

Instructions for use

Software

Sintra LT



N5804N0007 ENGLISH
Edition: 3.0

Serial number

 **BIESSEEDGE**

Information on the publication

Copyright © 2006 BIESSE S.p.A.. All rights reserved.

Number	Edition	Revision	Approved	ctg
N5804N0007	3	0 (04, 2008)	2008/001	A

List of updates

Revision	Added	Deleted	Modified
0	New document		

This manual has been prepared by BIESSE exclusively for its customers and contains information of a reserved nature. Consequently, it must not be reproduced or divulged, either partially or fully, in any form whatsoever without the prior written consent of BIESSE.

The manual is supplied as an integral part of the machine. It must therefore be kept in a suitable easily accessible location known to all personnel involved in the operation and/or maintenance of the machine. It must be used with the due care and attention for the entire life cycle of the machine and must always accompany it, including in the case where the machine is transferred to third parties.

The manual must be used by personnel suitably trained in the use of the machine. BIESSE will not be held liable for any damages resulting from incorrect use of the documentation. In order to avoid incorrect manoeuvres that may create dangerous situations for personnel, all the documentation supplied with the machine must be read thoroughly and clearly understood.

Table of contents

Introduction

1. Description of the software

1.1	Description of the work page	5
-----	------------------------------------	---

2. Basic operations

2.1	Start and stop a machining program	7
2.2	Start and stop a machining operation list	10
2.3	Programming the speed	12
2.4	Programming the thickness	14
2.5	Programming the thermoregulators	15
2.6	General programming	17
2.7	Emergency stop	18
2.8	Alarm management	19
2.9	System shutdown	19

3. Advanced operations

3.1	Preparing a machining program	21
3.2	Shortcut key settings	23
3.3	Preparing a machining operation list	24
3.4	Parameter management	26
3.5	Forcing	28

Appendixes

A. Personalising the software

A.1	Language management	33
A.2	Password	34
A.3	Software version	35

B. Description of the environments

B.1	REGULATION	37
B.2	STATISTICS	42
B.3	DEBUG	43
B.4	PARAMETERS	48

Introduction

This manual has been written specifically for the user of the software and contains all the information that he must know prior to using the machine. In order to be able to use the software correctly, the manual must be read in conjunction with the machine's operating manual and its appendices.

It is assumed that the user of the software has some knowledge of the Microsoft Windows operating systems.

The configuration of some of the parts and devices described or mentioned in the manual may differ to that actually on the machine, though this will not affect its comprehension.

Conventions

Parts of the text that must not be overlooked are highlighted and preceded by the symbols illustrated and defined below.



Texts highlighted with this symbol indicate imminent danger and must be taken into careful consideration in order to avoid serious injury.



Texts highlighted with this symbol indicate procedures and behaviour that must be adopted in order to avoid damage to equipment.



This symbol is used to highlight instructions that are of particular importance and must not be overlooked.

Warnings

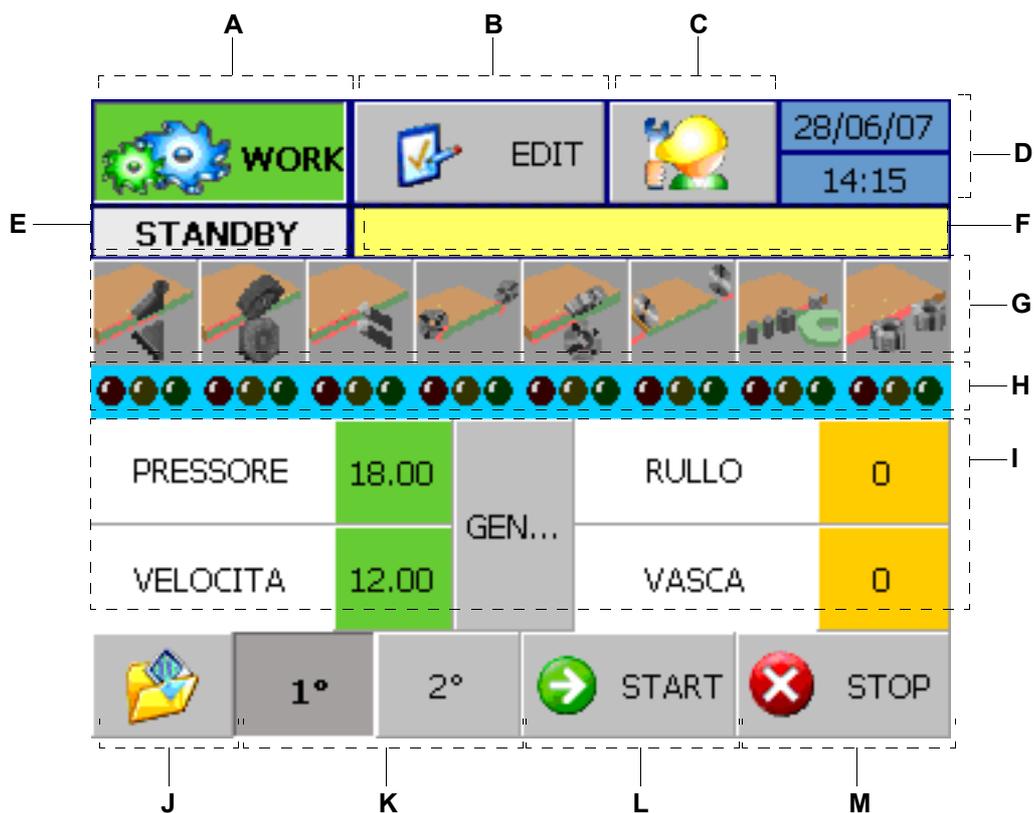
Prior to using the machine, read the safety information contained in the appendix to the machine's operating manual.

1. Description of the software

Sintra Light is a software used for operating the machine and programming the machining operations.

1.1 Description of the work page

The figure shows the software's work page and its components (SYNOPTIC environment in WORK mode). This is the page displayed when the program is launched.



- A WORK Mode:** button used to access the basic operations.
- B EDIT Mode:** button used to access the editing operations.
- C TOOLS Menu:** drop-down menu used to access the software environments and functions.
- D Date and Time.**

1. Description of the software

- E Machine status:** this area displays the status of the machine (operation, alarm, at-rest, etc.)
- F Program name:** indicates the name of the file containing the machining program loaded.
- G Working unit selection:** buttons for enabling or disabling the individual working units (in EDIT mode, it allows detailed programming of the individual units).
- H Working unit status:** displays the status of the individual working units.
- I Machining data:** table containing the main characteristic data of the loaded program.
- J Open:** button for opening a previously saved program.
- K 1st and 2nd pass selection button:** button for executing the 1st or 2nd pass of the loaded program.
- L START:** button used to start the machine.
- M STOP:** button used to stop the machine.

