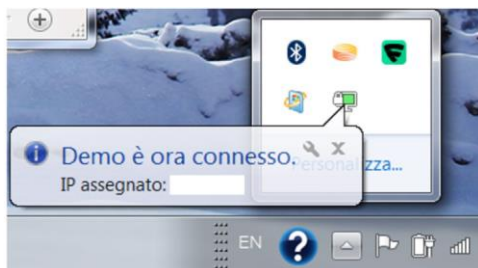
- Right click on the icon and select “Connect” (5);



- Press “Hide” (6) to close the following page;

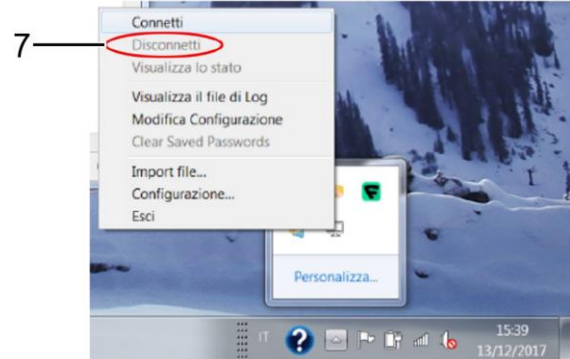


- After a few seconds a new pop-up will open on the toolbar, near the clock indicating that the PC is connected. This window could close automatically, while the OpenVPN icon will become green.



- To connect to the machine, open your internet browser.
- In the address bar, enter the IP address of the machine you wish to establish connection with, usually indicated on the LTE router.
- Enter the login credentials given by Alfa.

To disconnect from the machine, right click on OpenVPN icon and select “Disconnect” (7).



3.11.2. CONNECTION VIA VPN CLIENT FROM ANDROID DEVICES

To install the VPN Client, proceed as described below:

- From the Home screen of your device, open Play Store.
- In the search bar, type “openvpn for android”.
- Click the green button (1) to install the application.

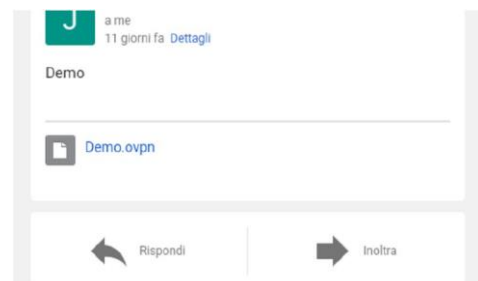


OpenVPN Connect
4,2*

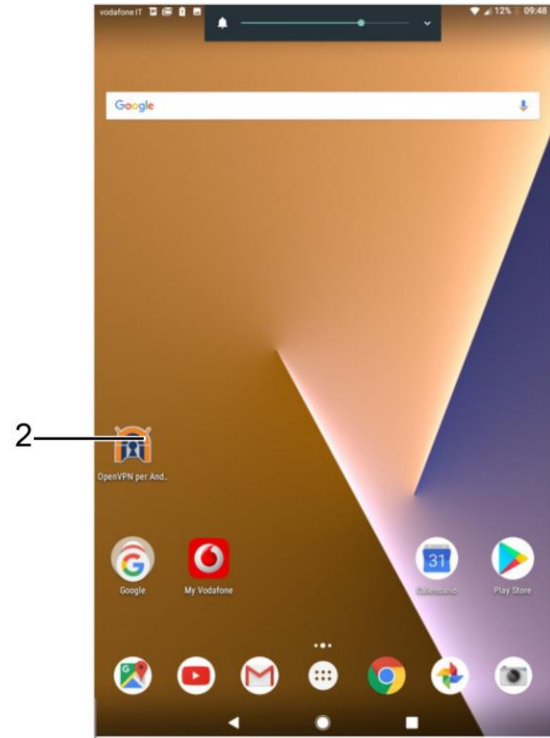


To connect to the machine via the VPN Client, proceed as described below:

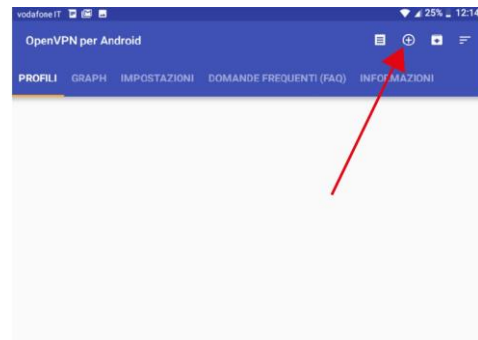
- Download the file containing the login credentials sent by Alfa via email.



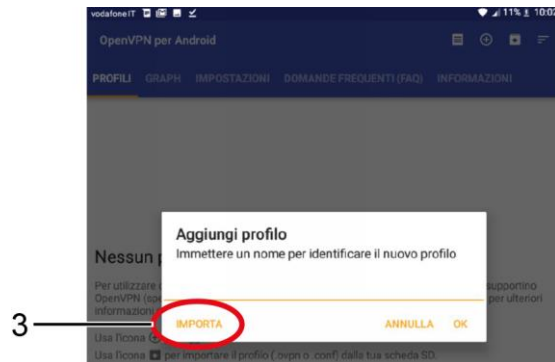
- Run the app OpenVPN (2) previously installed.



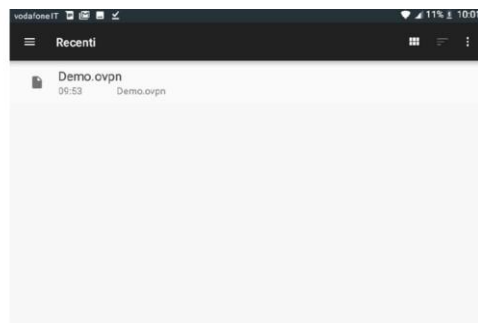
- Press symbol “+” present on the bar at top right of the app screen.



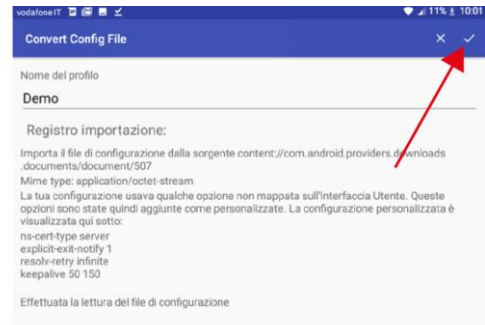
- Press “Import” (3).



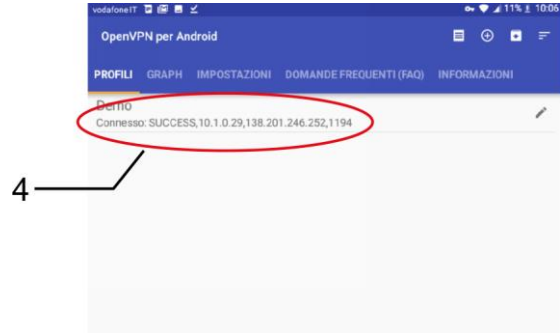
- Select the “.ovpn” file previously downloaded;



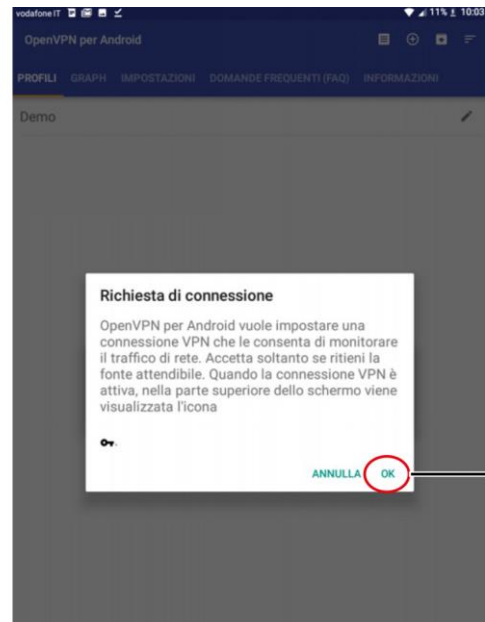
- Press on the check mark in the top right corner;



- Press on the just-added file (4).



- Press OK (5) on the next window.



- Now the VPN status must be “Connected” (6).

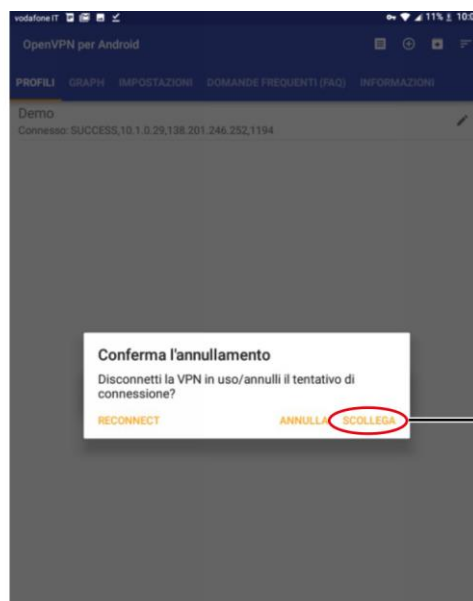


Technical Manual – Color Tester

- To connect to the machine, open your internet browser.
- In the address bar, enter the IP address of the machine you wish to establish connection with, usually indicated on the LTE router.

Enter the login credentials given by Alfa.

- To disconnect from the machine, open the app OpenVPN, then select the “Profiles” menu and press “Disconnect” (7).



4. PROGRAMMING THE ELECTRONIC BOARDS

Depending on board version, programming can be carried out in either of two different methods:

- Boards with no bootloader (programming via PICKit): see paragraph 4.1
- Board with bootloader: see paragraph 4.2.

4.1. PROGRAMMING OF BOARDS WITH NO BOOTLOADER

4.1.1. PROGRAMMING DEVICES

Each SCCB board must have the dedicated firmware. For the SCCB boards, the firmware depends on the group to control.

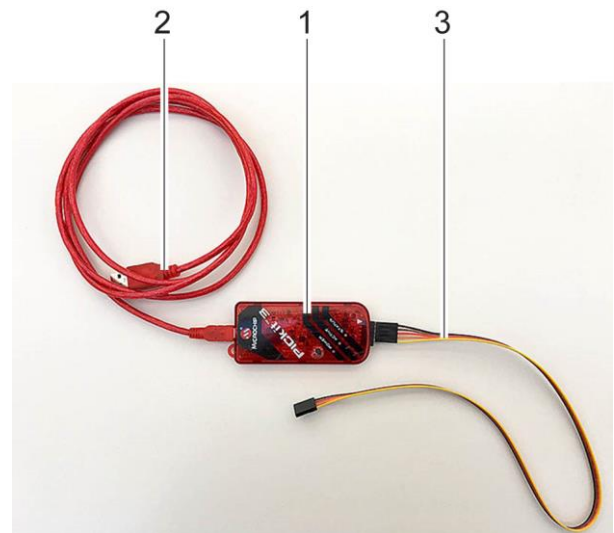
To programme the boards, use a suitable USB programmer (1) and the MPLAB IDE programming software.

If you do not have the suitable programmer, contact the Alfa technical service.

The programmer uses a USB cable (2) for the connection to the PC.

It could be useful to use an extension (3) to connect the programmer to the boards positioned in points that are hard to reach.

NOTE: The boards can be programmed both on the machine and on the bench. To programme the boards they must be powered by means of CN12 connector. If you use the previously programmed boards for other functions it is recommendable to disconnect the RS-485 serial connectors before powering the machine.





4.1.2. INSTALLING THE MPLAB IDE SOFTWARE

The MPLAB IDE programming software can be downloaded from the reserved area of the website www.alfadispenser.com or from the download area of the website <http://www.microchip.com>. The software can be installed on a Windows, Linux or Mac PC.

4.1.3. PROGRAMMING WORKSPACE

To write the firmware it is necessary have a programming workspace to upload in the MPLAB IDE software as better described below.

The programming workspaces are different for the SCCB (4) boards and the MAB (5) board.

-  Actuators_release_PICKIT3.mcw — 4
-  MABrd_Release_PcKit3.mcw — 5

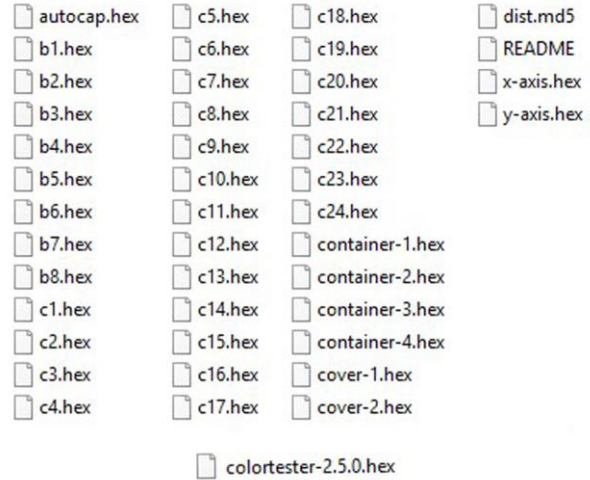
4.1.4. PROGRAMMING THE BOARDS

Download the workspace and the last available firmware version from the Alfa website reserved area, or contact the Alfa technical service to receive the firmware. If you do not have the credentials to access the reserved area, contact the Alfa technical service.

SCCB: according to the group to which the board must be connected, the following firmware is available:

- up to 24 firmware versions (from c1 to c24) that can be used on max. 12 colorant groups of the machine*;
- up to 8 firmware versions (from b1 to b8) that can be used on max. 2 base groups of the machine*;
- Autocap group firmware;
- can container firmware (from container 1 to 4);
- lid can firmware (from cover 1 to 2);
- X-axis firmware;
- Y-axis firmware.

*: see the circuits enabled in the “Slave configuration” of the “Device-Machine” menu of the Admin interface. For further information consult the Software manual.



MABs and OTHER BOARDS:

MAB board Color Tester firmware;

SGBRDB board firmware (if present);

- Firmware of other optional boards (HUTBRD, SPB, etc.)

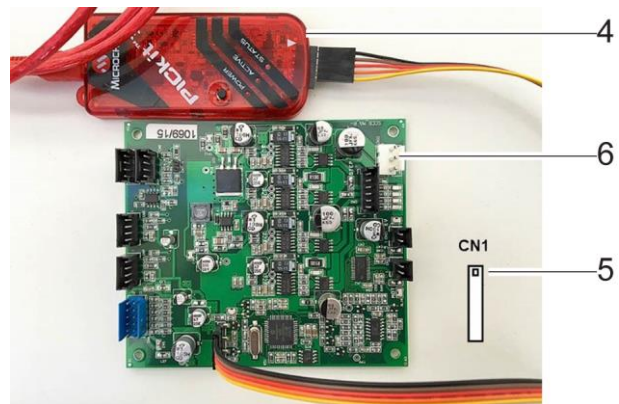
WARNING: CAREFULLY READ THE RELEASE NOTE TO CHECK THE FIRMWARE VERSION COMPATIBILITY

Connect the USB programmer, if necessary use an extension, to CN1 connector of the board to be programmed.