2. Basic operations

This chapter provides information on the executable basic operations.

2.1 Start and stop a machining program

The operations described in this paragraph can be carried out in the machining operation page that appears when the program is opened (SYNOPTIC environment in WORK mode).

To run a machining program other than that proposed, proceed as follows:

1. Press command button **OPEN (A)** located on the bottom left;



2. Basic operations

- In the next display, select the program from those saved by pressing the corresponding short-cut start button. For example, command button **(B)**;



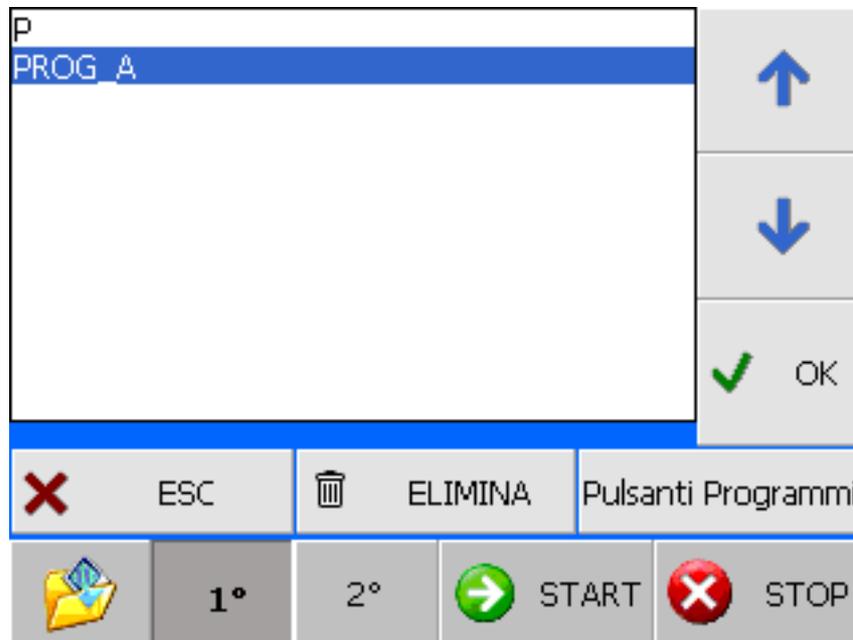
- Press command button **START** and keep it pressed until it turns green.

Alternatively, a display showing a list of all the previously saved programs can be displayed as follows:

- In the display showing the program start short-cut buttons, press button **Program List**;



2. In the next display, click on the arrows on the right to search for the program to load.



3. Once the program has been selected, it can be loaded by pressing button **OK**.
 4. Press command button **START** and keep it pressed until it turns green.

To stop a machining program being executed, simply press command button **STOP**.

The area indicating the logic status of the machine can have the following texts / colours:

Colour	Text	Description
White	STANDBY	Machine at rest
Red (flashing)	STANDBY	Machine in alarm
Yellow	WAIT	Machine has received a STOP command and is waiting to empty (no panels present) in order to pass to the standby state
Yellow	SETUP...	The machine is executing preliminary actions prior to machining (start motors, position axes, ...)
Green	WORK	Machine working

2. Basic operations

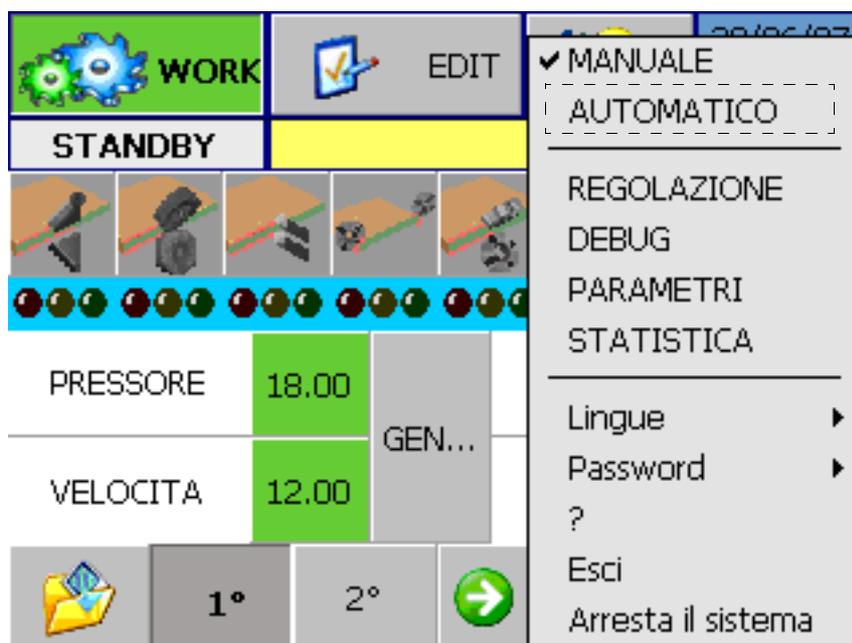
The machining units (displayed at the top of the SYNOPTIC environment in WORK mode) have a "traffic light" that indicates their logic status:

Colour	Description
None	Unprogrammed unit
Red	Programmed unit in alarm
Yellow	Programmed unit ready to start
Yellow (flashing)	Programmed unit in start phase
Green	Programmed unit working

2.2 Start and stop a machining operation list

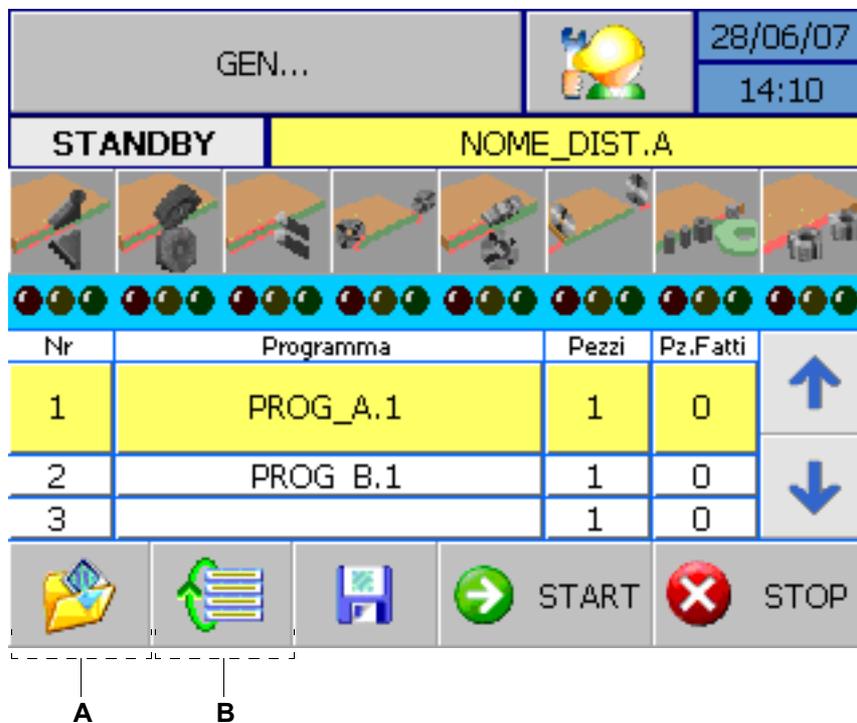
The operations described in this paragraph are executable in **AUTOMATIC ENVIRONMENT**.

To access the AUTOMATIC environment, from the SYNOPTIC environment in WORK mode, click on the TOOLS menu and then, on the drop-down menu, click on "**AUTOMATIC**".

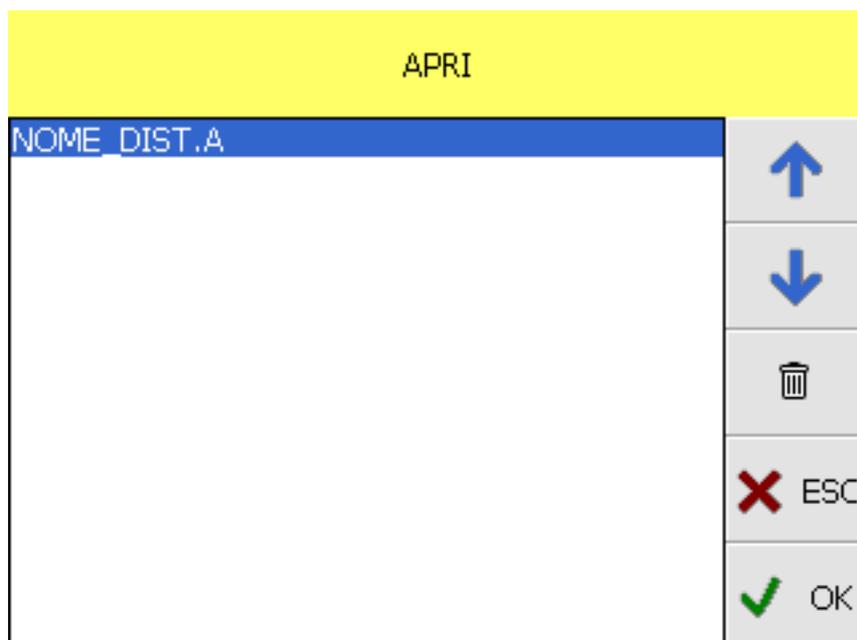


To run a machining list, proceed as follows:

1. Press command button **OPEN (A)** located on the bottom left



2. In the next window that opens, select the machining list required and click in button **OK**. The display will return to the loaded machining list.



2. Basic operations

3. Select the machining mode from those available (AUTOMATIC, MANUAL, CYCLE) by pressing button **(B)** at the bottom between button **OPEN** and button **SAVE**. A drop-down menu will open from where it is possible to select the machining mode.

- **AUTOMATIC**: in this case, the machine executes each line automatically a number of times equal to that entered in the third column (i.e. the number of pieces to machine). On completion, the machine passes to the next machining line.

- **MANUAL**: in this case, the operator selects the line from the machining list containing the machining operation to carry out and then presses button **START**, keeping it pressed until it turns green. In this case, the machine only executes the machining operation corresponding to the line selected.

- **CYCLE**: in this case, the machine executes each line automatically a number of times equal to that entered in the third column (i.e. the number of pieces to machine). After completing the last line, the machine starts again from the first line.

4. Press command button **START** and keep it pressed until it turns green.

To stop a machining operation list being executed, simply press command button **STOP**.

2.3 Programming the speed

The speed of the track can be programmed on the machining page (SYNOPTIC environment in WORK mode and in EDIT mode).

To modify the speed of the track, proceed as follows:

1. In the table containing the machining data, select the numerical field in line **SPEED**; in the centre part of the display



- This will open a new window as shown below.



- Enter the value of the speed required using the numerical keypad. The corresponding typed value is displayed at the top right.
- Confirm the value by pressing button **OK**. Pressing button **CANC** will delete the numerical value entered. When button **ESC** is pressed, the display will return to the machining page without making any modifications to the numerical value of the speed.

2.4 Programming the thickness

The thickness can be programmed on the machining page (SYNOPTIC environment in WORK mode and in EDIT mode).

To modify the thickness, proceed as follows:

1. In the table containing the machining data, select the numerical field in line **PRESSER**; in the



centre part of the display

2. This will open a new window as shown below.



3. Enter the value of the thickness required using the numerical keypad. The corresponding typed value is displayed at the top right.
4. Confirm the value by pressing button **OK**. Pressing button **CANC** will delete the numerical value entered. When button **ESC** is pressed, the display will return to the machining page without making any modifications to the numerical value of the thickness.

2.5 Programming the thermoregulators

The thermoregulators can be programmed on the machining page (SYNOPTIC environment in WORK mode and in EDIT mode).