WARNING: Check that pin 1 of the programmer (4) is connected to pin 1 of CN1 connector (5)!

Power the board by connecting the CN12 connector (6) to the machine.

WARNING: do not connect the CN6 and CN8 connectors of the RS-485 communication to avoid problems linked with possible address conflicts.

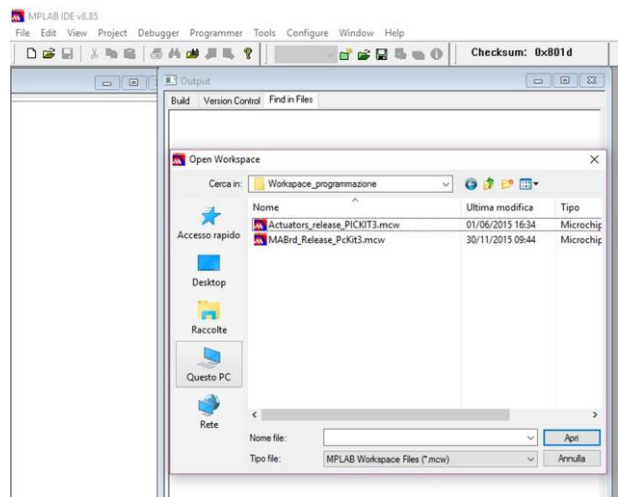


Launch the MPLAB IDE software

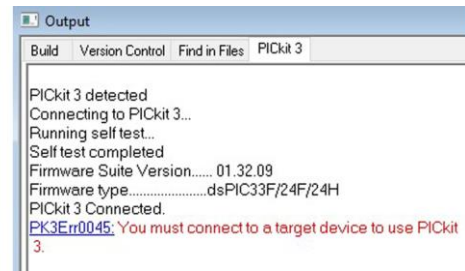
Access to “File – Open workspace...” and select the workspace of the board to programme (MAB or SCCB), then select Open. For the SGBRD board, use SCCB workspace.

WARNING: if you have connected a MAB board, upload the “MABrd” workspace, whereas if you have connected an SCCB board, upload the “Actuators” workspace (see para. 4.3).

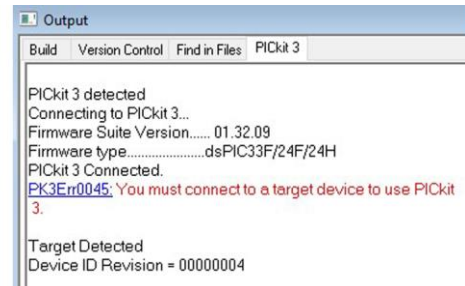
If message “No PICkit 3 Connected” is displayed, it means that the programmer is not connected correctly.



When the programmer is correctly connected and detected, the software will show the message “PICkit 3 detected”.



When connecting the board to the programmer and powering it, the software shows the message “Target Detected” besides the DEVICE ID of the connected board.

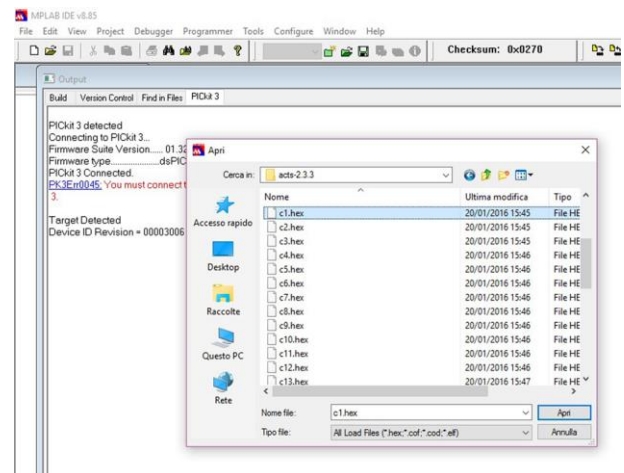


WARNING: If you upload a MAB Workspace and connect an SCCB board (or vice versa), the software will show the error “Target device ID does not match expected Device ID”.

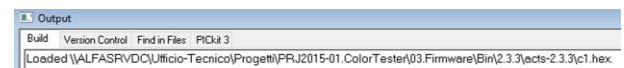


When everything is ready, programme the board in “File – Import...” and select the suitable firmware version.

Select the suitable firmware version and select “Open”.

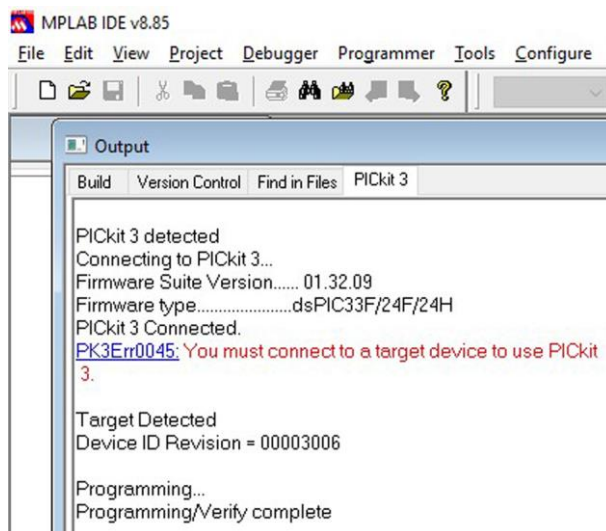


If the operation is completed successfully, the display will show the message “Loaded....”



Select “Program” in the “Programmer” menu to start the board programming.

At the end of the operation, the display will show the message “Programming/Verify complete”.



Now it is possible to disconnect the power supply and the programmer.

The board is ready to be used on the machine.

WARNING: Before programming a new board, make sure the loaded Workspace is the correct one. If this is not the case, go back to the “File – Open workspace...” menu and upload the new workspace.

4.2. PROGRAMMING OF BOARDS WITH BOOTLOADER

4.2.1. SOFTWARE “BOOTLOADERAPP”

The most recent boards are preloaded with BOOT firmware for the management of the BootLoader, i.e. the application that allows the updating of the machine control firmware.

NOTE: To program a board that does not feature preloaded BOOT, please contact Alfa technical service.

To program a hard-wired board via BootLoaderAPP, it is necessary to follow this procedure:

1. Shut off the machine;
2. connect the special cable Alfa USB BOOT LOADER (code 305001893) across CN13 connector of the MAB board and a USB port of the PC/LAPTOP on which the application BootloaderAPP.exe is installed;
3. run BootloaderAPP;
4. switch the machine on.

TO USE A MACHINE IN BOOT MODE, YOU MUST FIRST CONNECT THE USB CABLE FROM MAB TO PC / LAPTOP AND THEN SWITCH MACHINE ON.

BootLoaderAPP installation procedure is described in the following paragraph. If the software is already installed on the PC, go directly to the following paragraph explaining software use for programming boards.

4.2.2. INSTALLATION OF “BOOTLOADERAPP”

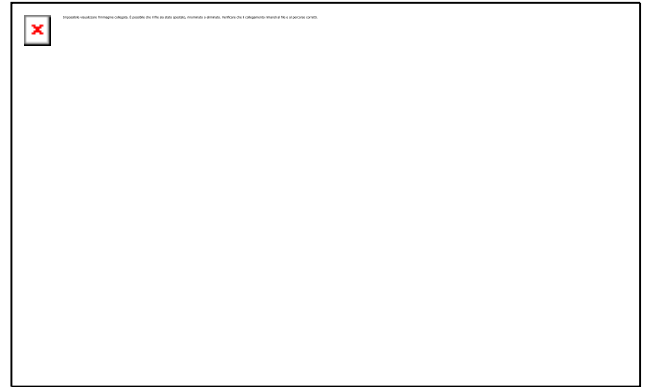
If a version of the application is already present on the PC, you must first remove it before installing a new version.

In this case, run the installation software



and select option “Remove ALFA Boot Manager”, then press “Finish”.

Wait until uninstall is completed and press “Close”.

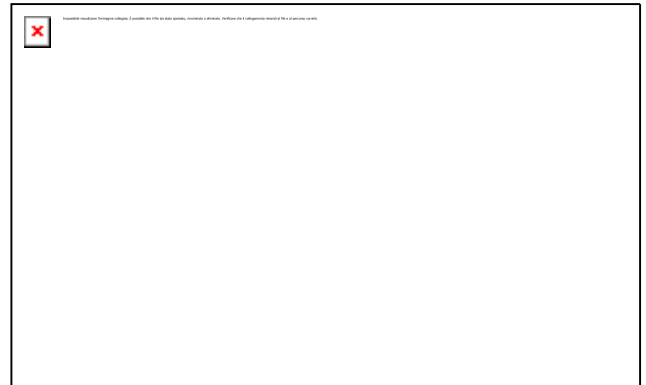


To install the application:

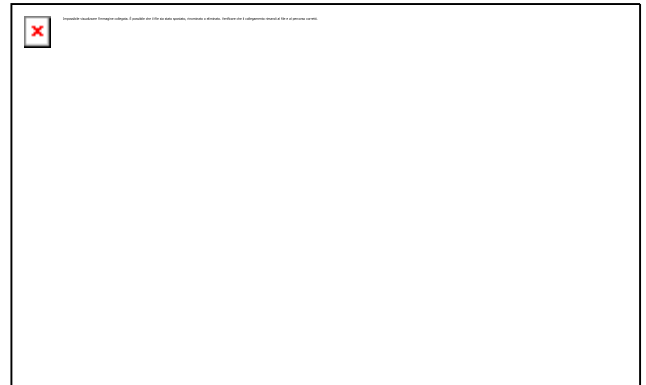
1. Run the installation file



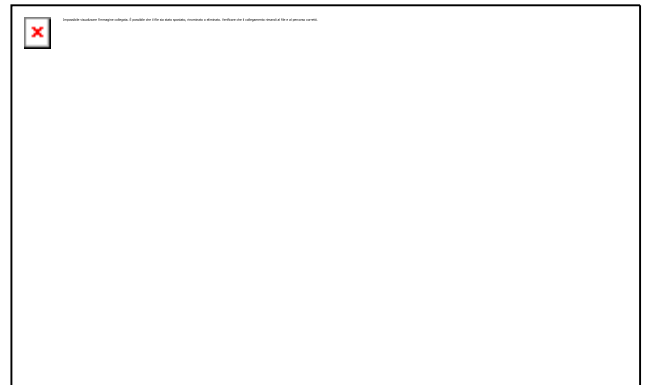
The page on the side will open.



2. In the following window, select the software installation path and select option “Everyone”, then press “Next >”.

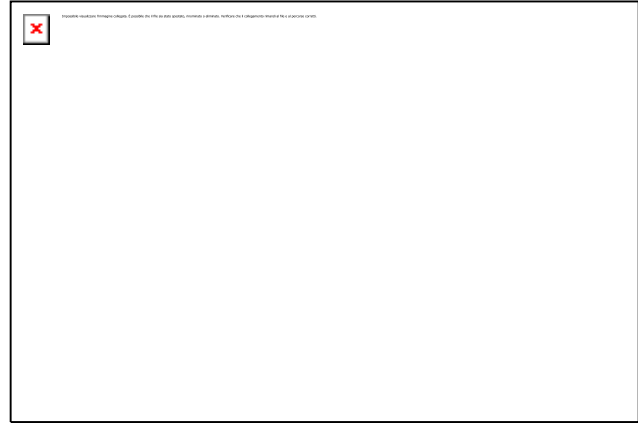


3. When prompted, press “Next >” until completing the installation procedure, then press “Close” to end the installation procedure.



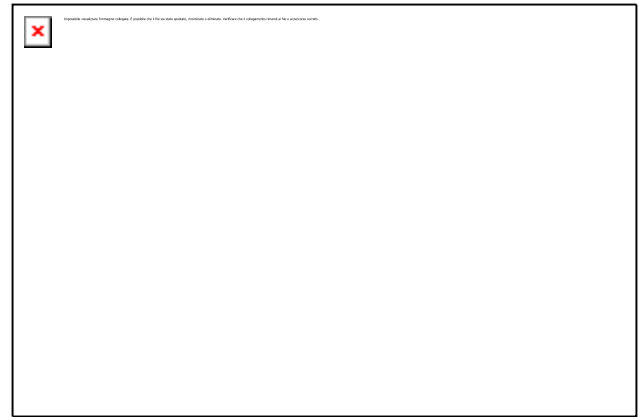
4.2.3. STARTING THE BOOTLOADER

Run BootloaderApp on the PC (the application is in the folder selected in step 2 of the installation procedure). The following window will open.



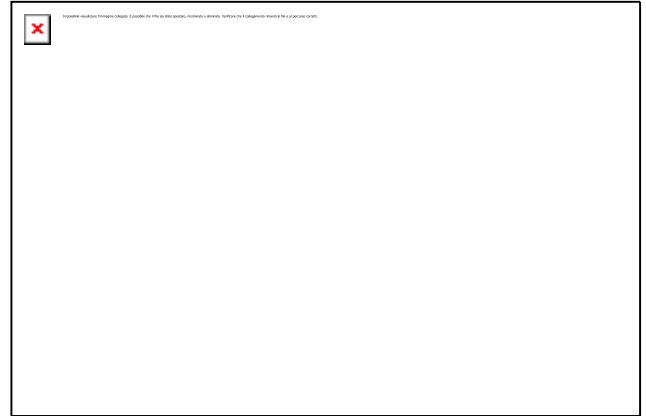
4.2.4. MAB FIRMWARE UPDATE

- Check that the software detected the presence of a MAB 'Device attached' (1)
- Select the MAB board to be used by pressing the MAB button (2) 'Selected target device is now MAB' + 'QueryVerify command sent to MAB BOOT LOADER'
- Select the Intel HEX file to be programmed, and press 'Open Hex File' (3) 'HEX File Complete'
- Proceed with Programming and Verification, by pressing 'Program/Verify' (4) "": wait for the final message 'Erase/Program/Verify Completed Successfully'
- If programming is successful, the 'MAB' button becomes GREEN.



4.2.5. ACTUATOR FIRMWARE UPDATE (SCCB BOARDS)

- Connect the special cable Alfa USB BOOT LOADER (code 305001893) across CN13 connector of the MAB board and a USB port of the PC for programming;
- Switch the machine on (or the board when programming it on a bench);
- Check that the software detected the presence of a MAB 'Device attached';
- Select actuator board (1) to be programmed by pressing the corresponding button (Fig. C1) (2) 'Selected target device is now C1' + 'QueryVerify command sent to MAB BOOT LOADER';
- Check that the address set in the actuator board to be programmed is consistent with the selected device (please refer to the following paragraph "SETTING ADDRESSES");
- Select the Intel HEX file to be programmed, and press 'Open Hex File' (3) 'HEX File Complete';
- Proceed with Programming and Verification, by pressing 'Program/Verify' (4), then wait for the final message 'Erase/Program/Verify Completed Successfully' (5);
- If programming is successful, the 'C1' button becomes GREEN.