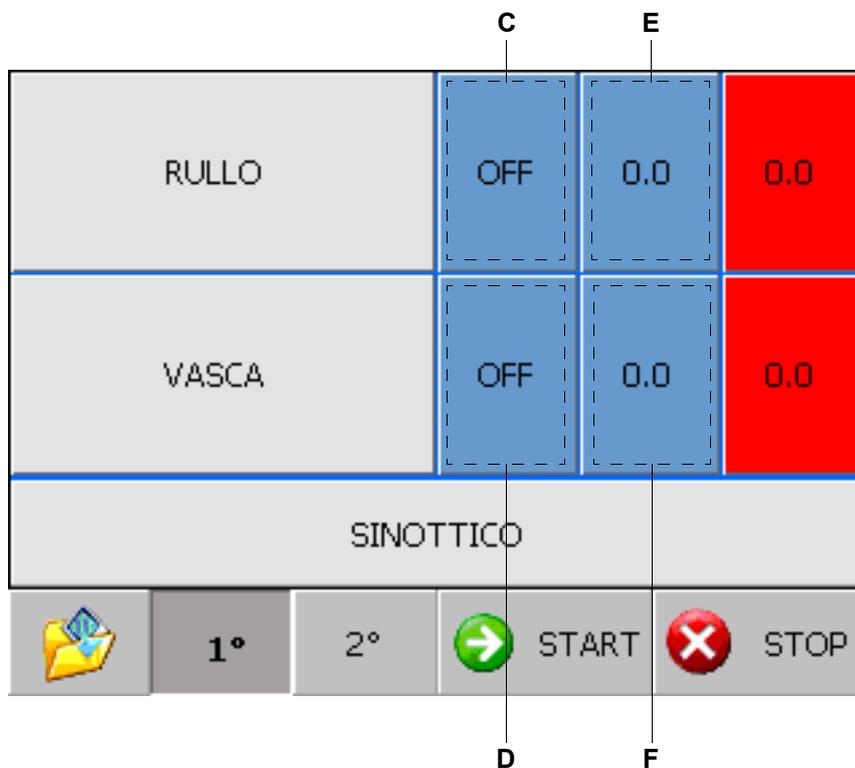
To modify the value associated to the thermoregulators, proceed as follows:

1. In the table containing the machining data, select the numerical field in line **ROLLER (A)** or in line **BOWL (B)** in the centre part of the display

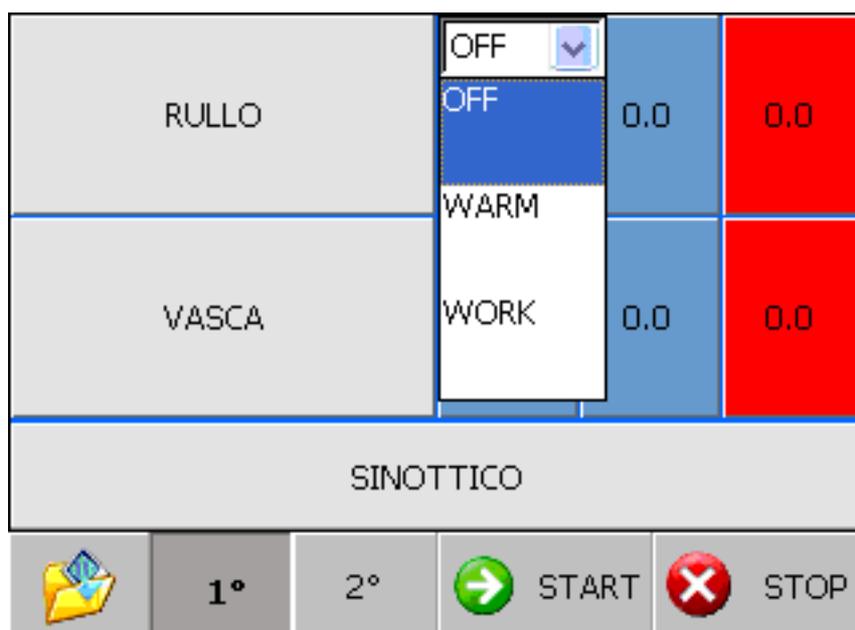


2. Basic operations

2. Regardless of which of the two numerical fields is pressed, the following window will be displayed.



3. Select the status of the thermoregulators on line **ROLLER (C)** and on line **BOWL (D)**. Now it is possible to select either **OFF**, **WARM** (preheat) or **WORK** (operation).



4. Select the blue numerical field on line **ROLLER (E)** and on line **BOWL (F)**.

5. A numerical keypad will appear on the display from where it is possible to enter the temperature value required by the thermoregulator for the previously set status. The corresponding typed value is displayed at the top right.
6. Confirm the value by pressing button **OK**. Pressing button **CANC** will delete the numerical value entered. When button **ESC** is pressed, the display will return to the thermoregulator page without making any modifications to the numerical value of the temperature.

2.6 General programming

The card with the general machine parameters can be called from the machining page (SYNOPTIC environment – either WORK mode or EDIT mode) by pressing button **GENERAL**.



2. Basic operations

A new window will open on the display:



- A INVERTER:** switches the inverter on / off.
- B PRESSER DOWN:** moves the presser down.
- C RESET ERRORS:** resets the machine errors.
- D PRESSER UP:** moves the presser up.
- E LIGHT:** switches the lights on the machine on / off.
- F PREMELTER:** switches the premelter on / off.
- G RESTART:** enables / disables the automatic passing from first to second passage.
- H AXIS RESET:** resets all the axes that have not yet been reset. The indicator lights up when the resetting is in course.
- I SYNOPTIC:** returns the display to the machining page.

2.7 Emergency stop

If it becomes necessary to stop the operation of the machine immediately, press the nearest emergency stop button (refer to the machine's operating manual).

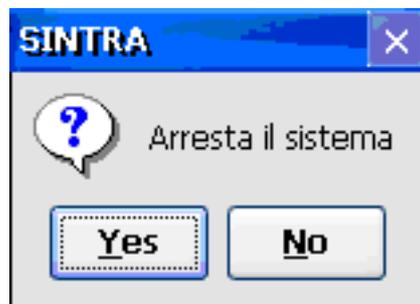
2.8 Alarm management

The alarm messages are displayed alongside the item identifying the machine status.

The description of the alarms and the relative actions to take are reported in the machine's operating manual.