4.2.6. SETTING ADDRESSES

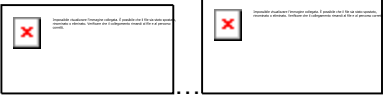
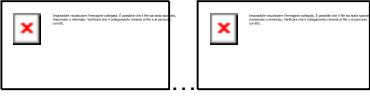


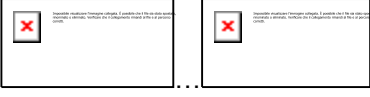
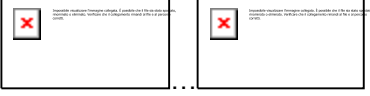



For programming an SCCB actuator board, the address set via the dip-switches must be consistent with the Target selected via the programming software (see previous paragraph).

Before programming a board, set the corresponding dip-switches accordingly.

Dip-switch addressing is a binary code.

The least significant bit is the leftmost one. A dip-switch set to ON corresponds to a bit value of '1'.

SCCB must have a fixed addressing, as follows:

GROUP OR CIRCUIT	DIP-SWITCH
BASE or MASTER B1-B8 (or M1-M8): ADDRESS 1...8	
COLORANTS C1-C24: ADDRESS 9...32	
X-AXIS: ADDRESS 33	
Y-AXIS: ADDRESS 34	
CAN SELECTOR 1-4: ADDRESS 35...38	
CAPPING 1-2: ADDRESS 39...40	
AUTOCAP: ADDRESS 41	
CAN LIFTER: ADDRESS 42	
HUMIDIFIER: ADDRESS 43	

Each address must be unique in the machine.

After programming, board address can be changed but only into addresses belonging to the same group of circuits (colorants, bases, etc.).

4.3. BOOTLOADER 2.0

Boot Loader 2.0 generation will include the possibility to remotely update the Firmware of ALFA machines, only by means of ALFA Software, with no need of any USB cable and without physically switching the machine off and back on.

If newer Firmware versions are found, a message will warn the operator, specify the name and type of the Firmware versions available, and propose the update with a new Firmware version. The operator shall then select which versions to install.

5. SOFTWARE CONTROL UTILITY

5.1. “DIAGNOSTIC” INTERFACE

In service mode (see para. 2.0.6) it is possible to use different controls to check the correct operation of the single units inside the machine.

From the first diagnostic window, press the forward arrow symbol on the touch screen to access the advanced functions.

Following are the available functions:

from the first window it is possible to monitor the circuit status. It is furthermore possible to:

- start a machine reset;
- open the autocap;
- close the autocap;
- start an automatic purge cycle;
- start the movement of the label roll;

Note:

when you need to start some movements, remember to open the autocap from the current window before passing to the next one.

From the first window, press on the “forward arrow” to access a set of machine's advanced functions that allow to:

- start a machine reset;
- Open and close the autocap (OPEN AUTOCLAP/CLOSE AUTOCLAP);
- position the gripper under a cans storage (WITHDRAWAL);
- control the pick-up of a can (LOAD);
- position the gripper under the dispensing nozzle (FILLING);
- Extend and retract can lifting blade (EXTEND LIFTER / RETRACT LIFTER); Control a capping cycle (CAP);
- perform a cycle of negative unloading;
- perform a cycle of positive unloading;
- move the gripper to the home position (HOME).

From the first window, by pressing on the identification of a canister or a base, you access the circuit management menu that allows to:

- Display product level;
- enter the refill quantity;
- start a circuit purge cycle;
- start/stop the recirculation;
- Start/stop the stirring;

*NOTE:

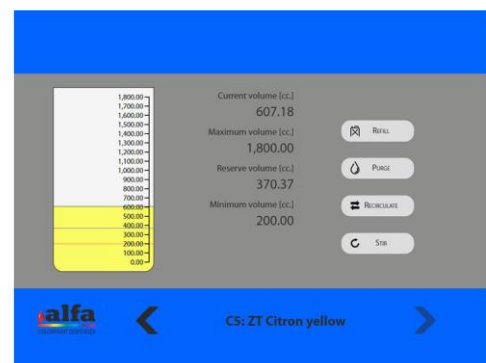
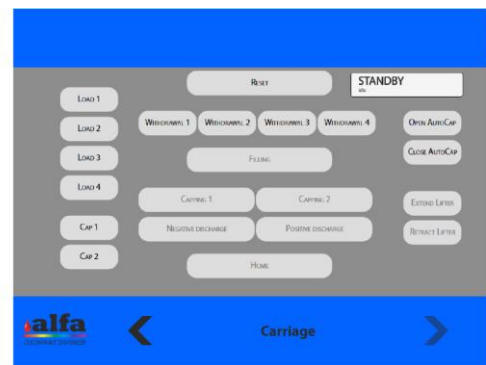
Before starting a Purge cycle it is necessary to:

- open the autocap;
- position a can under the dispensing nozzle.

All functions are enabled also with open doors, provided that you press the authorisation button for technical use (see paragraph 2.0.7).

When the operation is completed, remember to disconnect the button and reposition it in the seat on the left door, log out and wait for the machine to complete the reset before resuming its operation.

At the end of the service or repair operation, close the doors and perform a functional test cycle (see paragraph 2.0.5).



6. HANDLING THE MACHINE

6.1. MOVING THE MACHINE

Color Tester must only be handled in safe conditions.



WARNING:
HANDLE WITH A DOUBLE FORK-LIFT TRUCK, TRANSPALLET OR SIMILAR DEVICE WITH A CAPACITY OF AT LEAST 500KG.

IN ORDER TO AVOID THE RISK OF PAINTING SPILLS INSIDE THE MACHINE, NEVER MOVE THE MACHINE WITH THE COLORANT CIRCUITS FULL.

BEWARE OF ANY STEPS OR IRREGULARITIES IN THE FLOORING/TERRAIN THAT COULD RESULT IN SUDDEN STOPPAGES, AS THESE COULD CAUSE MACHINE TO BECOME UNBALANCED. ALWAYS PROCEED AT A LOW SPEED WITH TWO PEOPLE HANDLING THE MACHINE AT ALL TIMES.

For further information on the packing, unpacking and handling of the machine, refer to chap. 2 of the Color Tester Operator Manual.

6.2. DIMENSIONS OF THE PACKAGE

Height on pallet	2110 mm (± 15 mm)
Pallet width	1150 mm
Depth pallet	900 mm
Weight (empty)	350 Kg

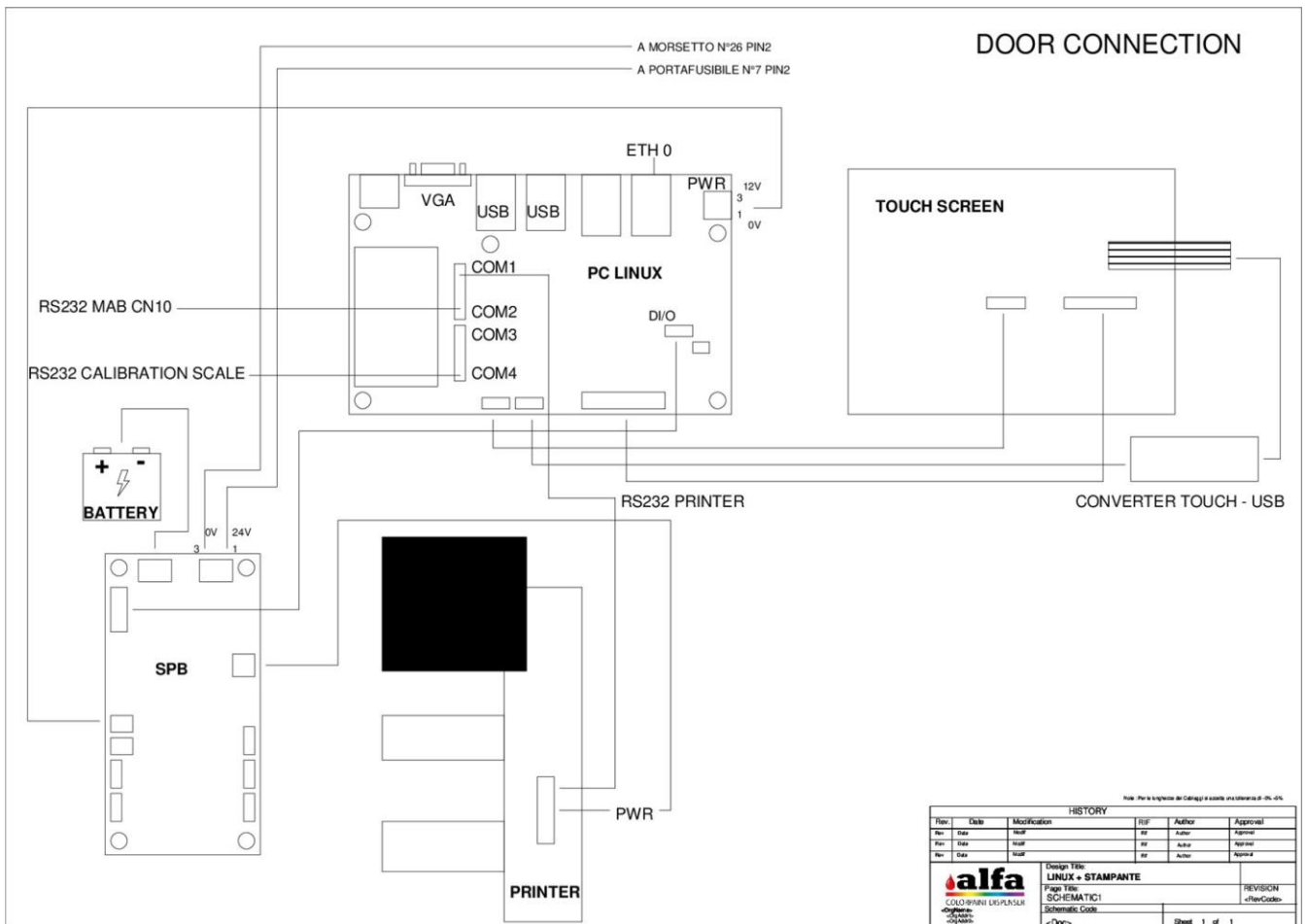
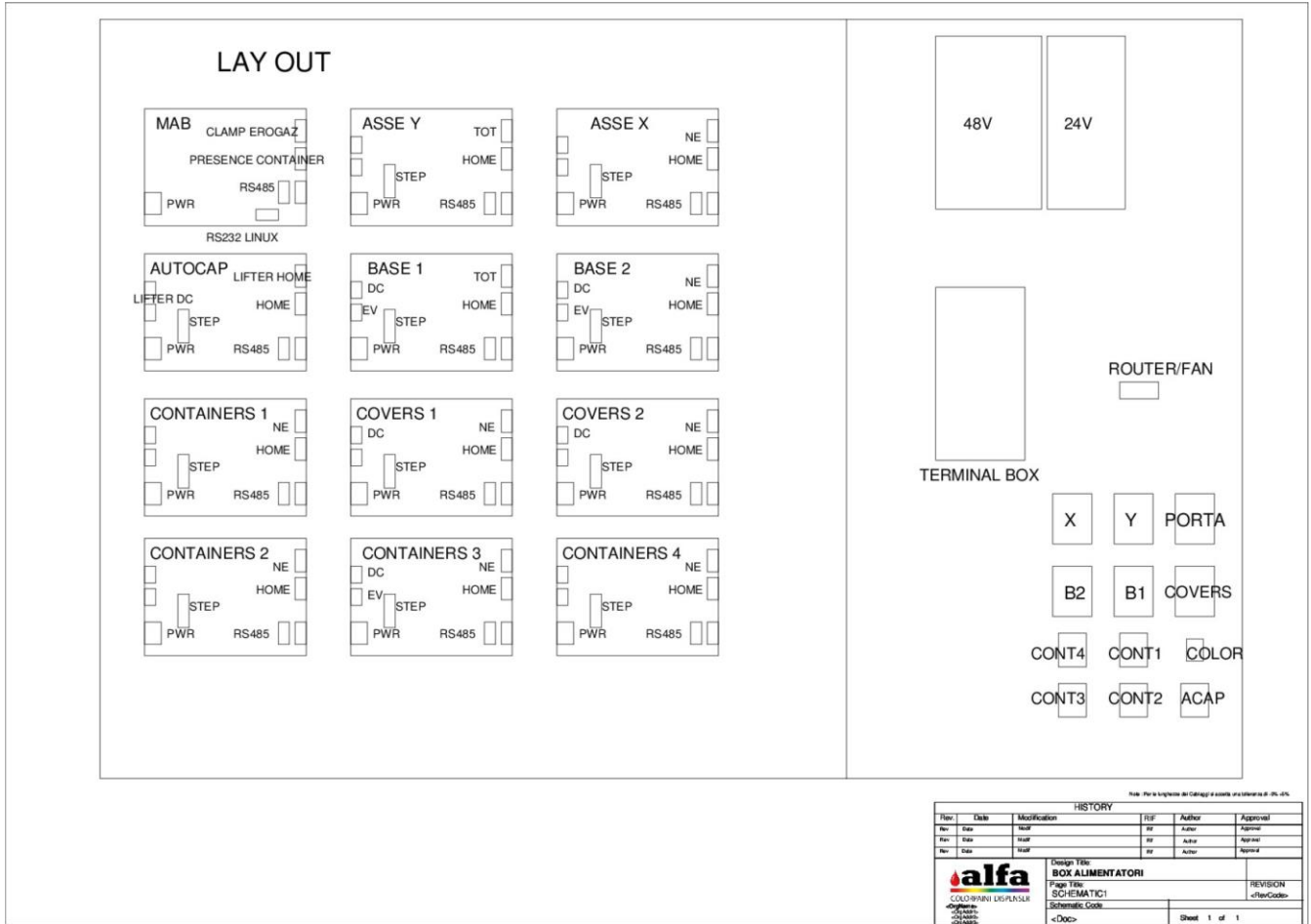
7. ACCESS TO THE DIAGNOSTIC FUNCTIONS