2.9 System shutdown

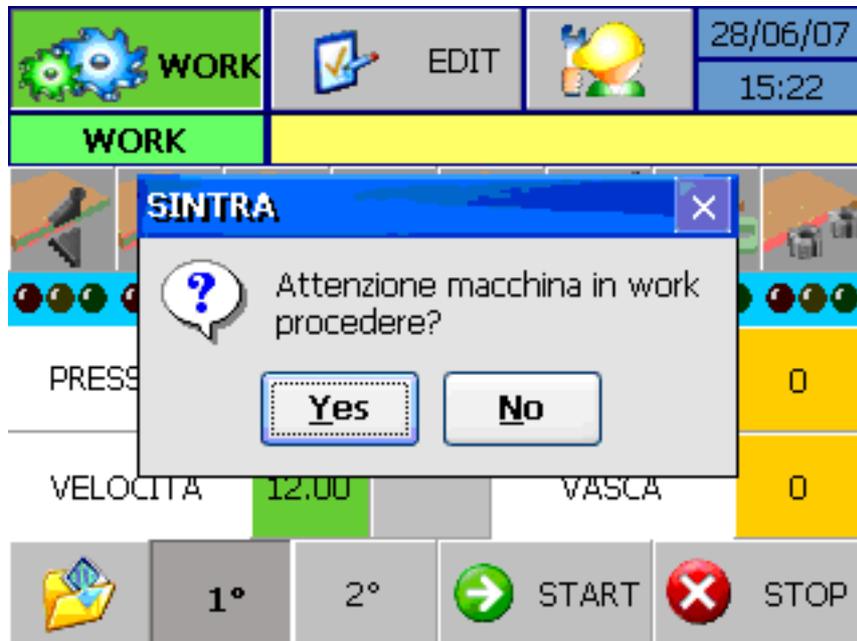
The system shutdown must take place after completing the machining cycle.



- i** Wait until the system shutdown procedure has been completed before turning the machine off.

2. Basic operations

If system shutdown takes place during machining, the following message will be shown:



In this case it is not advisable to continue. Wait until the motors have stopped and the machine is in standby. Repeat the system shutdown procedure.

3. Advanced operations

This chapter provides information on the executable advanced operations.

3.1 Preparing a machining program

A machining program is prepared in the SYNOPTIC environment in EDIT mode. To access EDIT mode, on the machining page (SYNOPTIC environment in WORK mode) click on the **EDIT** button at the top of the page.

To prepare a machining program, proceed as follows:

1. In the SYNOPTIC environment in EDIT mode, select a working unit.



3. Advanced operations

- In the display that appears (see example below), enter the values of the parameters associated to the selected working unit (see paragraph "Parameter management" in this chapter).



- Repeat the previous operations for all the working units used for the machining operation;
- Return to the EDIT mode of the SYNOPTIC environment and press command button **SAVE**;
- In the next window, enter the name of the program and click **OK**.



3.2 Shortcut key settings

To associate a shortcut key to the machining program, enter the SYNOPTIC environment in EDIT mode and proceed as follows:

1. Press button **(A)** to open the list of shortcut keys

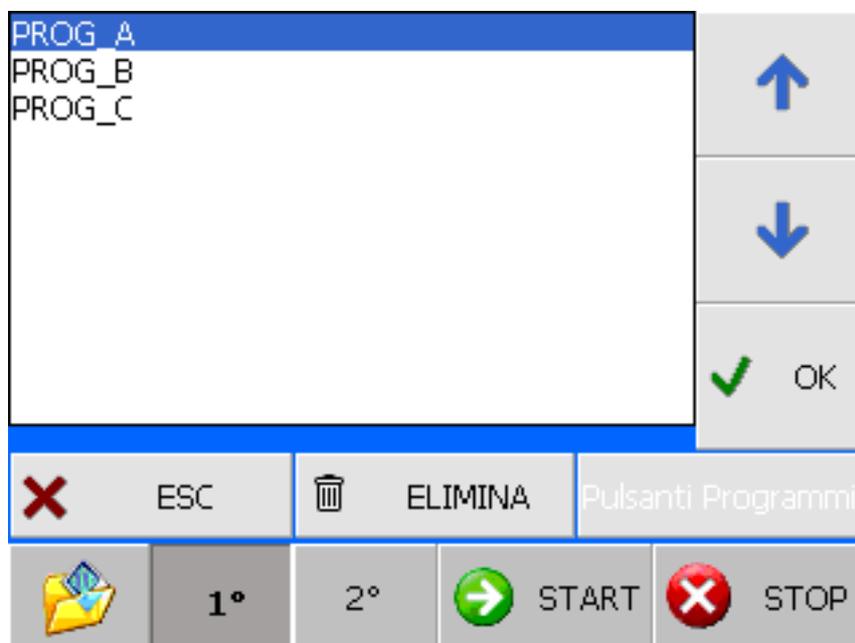


2. In the next display, keep the shortcut button pressed until a list of available programs appears.



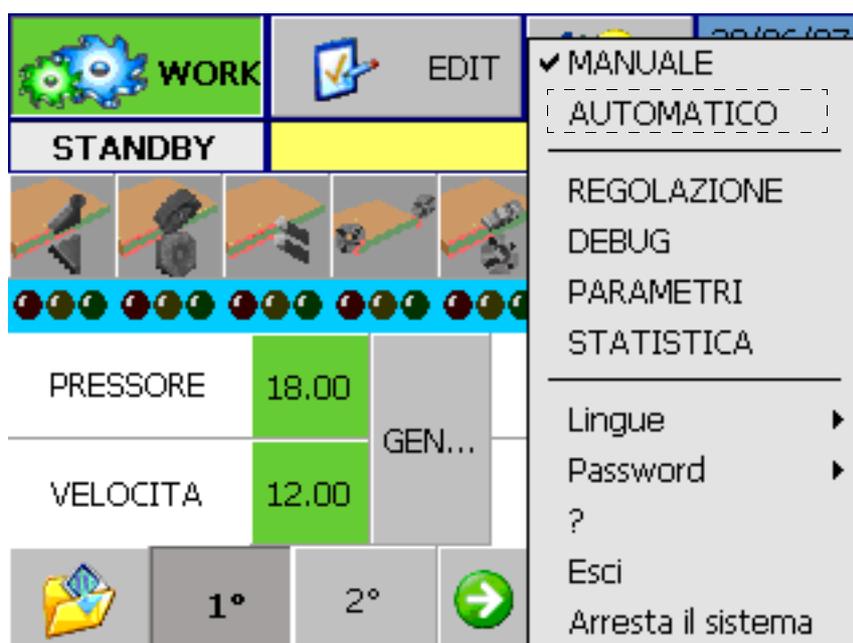
3. Advanced operations

3. Select the program to associate to the previously selected key by using the arrows on the right of the display to scroll down the list of programs saved. Once the program has been selected, press **OK**. The display will then return to the SYNOPTIC environment in EDIT mode.