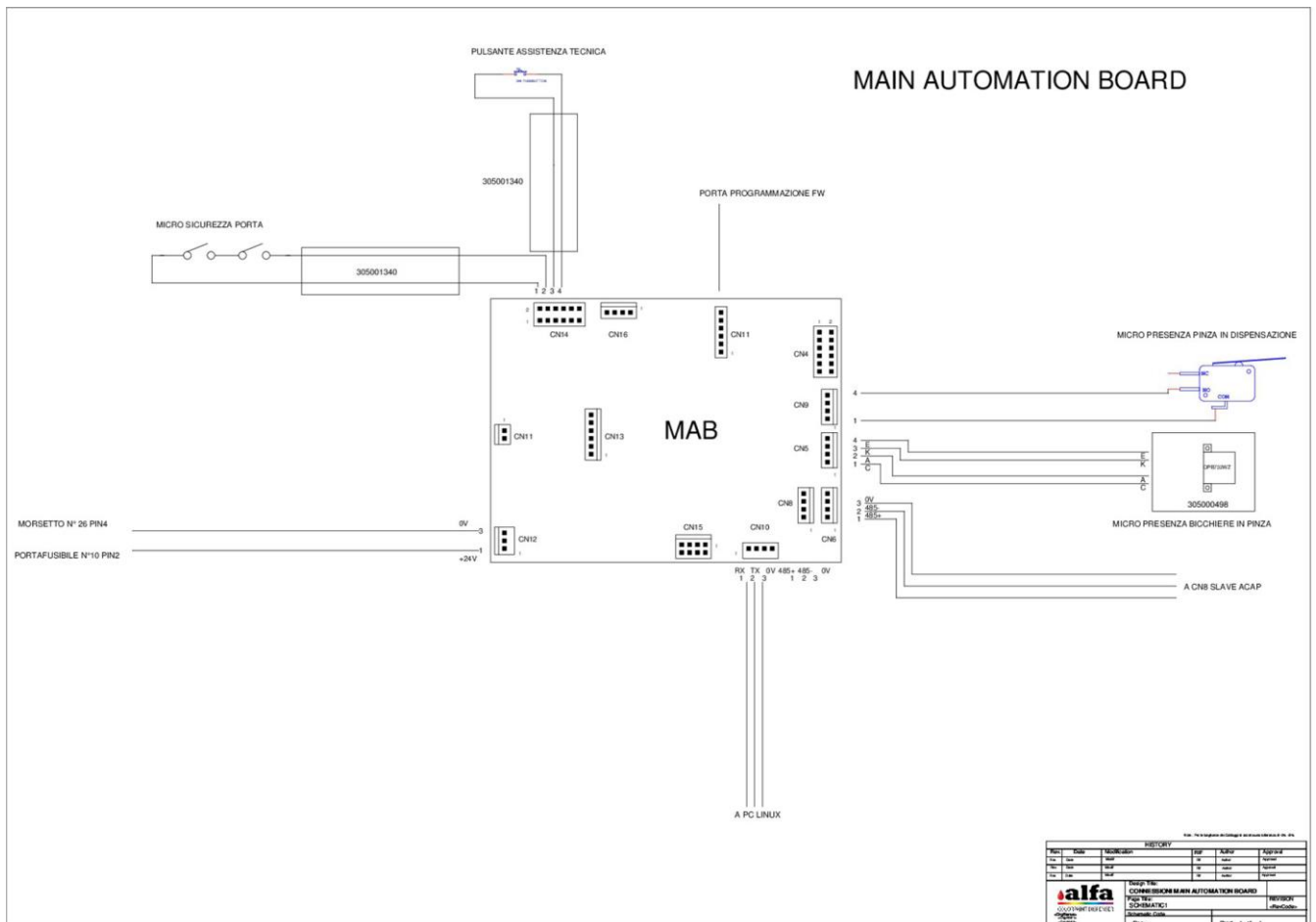
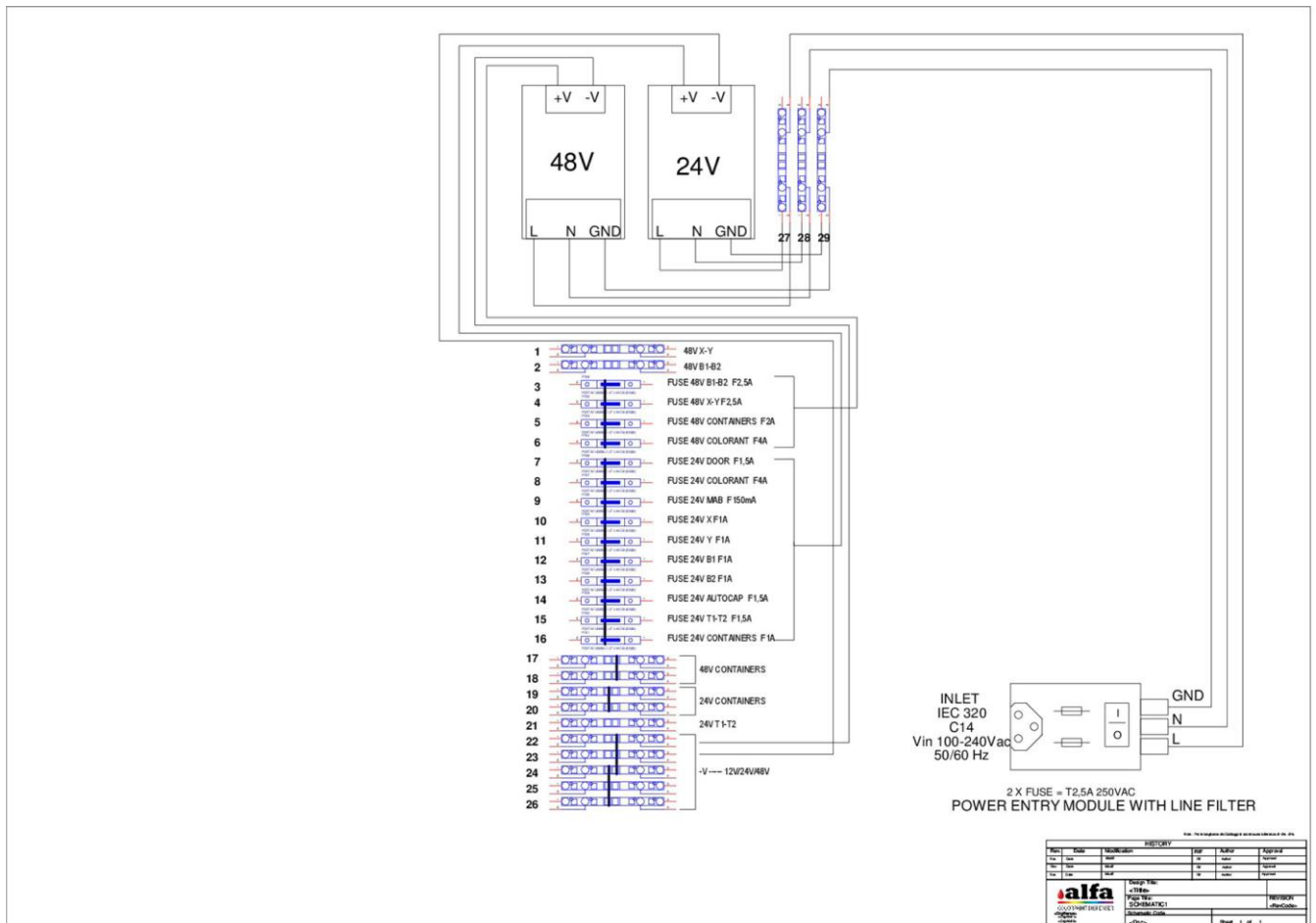
7.1. ADMIN CONTROL AND DIAGNOSTIC INTERFACE

The web control browser Admin interface has diagnostic functions that indicate the status of the machine and of the relevant circuits, as well as specific controls to activate and test each single circuit or the valve and motor functions.

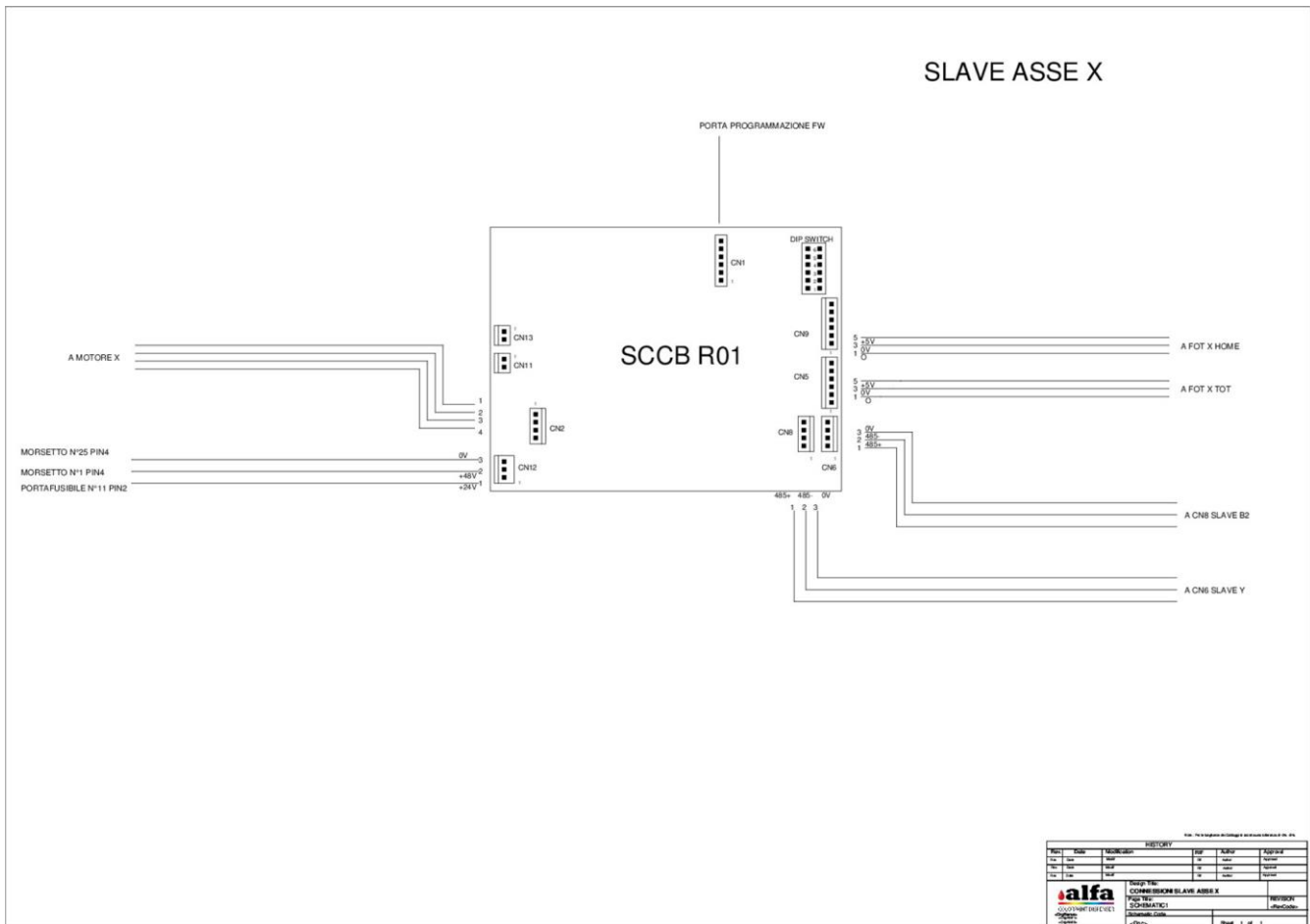
For information about the interface access modes and the function description refer to the software manual.

8. CONNECTION DIAGRAMS





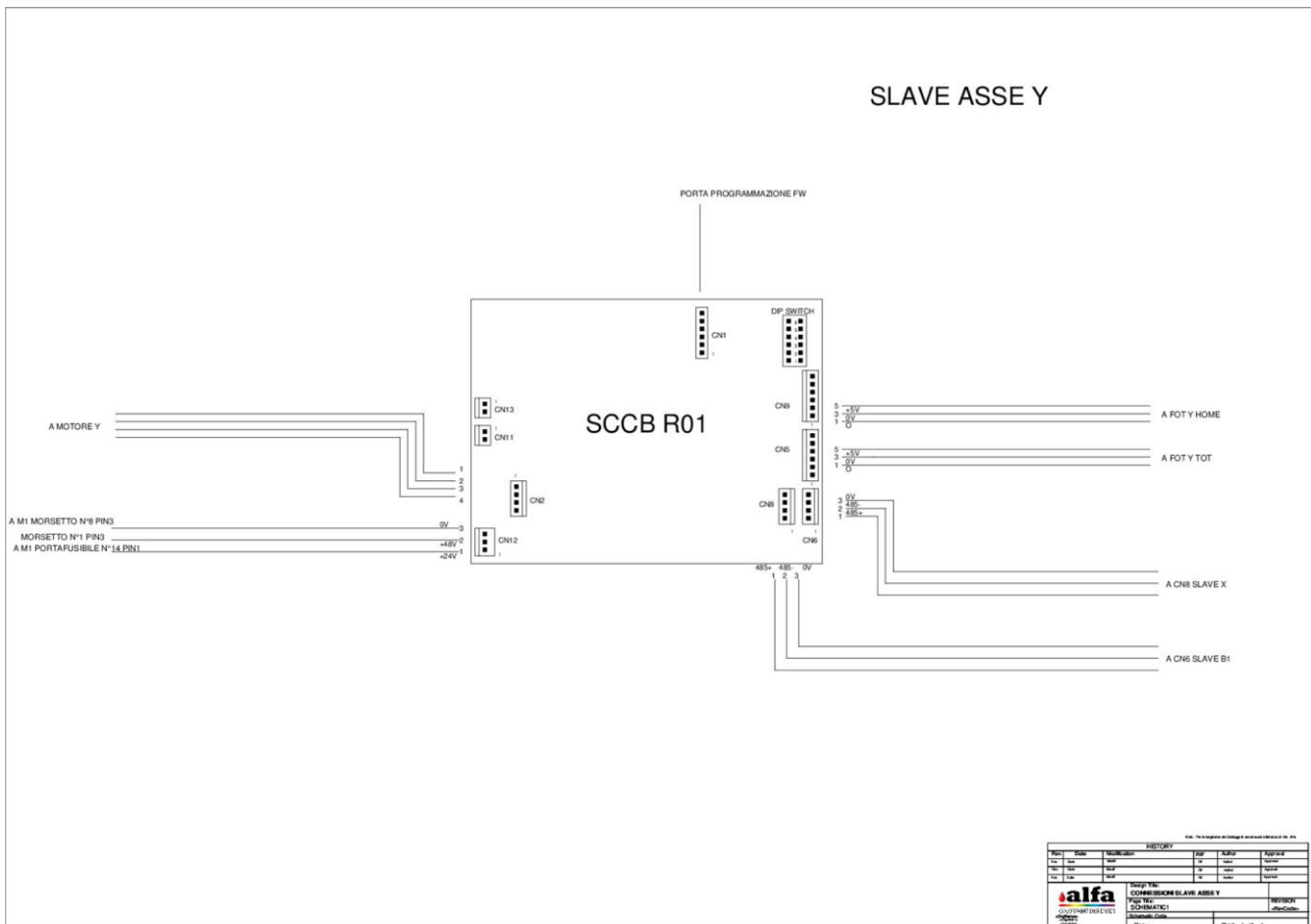
SLAVE ASSE X



REVISIONI					
Rev.	Data	Modificazioni	ESP.	Aut.	Approv.
01					
02					
03					
04					

	Gruppo: CONNESSIONI SLAVE ASSE X Foglio: 1 Schema: SCHEMATIC1	Revisione: 01 Data: 01/01/2011
	Disegnato: ... Verificato: ...	

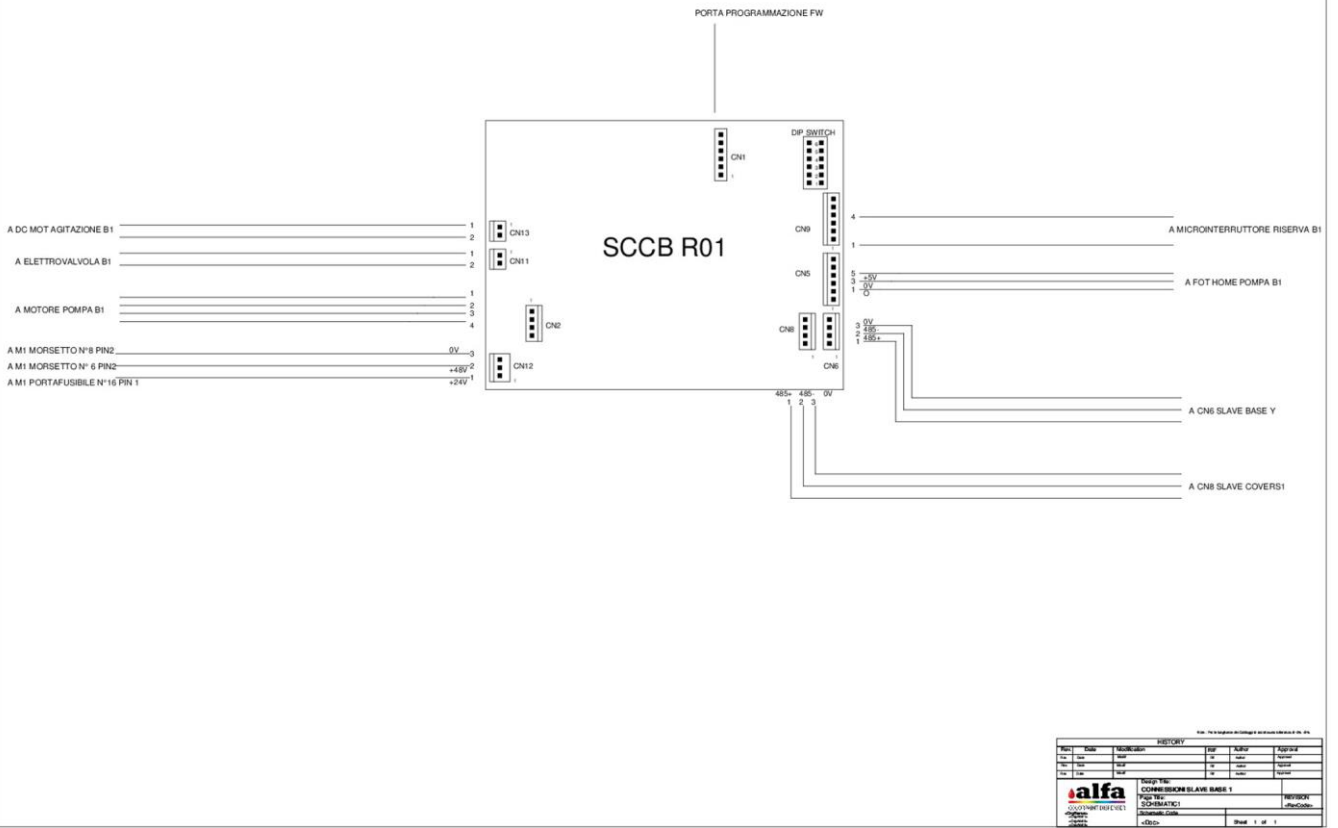
SLAVE ASSE Y



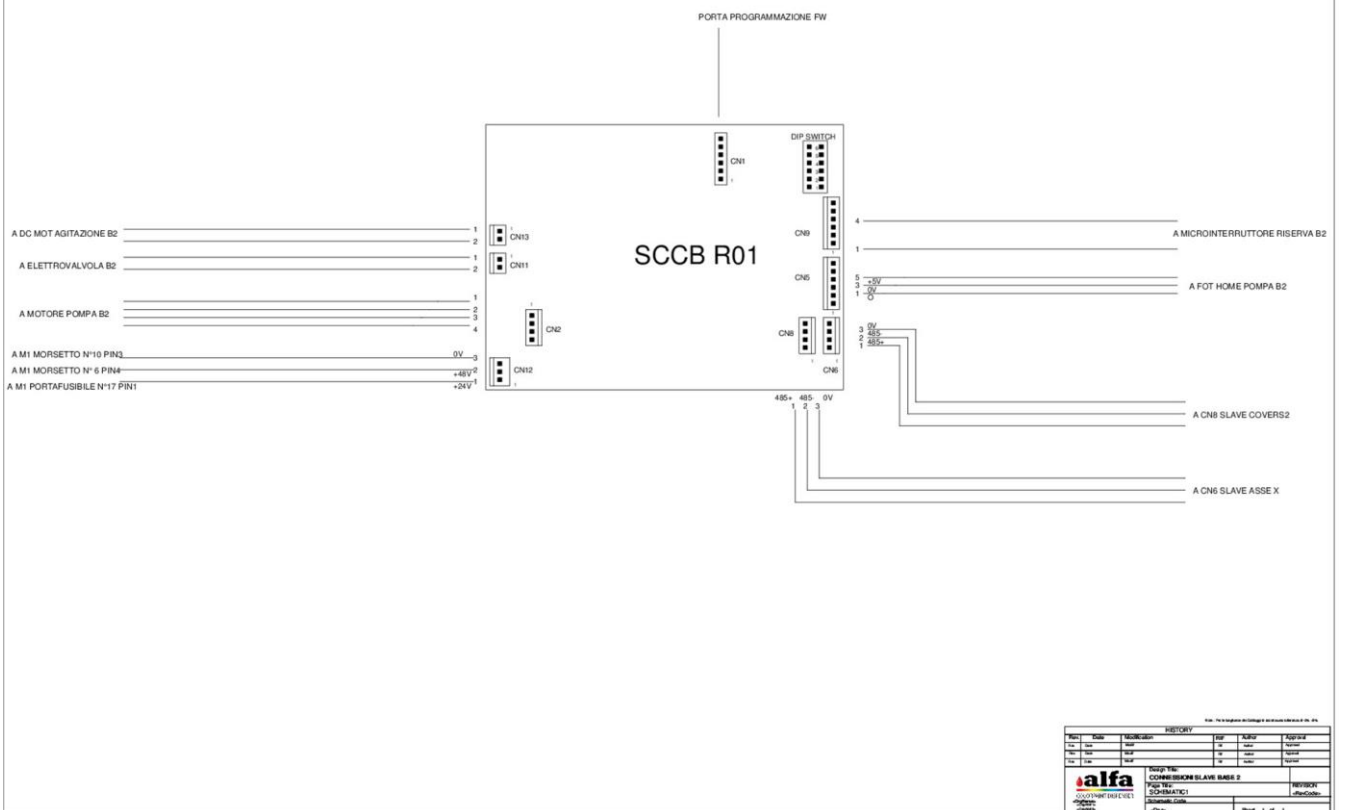
REVISIONI					
Rev.	Data	Modificazioni	ESP.	Aut.	Approv.
01					
02					
03					
04					

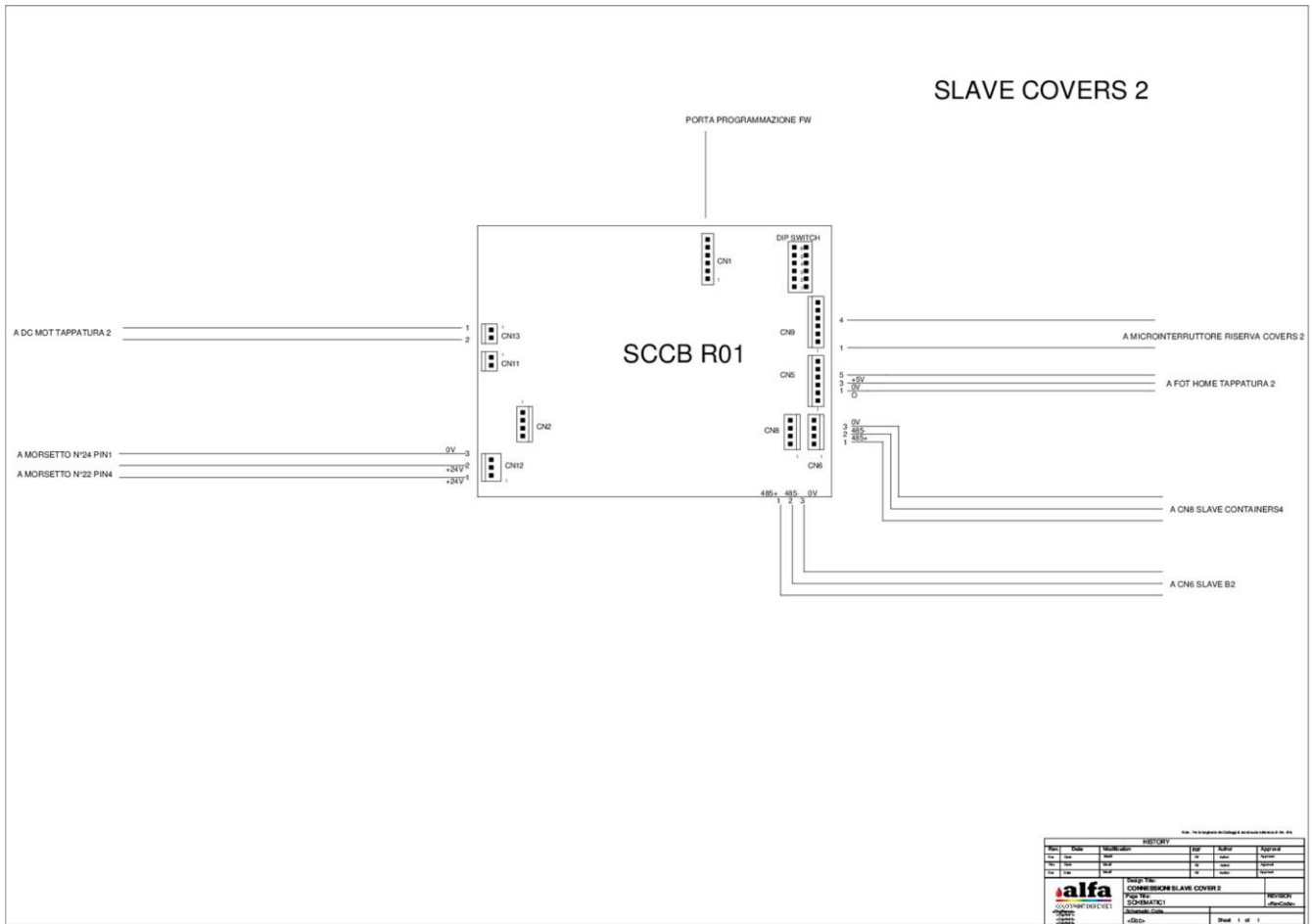
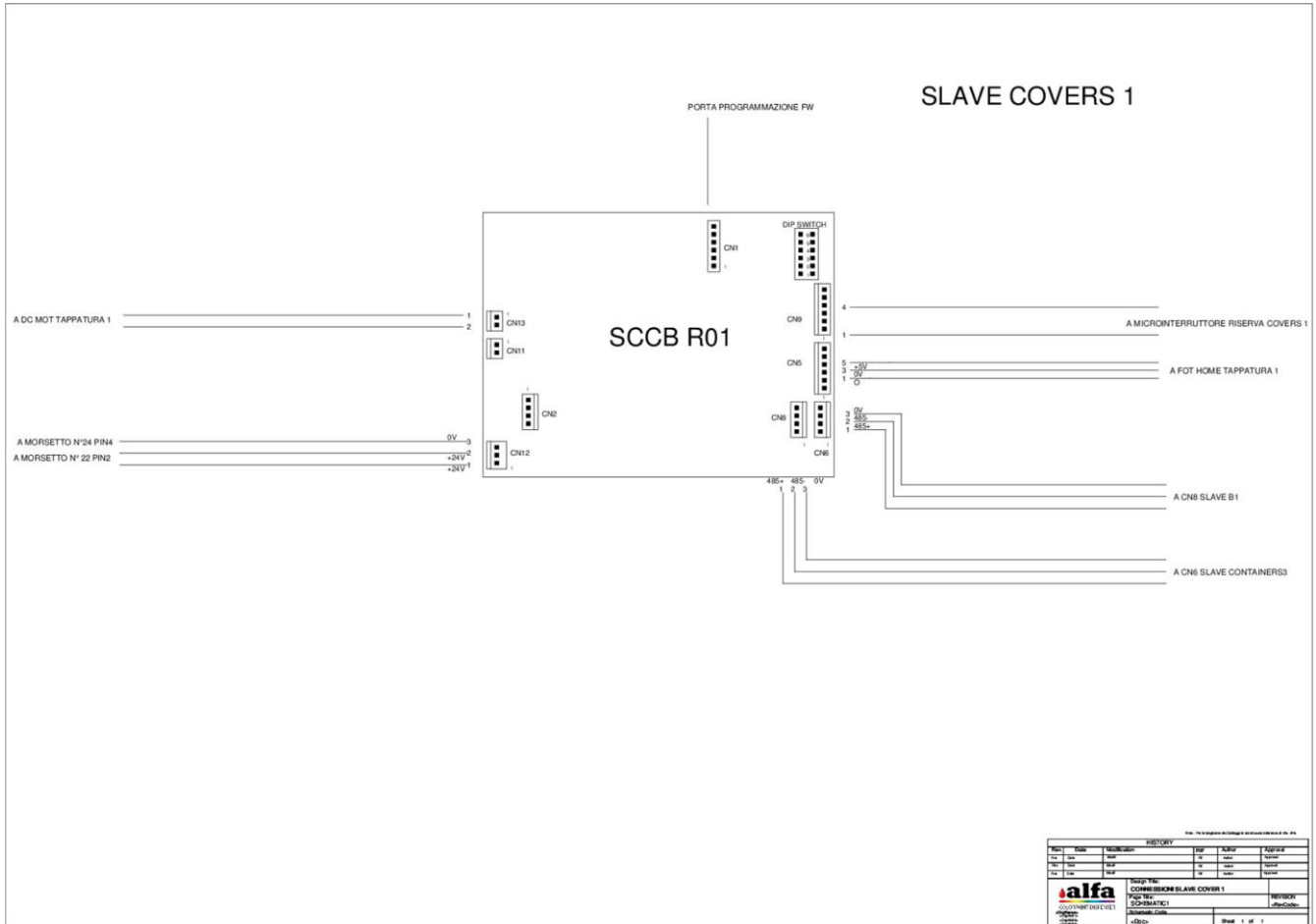
	Gruppo: CONNESSIONI SLAVE ASSE Y Foglio: 1 Schema: SCHEMATIC1	Revisione: 01 Data: 01/01/2011
	Disegnato: ... Verificato: ...	