3.3 Preparing a machining operation list

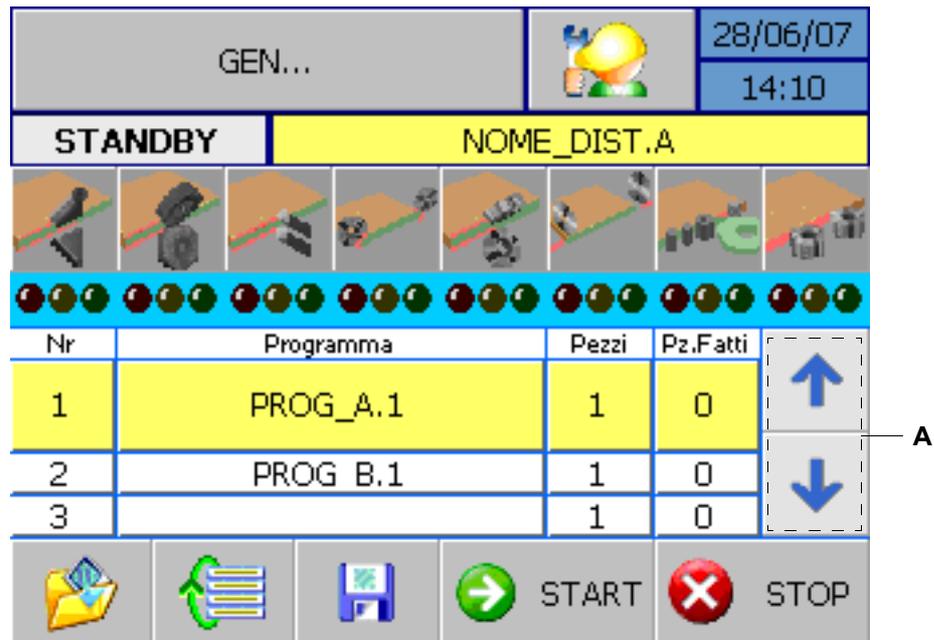
The operations described in this paragraph are executable in AUTOMATIC environment. To access the AUTOMATIC environment, from the SYNOPTIC environment in WORK mode, click on the **TOOLS** menu and then, on the drop-down menu, click on **AUTOMATIC**.



The AUTOMATIC environment consists of a table listing the four machining operations making up each loaded list.

To prepare a machining operation list, the required machining operation must be entered in each line of the table. Proceed as follows:

1. Select the line in the table in which to enter the machining operation using the arrows (**A**);



2. Click on the program field and select the code from the list of those available.
3. Enter the number of times the machining operation is to be repeated by entering a numerical value in the corresponding cell of the third column.
4. Repeat the operation for the remaining lines in the list.
5. Press button **SAVE** located at the bottom and assign a name to the newly created machining operation list using the keyboard that appears in the next display.
6. Press **OK**.

3.4 Parameter management

The parameters of each working unit can be modified in the SYNOPTIC environment in EDIT mode. To access EDIT mode, on the machining page (SYNOPTIC environment in WORK mode) click on the **EDIT** button at the top of the page.

To modify the parameters of a working unit, proceed as follows:

1. Select the working unit with the parameters to be modified



2. In the display that appears (see example below), enter the values of the parameters associated to the selected working unit.



The main parameters can be divided into four groups: axes, selections, motors and insertion devices.

3.4.1 Axis type data

The axes represent the geometric references of the working units.

To modify the position of the axis, in the table, select the numerical field with a blue background (set position) and enter the required position.

3.4.2 Selection type data

The selections are numerical values linked to the panel machining parameters. The selections can include: inclination of the blades of the edge trimming units, the delay with which the panel guide intervenes at the infeed end of the machine, the frequency and height of the bolts, etc.

To modify the value of a selection, in the table, select the numerical field with the blue background and enter the required value, in accordance with that reported in the machine's operating manual.

3.4.3 Motor type data

To enable or disable the motor and corresponding unit, in the table, click on the data field with the blue background and select command **ON** to enable the motor, or select command **OFF** to disable it.

3.4.4 Insertion device type data

The intervention positions of the working units can be programmed through the insertion devices. Each working unit can be characterised by one or more lead-in and lead-out positions. The reference for both positions can be either the head of the panel (FW) or the tail (BW).

To program the intervention positions, in the table, click on the data field with the blue background and enter the value in millimetres.

3.5 Forcing

Forcing are tests carried out on card inputs and outputs.

Forcing is carried out in the **DEBUG** environment. To access the environment, on the machining operations page (SYNOPTIC environment in WORK mode), click on the tools menu (at the top of the page) and then select **DEBUG** from the drop-down menu that appears.

Ambienti Comandi Socket ?					
N	ed	codice	:at	or:	descrizione
0	1	GE0E07	0	=	24 volts presenti
1	2	AA1E01	0	=	F.C. inseritori lista 0
2	3	GE0E19	0	=	inverter frese lame
3	4	TT1E02	0	=	input posteriore basso
4	5	-	0	=	
5	6	-	0	=	

The operations described in this paragraph are carried out by operators possessing a password. To enter the password, proceed as follows:

1. From the machining operations page (SYNOPTIC environment in WORK mode), click on the tools menu (at the top of the page) and then select **PASSWORD** from the drop-down menu that appears.

2. Select item **I/O FORCING**.



3. In the next window, enter the password and click the **OK** button.



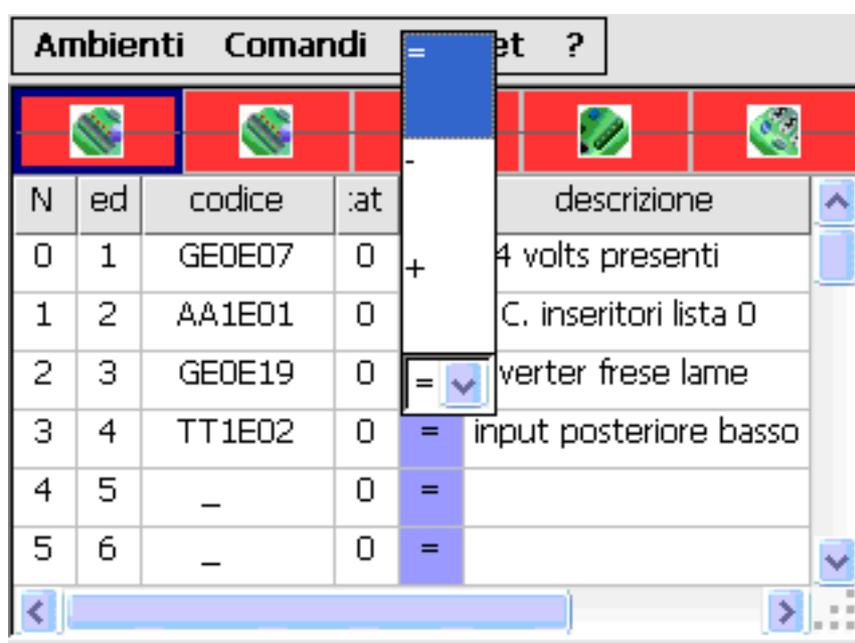
3. Advanced operations

Alternatively, the password can also be entered as follows:

1. From the **DEBUG** environment, open the **COMMANDS** menu on the top bar and , from the drop-down menu, select **PASSWORD**.
2. In the next window, enter the password and click the **OK** button.

To force the inputs/outputs of the cards, proceed as follows:

1. Click on data field **FORCE**;
2. From the drop-down menu. select the required value.



The status forcing field can have the following values:

Symbol	Value
=	Field not forced. The value of the status is set by the PLC.
+	Field forced to logic status 1 (the background of the description turns yellow).
-	Field forced to logic status 0 (the background of the description turns yellow).

Appendixes

A. Personalising the software

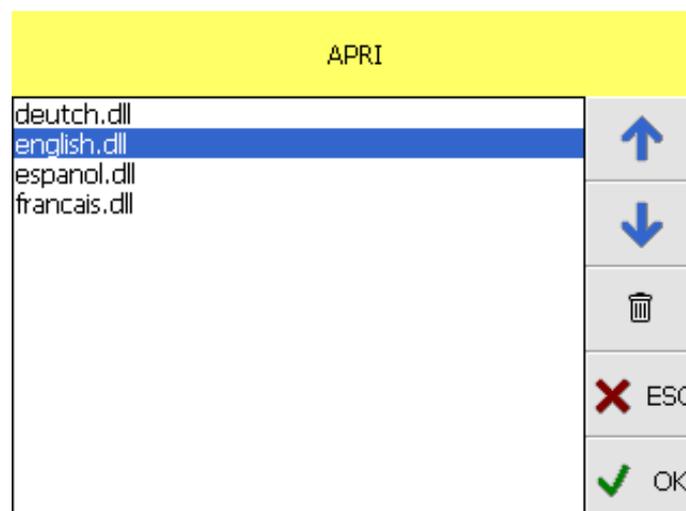
A.1 Language management

To use the software with another language other than the default, proceed as follows:

1. From the tools menu, select **LANGUAGE** and then that required.



2. Select **OTHER**.
3. In the next window, select the required language file, scrolling through using the arrows on the right. Then press button **OK**.



A.2 Password

Card forcing and access to the parameters area are only possible after entering a password.

To perform these actions, proceed as follows:

1. From the tools menu, select **PASSWORD** and click on **I/O FORCING** or **PARAMETER AREA**.



2. In the next window, enter the password and click the OK button.

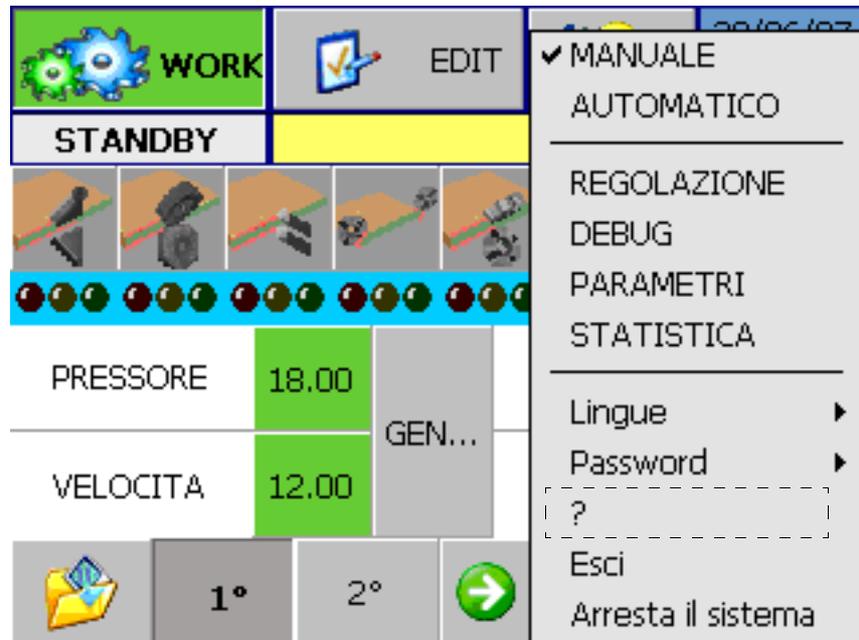


If **RESET ACCESSES** is selected, then all the passwords entered up until that moment after launching the software will be disabled.

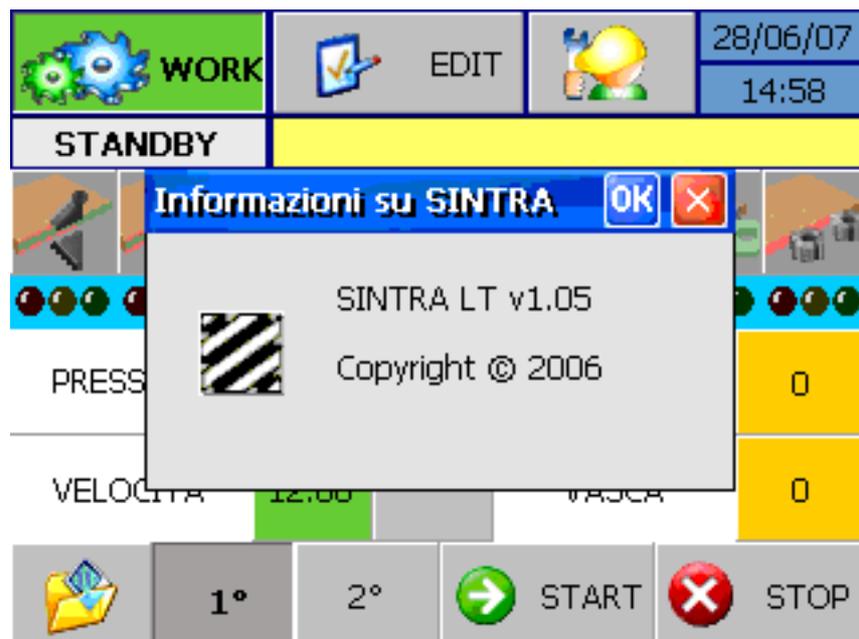
A.3 Software version

To display information on the software version, proceed as follows:

1. From the tools menu, click on “?”



2. The name of the software will appear in the dialogue box along with the revision number and the date of updating.
3. To return to other software pages, press button **OK**.