SLAVE BASE 1

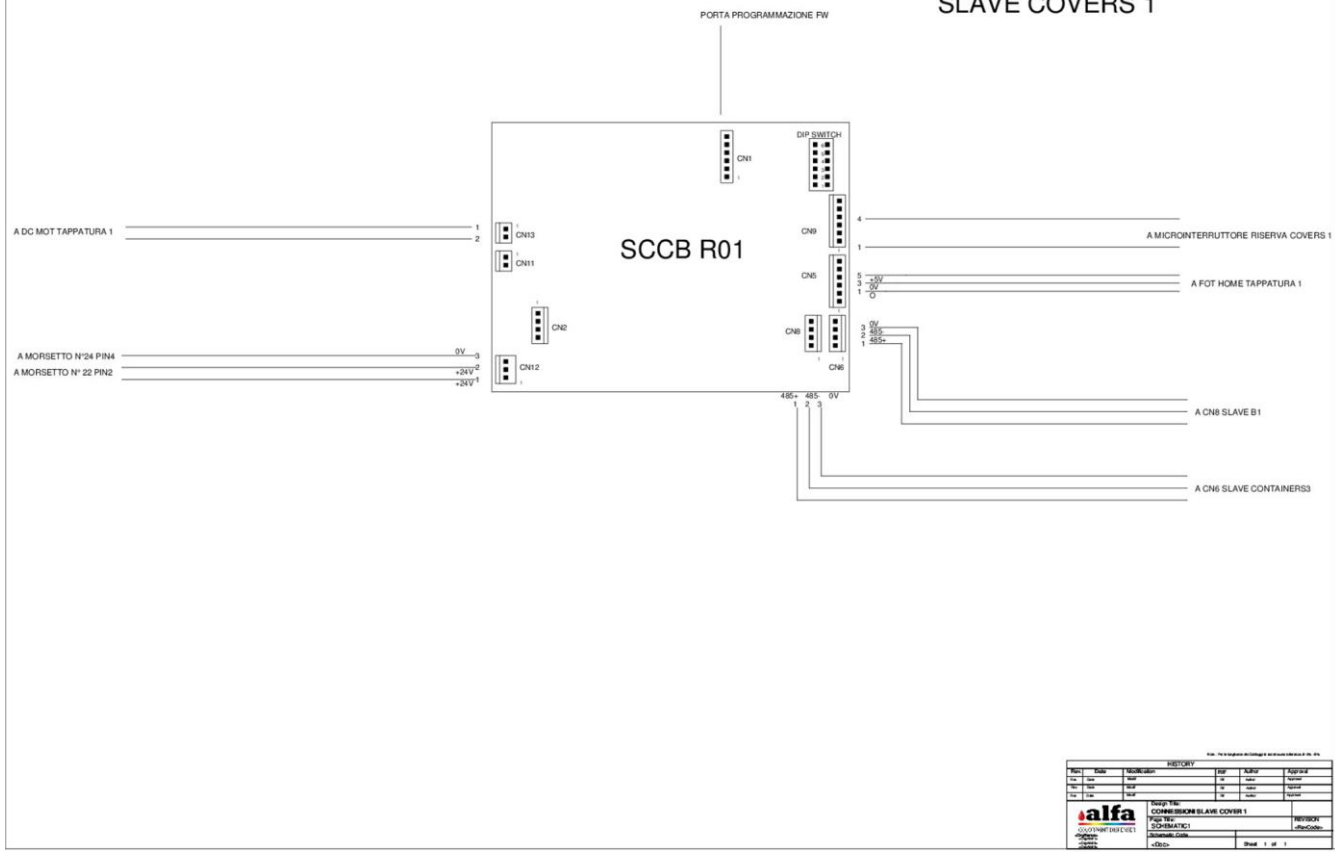


SLAVE BASE 2

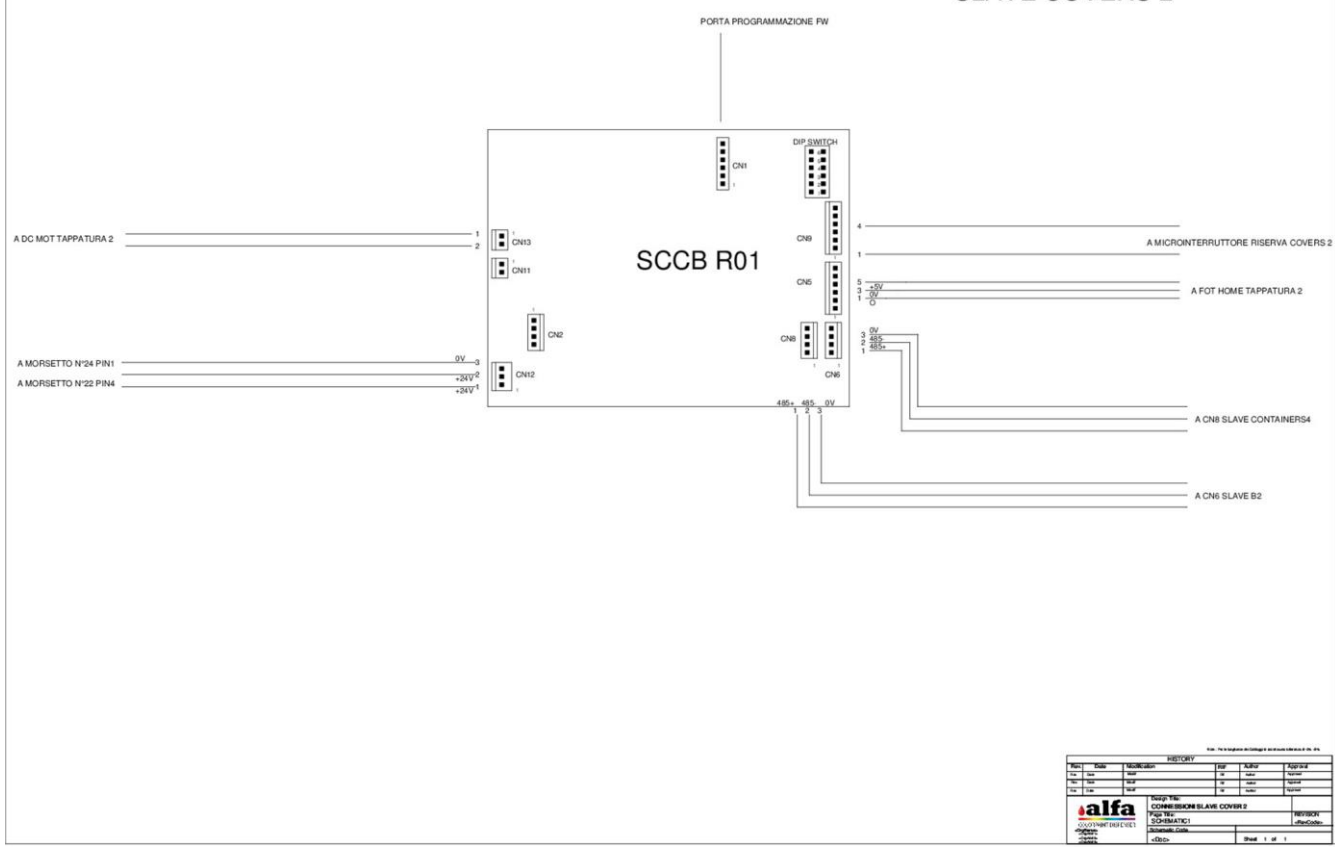


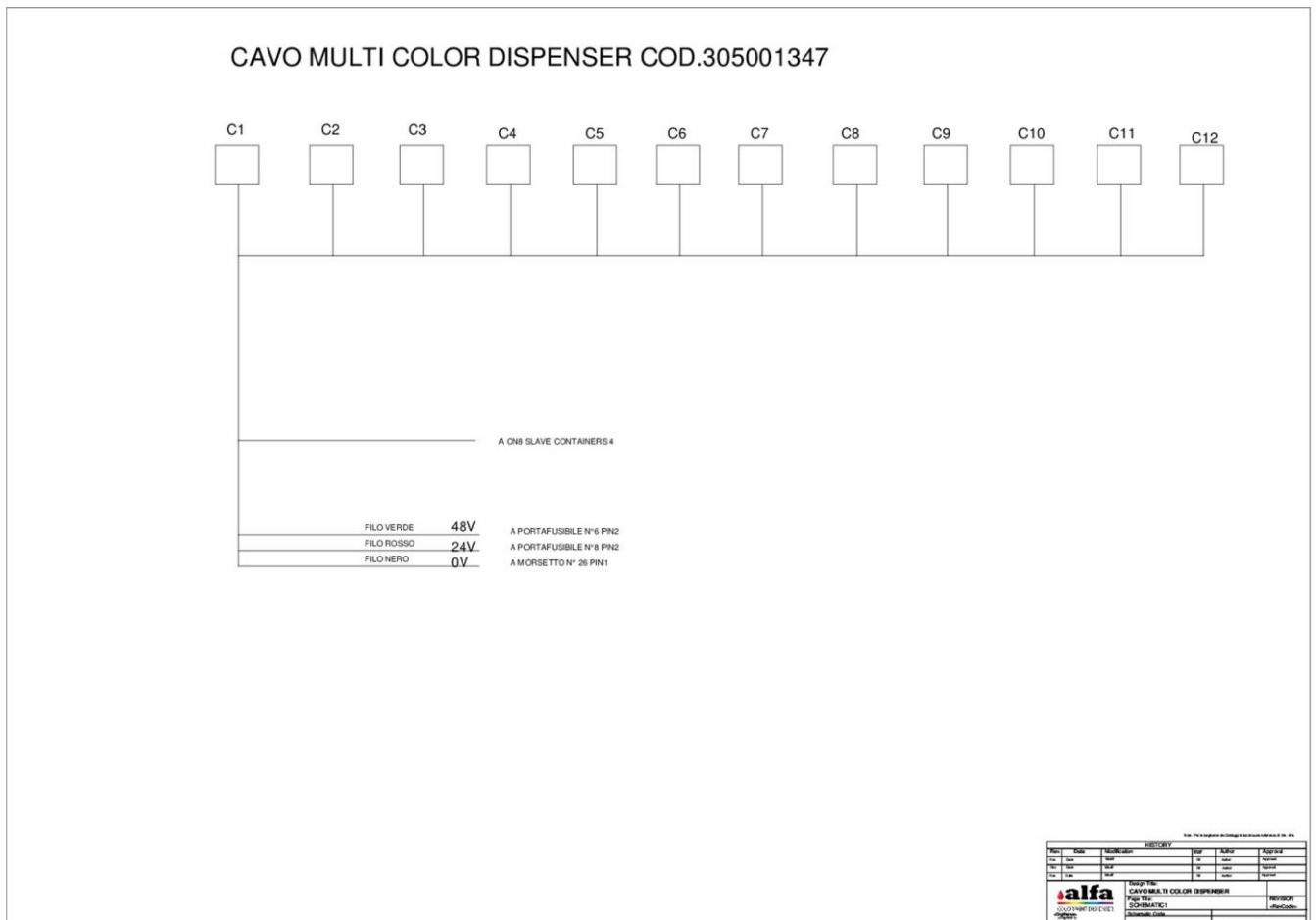
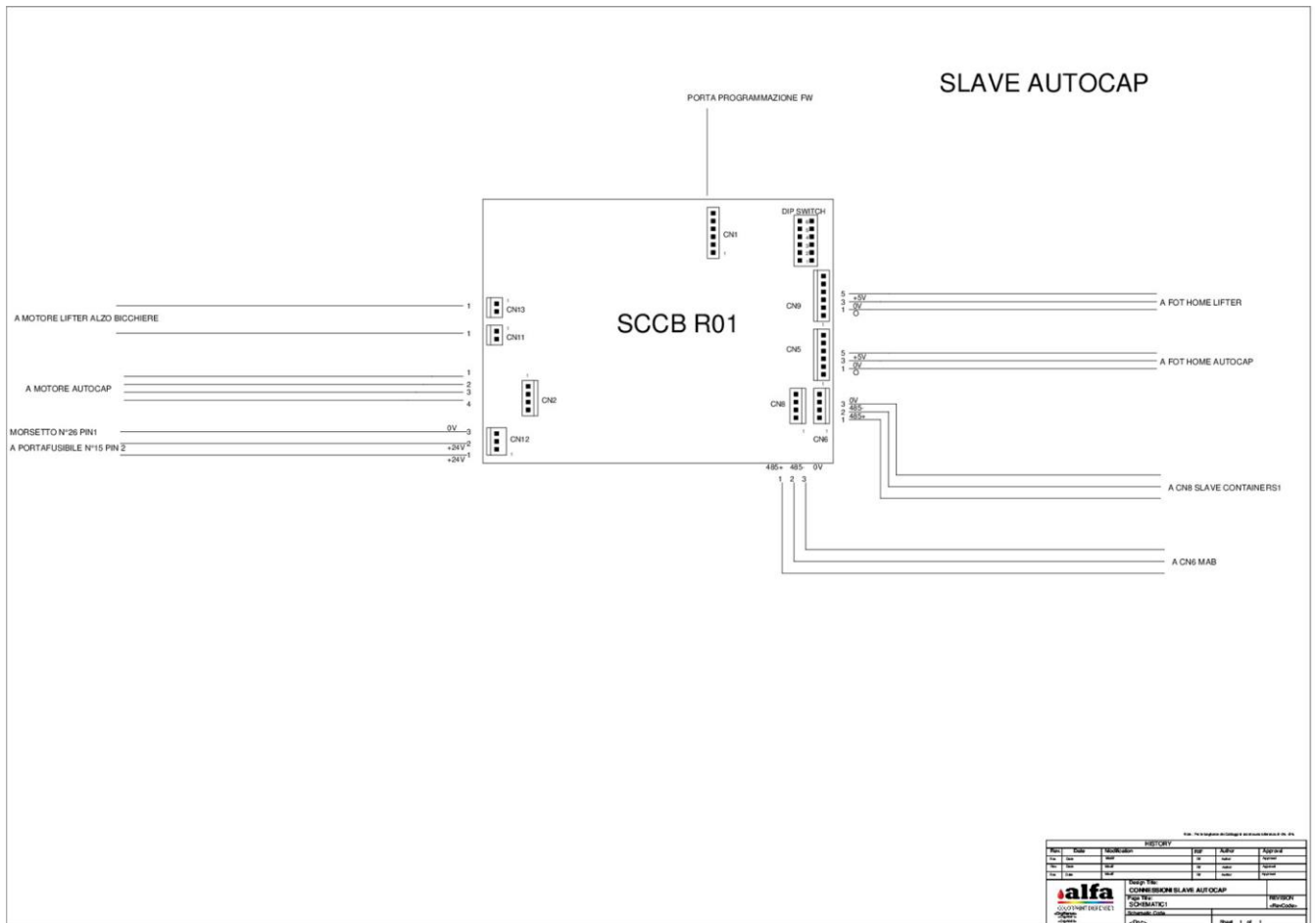


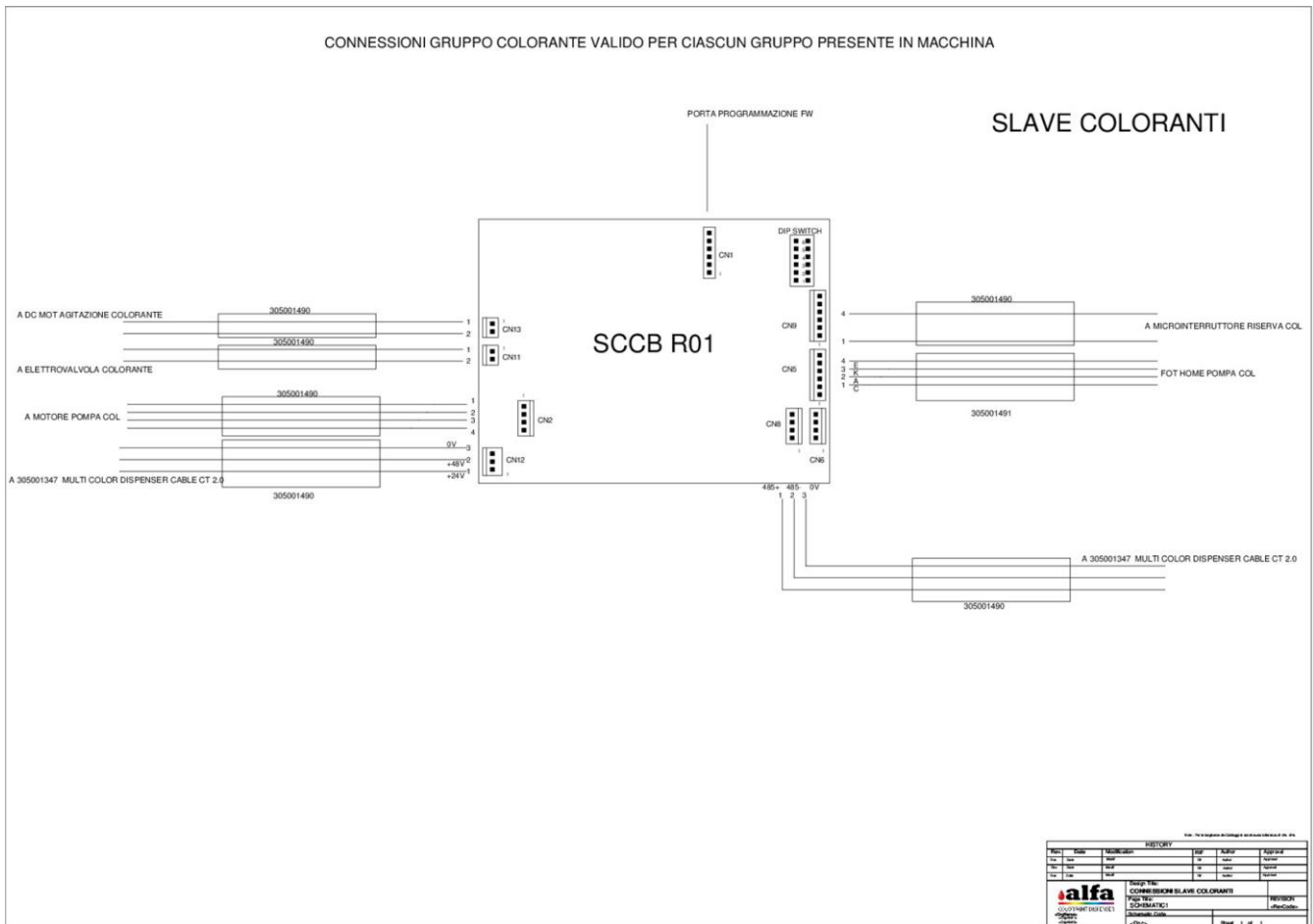
SLAVE COVERS 1



SLAVE COVERS 2







9. TROUBLE SHOOTING

ERROR CODES	ERROR DETECTED	ERROR DESCRIPTION	TROUBLESHOOTING
1	TIMERMG_TEST_FAILED	Timer operation test failure	Test failure means that the program on the MAB board has stopped working. Restart the program
2	EEPROM_COLOR_CIRC_PARAM_CRC_FAULT	Circuit parameter CRC fault	Check for the absence of parameters in the case of MAB replacement. Load the master/colorant circuit parameters onto the new MAB board
3	EEPROM_CALIB_CURVES_PARAM_CRC_FAULT	Calibration curve parameter CRC fault	Check for the absence of parameters in the case of MAB replacement. Load the calibration parameters onto the new MAB board
4	EEPROM_XY_OFFSET_PARAM_CRC_FAULT	Failure of x and y coordinates, Cartesian positions, offset CRC	Check for the absence of parameters in the case of MAB replacement. Load x and y offset parameters onto the new MAB board
5	EEPROM_SLAVES_EN_PARAM_CRC_FAULT	Slave configuration CRC fault	Check for the absence of parameters in the case of MAB replacement. Load the SLAVE configurations onto the new MAB board
10	USER_INTERRUPT	Machine operation Software interruption	HALT has been pressed
11-18	TIMEOUT_COM_MAB_ACT "X", where "X" = 1..8	"X" BASE slave communication time-out (detected on the MAB side)	Check the SCCB power supply wiring and replace it if damaged. Check the RS485 communication connector, and visually check the board hardware. If damaged, replace the "X" BASE slave board
19-42	TIMEOUT_COM_MAB_ACT "X", where "X" = 1..24	"X" COLORANT slave communication time-out (detected on the MAB side)	Check the SCCB power supply wiring and replace it if damaged. Check the RS485 communication connector, and visually check the board hardware. If damaged, replace the "X" COLORANT Slave board
43	MOVE_X_AXIS_IDX	Slave X AXIS communication time-out (detected on the MAB side)	Check the SCCB power supply wiring and replace it if damaged. Check the RS485 communication connector, and visually check the board hardware. If damaged, replace the X AXIS board
44	MOVE_Y_AXIS_IDX	Slave Y AXIS communication time-out (detected on the MAB side)	Check the SCCB power supply wiring and replace it if damaged. Check the RS485 communication connector, and visually check the board hardware. If damaged, replace the Y AXIS board
45-48	STORAGE_CONTAINER "X" _IDX where "X"=1..4	"X" CAN slave communication time-out (detected on the MAB side)	Check the SCCB power supply wiring and replace it if damaged. Check the RS485 communication connector, and visually check the board hardware. If damaged, replace the "X" CAN Slave board

ERROR CODES	ERROR DETECTED	ERROR DESCRIPTION	TROUBLESHOOTING
49-50	PLUG_COVER_"X"_IDX, where "X"=1..2	Slave "X" CAPPING STATION communication time-out (detected on the MAB side)	Check the SCCB power supply wiring and replace it if damaged. Check the RS485 communication connector, and visually check the board hardware. If damaged, replace the "X" CAPPING board
51	AUTOCAP_IDX	Slave AUTOCAP communication time-out (detected on the MAB side)	Check the SCCB power supply wiring and replace it if damaged. Check the RS485 communication connector, and visually check the board hardware. If damaged, replace the AUTOCAP slave board
59	TIMEOUT_COM_MAB_MGB	MAB-MGB Communication time-out	Check MAB and MGB power supply wiring and replace it if damaged. Check the SERIAL communication connectors, and visually check the hardware of the 2 boards
61-68	B"X"_BASE_TOUT_ERROR, where "X" = 1..8	"X" BASE slave communication time-out (detected on the SLAVE side)	Check the SCCB power supply wiring and replace it if damaged. Check the RS485 communication connector, and visually check the board hardware. If damaged, replace the "X" BASE slave board
69-92	C"X"_COLOR_TOUT_ERROR, where "X" = 1..24	"X" COLORANT slave communication time-out (detected on the SLAVE side)	Check the SCCB power supply wiring and replace it if damaged. Check the RS485 communication connector, and visually check the board hardware. If damaged, replace the "X" COLORANT Slave board
93	MOVE_X_AXIS_TOUT_ERROR	X AXIS slave communication time-out (detected on the SLAVE side)	Check the SCCB power supply wiring and replace it if damaged. Check the RS485 communication connector, and visually check the board hardware. If damaged, replace the X AXIS board
94	MOVE_Y_AXIS_TOUT_ERROR	Y AXIS slave communication time-out (detected on the SLAVE side)	Check the SCCB power supply wiring and replace it if damaged. Check the RS485 communication connector, and visually check the board hardware. If damaged, replace the Y AXIS board
95-98	STORAGE_CONTAINER"X"_TOUT_ERROR, where "X"=1..4	"X" CAN SELECTION slave communication time-out (detected on the SLAVE side)	Check the SCCB power supply wiring and replace it if damaged. Check the RS485 communication connector, and visually check the board hardware. If damaged, replace the "X" CAN Slave board
99-100	PLUG_COVER"X"_TOUT_ERROR, where "X"=1..2	"X" CAPPING STATION slave communication time-out (detected on the SLAVE side)	Check the SCCB power supply wiring and replace it if damaged. Check the RS485 communication connector, and visually check the board hardware. If damaged, replace the "X" CAPPING slave board
101	AUTOCAP_TOUT_ERROR	AUTOCAP slave communication time-out (detected on the SLAVE side)	Check the SCCB power supply wiring and replace it if damaged. Check the RS485 communication connector, and visually check the board hardware. If damaged, replace the AUTOCAP slave board

ERROR CODES	ERROR DETECTED	ERROR DESCRIPTION	TROUBLESHOOTING
201	RESET_TIMEOUT	RESET process time-out	The RESET process is not completed within the maximum set time. Check for a mechanical jam in the dispenser and eliminate it if possible
202	TIMEOUT_SUPPLY_START	Time-out at Dispensing start	Dispensing did NOT start within the maximum set time. Check for a mechanical jam in the dispenser and eliminate it if possible
203	TIMEOUT_SUPPLY_FAILED	Dispensing duration time-out	Dispensing did not end within the maximum set time. The formula is too long, or check for a mechanical jam in the dispenser and eliminate it if possible
210	DOOR_OPEN	Door open	Door open during Process. Check the actual opening of the door, sensor operation and close, if necessary
211	COVERS_NOT_AVAILABLE	Covers NOT available	Check if Covers are missing and, if necessary, fill the station
212	CONTAINERS_NOT_AVAILABLE	Cans NOT available	Check if Cans are missing and, if necessary, fill the station
213	WITHDRAWAL_FAILED	Failed can withdrawal	Check for the presence of cans, or check for a mechanical jamming
214	TIMEOUT_CLAMP_POS_DETECTION	Time-out of lift positioning at dispensing start	Check that the lift is not in the dispensing position. If this is the case, check the operation of the stepper motor that controls it and check the board. Check that there is no mechanical jamming
215	SENSOR_X_AXIS_ERROR	X AXIS positioning error	During X axis movement the Start or End photocell, where requested, has not been engaged. Check for the presence of a mechanical jamming of damaged or dirty mechanical parts of the Cartesian axis. Clean or replace the concerned mechanical parts. Check photocell operation
216	SENSOR_Y_AXIS_ERROR	Y AXIS positioning error	During Y axis movement the Start or End photocell, where requested, has not been engaged. Check for the presence of a mechanical jamming of damaged or dirty mechanical parts of the Cartesian axis. Clean or replace the concerned mechanical parts. Check photocell operation
217	SENSOR_CLAMP_ERROR	No cup lift in filling position error	Check if the lift is not in that position. If this is the case, check the operation of the stepper motor that controls it. Check that there is no mechanical jamming
218	DISCARD_FAILED	Can still present after negative unloading due to cup presence at the end of Reset or at the beginning of dispensing, before pick-up	The reflective photocell on the passive gripper might be dirty, damaged, or positioned incorrectly. Clean the sensor and position it properly, or replace it if damaged. Remove the cup if present and stuck in the mechanical parts.

ERROR CODES	ERROR DETECTED	ERROR DESCRIPTION	TROUBLESHOOTING
219	TIMEOUT_PLUG_COVER1	Capping Station 1 MAB communication time-out (detected on the MAB side)	Check the SCCB power supply wiring and replace it if damaged. Check the RS485 communication connector, and visually check the board hardware. If damaged, replace the CAPPING 1 Slave board
220	TIMEOUT_PLUG_COVER2	Capping Station 2 MBA communication time-out (detected on the MAB side)	Check the SCCB power supply wiring and replace it if damaged. Check the RS485 communication connector, and visually check the board hardware. If damaged, replace the CAPPING 2 Slave board
221	NO_CONTAINER_AFTER_CAPPING	No can after Capping at the end of Dispensing (Photocell NOT engaged)	Check that the can is NOT jammed in Capping position
222	MOVE_X_AXIS_HOME_POS_ERROR	Loss of steps: deviation upon the detection of X AXIS slave HOME position	Verify the cleanliness of rack, splicing device and sensors, and remove any residues if necessary. Verify the integrity of the motor and replace it if deterioration is encountered. If any mechanical parts are damaged or jammed on rack teeth and splicing device, remove or change the mechanical parts in question. Verify the electrical connections and change them if damaged. Check the photocell sensors and reposition them or change them if damaged.
223	MOVE_Y_AXIS_HOME_POS_ERROR	Loss of steps: deviation upon the detection of Y AXIS slave HOME position	Verify the cleanliness of rack, splicing device and sensors, and remove any residues if necessary. Verify the integrity of the motor and replace it if deterioration is encountered. If any mechanical parts are damaged or jammed on rack teeth and splicing device, remove or change the mechanical parts in question. Verify the electrical connections and change them if damaged. Check the photocell sensors and reposition them or change them if damaged.
224	MOVE_X_AXIS_OVER_POS_LIMIT_ERROR	Maximum number of steps carried out by the X AXIS slave without encountering the END photocell	Check the correct operation of the END photocell, any folding of the flag, or the presence of an obstacle along the path of the X axis SLAVE
225	MOVE_Y_AXIS_OVER_POS_LIMIT_ERROR	Maximum number of steps carried out by the Y AXIS slave without encountering the END photocell	Check the correct operation of the END photocell, any folding of the flag, or the presence of an obstacle along the path of the Y axis SLAVE

ERROR CODES	ERROR DETECTED	ERROR DESCRIPTION	TROUBLESHOOTING
226-229	STORAGE_CONTAINER"X"_HOME_POS_ERROR, where "X=1..4	Loss of steps: deviation upon the detection of "X" CAN SELECTION slave HOME position	Verify the cleanliness of the mechanical parts and sensors, and remove any residues if necessary. Verify the integrity of the motor and replace it if deterioration is encountered. If any mechanical parts are damaged or jammed, remove or change the mechanical parts in question. Verify the electrical connections and change them if damaged. Check the photocell sensors and reposition them or change them if damaged.
230	AUTOCAP_HOME_POS_ERROR	Loss of steps: deviation upon the detection of slave AUTOCAP HOME position	Verify the cleanliness of the mechanical parts and sensors, and remove any residues if necessary. Verify the integrity of the motor and replace it if deterioration is encountered. If any mechanical parts are damaged or jammed, remove or change the mechanical parts in question. Verify the electrical connections and change them if damaged. Check the photocell sensors and reposition them or change them if damaged.
231	AUTOCAP_PACK_POS_ERROR	Cup Lift Homing procedure upon RESET was NOT carried out successfully	At least 1 of the transitions did not take place: Covered-Uncovered, Uncovered-Covered during lift Reset. Check the operation of the photocell, the lift motor and any obstacle that hinders the movement
232	PLUG_COVER1_PHOTOC_ERROR	Error on the photocell controlling Capping station 1 position	During Reset, or at the end of Dispensing the Capping 1 correct positioning photocell has not been engaged. Check for obstacles and check correct photocell operation
233	PLUG_COVER2_PHOTOC_ERROR	Error on the photocell controlling Capping station 2 position	During Reset, or at the end of Dispensing the Capping 1 correct positioning photocell has not been engaged. Check for obstacles and check correct photocell operation
234	CLAMP_POSITION_ERROR	Can in filling position error	When the machine is in STANDBY the microswitch detecting can presence in filling area is engaged: check the actual presence and remove if necessary.
235	CAN_LIFTER_STUCKED	Can badly positioned at the end of lifting before dispensing Start	Before dispensing start, when the lift has completed its movement, can presence is detected. Check can correct positioning in the lift, and the operation of the photocell detecting the can
236	X_AXIS_NOT_AVAILABLE	X axis NOT enabled	Change machine configuration in the EEPROM of MAB enabling X axis
237	Y_AXIS_NOT_AVAILABLE	Y axis NOT enabled	Change machine configuration in the EEPROM of MAB enabling Y axis

ERROR CODES	ERROR DETECTED	ERROR DESCRIPTION	TROUBLESHOOTING
240	MANUAL_INTERVENTION_REQUEST0	At the end of X Axis movement in Capping the photocell is NOT engaged	Operator's intervention required
241	MANUAL_INTERVENTION_REQUEST1	Can not detected at the end of Dispensing, or at the beginning of Capping, or at the end of Capping	Operator's intervention required
242	MANUAL_INTERVENTION_REQUEST2	Can not detected at the end of Capping	Operator's intervention required
301-308	B"X"_BASE_RESET_ERROR, where "X" = 1..8	"X" BASE slave reset procedure duration time-out	Verify the cleanliness and positioning of the photocell mounted on the "X" BASE, then clean or reattach the sensor. Verify the integrity of the "flag", the pusher, the motor, and the connectors, and replace the parts or the entire unit if any mechanical wear or damage is found. If the communication is present but an electronic type problem remains, replace the SCCB board.
309-332	C"X"_COLOR_RESET_ERROR, where "X"=1..24	"X" COLORANT slave reset procedure duration time-out	Verify the cleanliness and positioning of the photocell mounted on the "X" COLORANT, then clean or reattach the sensor. Verify the integrity of the "flag", the pusher, the motor, and the connectors, and replace the parts or the entire unit if any mechanical wear or damage is found. If the communication is present but an electronic type problem remains, replace the SCCB board.
333	MOVE_X_AXIS_RESET_ERROR	Slave X AXIS reset procedure duration time-out	Verify the cleanliness and positioning of the photocells of X axis, then clean or refix the sensor. Verify the integrity of the motor and the connectors, and replace the parts or the entire unit if any mechanical wear or damage is found. If the communication is present but a problem of an electronic type remains, replace the SCCB board.
334	MOVE_Y_AXIS_RESET_ERROR	Slave Y AXIS reset procedure duration time-out	Verify the cleanliness and positioning of the photocells of Y axis, then clean or refix the sensor. Verify the integrity of the motor and the connectors, and replace the parts or the entire unit if any mechanical wear or damage is found. If the communication is present but a problem of an electronic type remains, replace the SCCB board.

ERROR CODES	ERROR DETECTED	ERROR DESCRIPTION	TROUBLESHOOTING
335-338	STORAGE_CONTAINER"X"_RESET_ERROR, where "X"=1..4	Slave "X" CAN SELECTION reset procedure duration time-out	Verify the cleanliness and positioning of the photocells of the "X" CAN unit, then clean or refix the sensor. Verify the integrity of the motors and the connectors, and replace the parts or the entire unit if any mechanical wear or damage is found. If the communication is present but a problem of an electronic type remains, replace the SCCB board.
339-340	PLUG_COVER"X"_RESET_ERROR, where "X" = 1..2	Slave "X" CAPPING STATION reset procedure duration time-out	Verify the cleanliness and positioning of the photocells of the "X" CAPPING unit, then clean or refix the sensor. Verify the integrity of the motors and the connectors, and replace the parts or the entire unit if any mechanical wear or damage is found. If the communication is present but a problem of an electronic type remains, replace the SCCB board.
341	AUTOCAP_PACKING_ERROR	Autocap has NOT reached the packaging position within the set TIME-OUT	Verify the cleanliness of the mechanical parts and sensors, and remove any residues if necessary. Verify the integrity of the motor and replace it if deterioration is encountered. If any mechanical parts are damaged or jammed, remove or change the mechanical parts in question. Verify the electrical connections and change them if damaged. Check the photocell sensors and reposition them or change them if damaged.
342	AUTOCAP_HOMING_ERROR	Loss of steps: deviation upon the detection of slave AUTOCAP HOME position	Verify the cleanliness of the mechanical parts and sensors, and remove any residues if necessary. Verify the integrity of the motor and replace it if deterioration is encountered. If any mechanical parts are damaged or jammed, remove or change the mechanical parts in question. Verify the electrical connections and change them if damaged. Check the photocell sensors and reposition them or change them if damaged.
351-358	B"X"_DATA_SUPPLY_FAILED, where "X" = 1..8	Invalid table parameters	Check for consistency errors between the tables and the circuit installed on the machine. Verify the proper installation of the calibration tables in the Machine menu.
359-382	C"X"_DATA_SUPPLY_FAILED, where "X" = 1..24	Invalid table parameters	Check for consistency errors between the tables and the circuit installed on the machine. Verify the proper installation of the calibration tables in the Machine menu.

ERROR CODES	ERROR DETECTED	ERROR DESCRIPTION	TROUBLESHOOTING
401-408	B"X"_SUPPLY_CALC_ERROR, where "X" = 1..8	In CONTINUOUS dispensing the Number of steps of the "X" BASE to carry out is NOT a multiple of a whole stroke	Check for consistency errors between the tables and the circuit installed on the machine. Verify the proper installation of the calibration tables in the Machine menu.
409-432	C"X"_SUPPLY_CALC_ERROR, where "X" = 1..24	In CONTINUOUS dispensing the Number of steps of the "X" COLORANT to carry out is NOT a multiple of a whole stroke	Check for consistency errors between the tables and the circuit installed on the machine. Verify the proper installation of the calibration tables in the Machine menu.
451-482	DISABLED_REQUIRED_CIRCUIT_"X"_ERROR, where "X" = 0..31	"X" Slave must dispense but is erroneously Disabled	Load the Slave configurations onto the new MAB board.
501-508	B"X"_COLOR_HOME_POS_ERROR, where "X"=1..8	Error in the HOMING procedure of the "X" BASE	Check the correct operation of the photocell and the correct movement of the "X" BASE stepper
509-532	C"X"_COLOR_HOME_POS_ERROR, where "X"=1..24	Error in the HOMING procedure of the "X" COLORANT	Check the correct operation of the photocell and the correct movement of the "X" COLORANT stepper
551-558	B"X"_COLOR_HOME_BACK_ERROR, where "X" = 1..8	Loss of steps error in "X" BASE Dispensing	Decrease the dispensing speed
559-582	C"X"_COLOR_HOME_BACK_ERROR, where "X" = 1..24	Loss of steps error in "X" COLORANT Dispensing	Decrease the dispensing speed
601-608	B"X"_COLOR_POS0_READ_LIGHT_ERROR, where "X" = 1..8	At the end of the movement from HOME position to POS0 the photocell is NOT engaged in the "X" BASE	Check photocell and stepper operation
609-632	C"X"_COLOR_POS0_READ_LIGHT_ERROR, where "X" = 1..24	At the end of the movement from HOME position to POS0 the photocell is NOT engaged in the "X" COLORANT	Check photocell and stepper operation
651-658	B"X"_COLOR_END_STROKE_READ_DARK_ERROR, where "X" = 1..8	At the end of the dosing stroke the photocell is engaged in "X" BASE	Check photocell and stepper operation
659-682	C"X"_COLOR_END_STROKE_READ_DARK_ERROR, where "X" = 1..24	At the end of the dosing stroke the photocell is engaged in "X" COLORANT	Check photocell and stepper operation
701-708	B_"X"_OVERCURRENT_ERROR, where "X" = 1..8	"X" BASE stepper motor overcurrent	Check wirings, stepper operation
709-732	C_"X"_OVERCURRENT_ERROR, where "X" = 1..24	"X" COLORANT stepper motor overcurrent	Check wirings, stepper operation
751-758	B"X"_SOFTWARE_ERROR, where "X" = 1..8	Logic error in the process statuses on "X" BASE	Replace electronic board, if the problem persists request a Firmware update
759-782	C"X"_SOFTWARE_ERROR, where "X" = 1..24	Logic error in the process statuses on "X" COLORANT	Replace electronic board, if the problem persists request a Firmware update
783	MOVE_X_AXIS_SOFTWARE_ERROR	Logic error in the process statuses on X AXIS	Replace electronic board, if the problem persists request a Firmware update
784	MOVE_Y_AXIS_SOFTWARE_ERROR	Logic error in the process statuses on Y AXIS	Replace electronic board, if the problem persists request a Firmware update
785-788	STORAGE_CONTAINER"X"_SOFTWARE_ERROR where "X" = 1..4	Logic error in the process statuses on "X" CONTAINER	Replace electronic board, if the problem persists request a Firmware update
789-790	PLUG_COVER"X"_SOFTWARE_ERROR where "X" = 1..2	Logic error in the process statuses on "X" CAPPING	Replace electronic board, if the problem persists request a Firmware update

ERROR CODES	ERROR DETECTED	ERROR DESCRIPTION	TROUBLESHOOTING
791	AUTOCAP_SOFTWARE_ERROR	Logic error in the process statuses on AUTOCAP	Replace electronic board, if the problem persists request a Firmware update
801-808	B"X_COLOR_DRV_OVER_CURR_TEMP_ERROR, where "X" = 1..8	"X" BASE Stepper motor overtemperature	Check wirings, stepper operation
809-832	C"X_COLOR_DRV_OVER_CURR_TEMP_ERROR, where "X" = 1..24	"X" COLORANT Stepper motor overtemperature	Check wirings, stepper operation
833	MOTION_X_DRV_OVER_CURR_TEMP_ERROR	X AXIS Stepper motor overtemperature	Check wirings, stepper operation
834	MOTION_Y_DRV_OVER_CURR_TEMP_ERROR	Y AXIS Stepper motor overtemperature	Check wirings, stepper operation
835-838	STORAGE_CONTAINER"X"_DRV_OVER_CURR_TEMP_ERR where "X" = 1..4	"X" CONTAINER Stepper motor overtemperature	Check wirings, stepper operation
839-840	PLUG_COVER"X"_DRV_OVER_CURR_TEMP_ERROR where "X" = 1..2	"X" CAPPING Stepper motor overtemperature	Check wirings, stepper operation
841	AUTOCAP_DRV_OVER_CURR_TEMP_ERROR	AUTOCAP Stepper motor overtemperature	Check wirings, stepper operation
851-858	B"X_COLOR_OPEN_LOAD_ERROR, where "X" = 1..8	Load missing in "X" BASE Stepper	Check wirings, stepper operation
859-882	C"X_COLOR_OPEN_LOAD_ERROR, where "X" = 1..24	Load missing in "X" COLORANT Stepper	Check wirings, stepper operation
883	MOTION_X_OPEN_LOAD_ERROR	Load missing in X AXIS Stepper	Check wirings, stepper operation
884	MOTION_Y_OPEN_LOAD_ERROR	Load missing in Y AXIS Stepper	Check wirings, stepper operation
885-888	STORAGE_CONTAINER"X"_OPEN_LOAD_ERROR where "X" = 1..4	Load missing in "X" CONTAINER Stepper	Check wirings, stepper operation
889-890	PLUG_COVER"X"_OPEN_LOAD_ERROR	Load missing in "X" CAPPING Stepper	Check wirings, stepper operation
891	AUTOCAP_OPEN_LOAD_ERROR	Load missing in AUTOCAP Stepper	Check wirings, stepper operation

Page left intentionally blank



Alfa Srl

Headquarters:

Via Caduti di Ustica, 28

I-40012 – Calderara di Reno (BO), Italy

Tel. +39 (0)51 0828494

Fax +39 (0)51 0823283

Registered Office:

Via Santa Chiara, 2

I- 40137 – Bologna, Italy

VAT: IT-03364471205 – REA BO: 513367

Shared Capital € 500.000,00 f.p.

Website: www.alfadispenser.com

E-mail: info@alfadispenser.com

Timbro rivenditore

Sales Mark