B. Description of the environments

This chapter describes the software environments.

B.1 REGULATION

To access the **REGULATION** environment, from the machining page (SYNOPTIC environment in WORK mode) click on the tools menu and then click on **REGULATION**.



B. Description of the environments

The REGULATION environment is used to modify machine data outside the normal work environment. The button located on the bottom left opens a drop-down menu from where it is possible to select the various items of this environment.

Ambienti Comandi Socket ?			
Codice	Descrizione	Valore	Reale
CGOV01	/ELOCITA' CINGOLO	10.00	0.00

VELOCITA
ASSI
SELEZIONI
MOTORI
INSERITORI



 01 UPLOAD

START

 STOP

OK: LISTA PANNELLI: 3 

B.1.1 Speed

To modify the speed, select the numerical field in column “**Value**” and enter the required value using the keypad that will appear.

Ambienti Comandi Socket ?			
Codice	Descrizione	Valore	Reale
CGOV01	VELOCITA' CINGOLO	10.00	0.00



 01 UPLOAD

START

 STOP

OK: LISTA PANNELLI: 3 

B.1.2 Axis

The following table shows the data relating to the axes.

Ambienti Comandi Socket ?				
Codice	Comando	Q.imp.	Comando	Q.letta
AA1B01	FERMO	19.00	FERMO	0.00
MP1B01	FERMO	0.00	FERMO	0.00
NA1B01	FERMO	0.00	FERMO	0.00
NA3B01	FERMO	0.00	FERMO	0.00
NA5B01	FERMO	0.00	FERMO	0.00
NA7B01	FERMO	0.00	FERMO	0.00



 UPLOAD

OK: LISTA PANNELLI: 3

Entering the position

Entering the axis position is carried out by clicking on the data field in column **SET POSITION**.

Positioning

The positioning of the axes is carried out by clicking on the data field in column **COMMAND**. A drop-down menu will appear: when item **START** is selected, the PLC will move the axis (status **BUSY** in column **COMMAND READ**) until the position read coincides with the set position. The movement of the axis can be interrupted by selecting **Stop** in the **COMMAND** field.

Calibration

The calibration of the axes is carried out by clicking on the data field in column **COMMAND**. A drop-down menu will appear containing, among other things, the items necessary for the calibration: **SET** and **RESET**.

When **SET** is selected, the value contained in field **SET POSITION** is assigned to field **READ POSITION**. This operation calibrates (or resets) the axis without any actual axis movement. Selecting **RESET** aligns the actual position (shown on the display) with the effective measurable position. The resetting operation moves the axis to a mechanical reference position.

B.1.3 Selections

The data is input by clicking on the required numerical field and entering the value.

Ambienti Comandi Socket ?			
Codice	Descrizione	Selezione	
ZR1S01	ASPORTAZIONE	0	
RT1S01	ANTIADESIVIZZANTE	0	
BA1S01	ROTAZIONE RULLO	1	
BA1S02	TIPO BORDO	1	
TT1S03	TIPO LAVORAZIONE	00	
TT1S06	INCLINAZIONE LAMA 1	00	


 UPLOAD
START
 STOP

OK: LISTA PANNELLI: 3
 

B.1.4 Motors

The motor **ON** status is shown by a **green SELECTION** data field. **Blue**, instead indicates a motor **OFF** status.

Ambienti Comandi Socket ?			
Codice	Descrizione	Selezione	
RT1M01	RETTIFICA	ON	
PH3M01	RISCALDATORE	ON	
BA1M01	INCOLLAGGIO	OFF	
TT1M01	INTESTATORE	OFF	
RS1M01	REFILATORE SOVRAP.	OFF	
SR1M01	SPIGOLATORE	OFF	


 UPLOAD
START
 STOP

OK: LISTA PANNELLI: 3
 

B.1.5 Insertion devices

The insertion device is programmed indicating the lead-in and lead-out references of the insertion device (column: **MODO_E** and **MODO_U**) and entering the lead-in and lead-out positions of the insertion device in millimetres (columns: **E** and **U**).

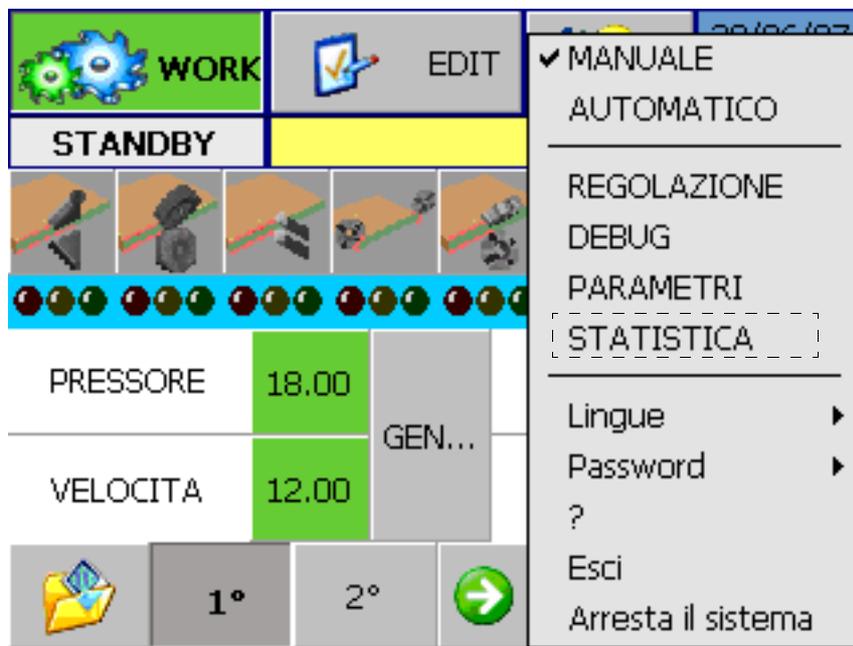
Ambienti Comandi Socket ?				
Codice	MODO_E	E	MODO_U	U
RT1U03	BW	100	BW	-50
TT1D02	BW	30	PARK	0

The screenshot shows a control panel interface. At the top, there is a header bar with the text "Ambienti Comandi Socket ?". Below this is a table with five columns: "Codice", "MODO_E", "E", "MODO_U", and "U". The table contains two rows of data. Below the table, there is a navigation bar with a left arrow, a search input field, and a right arrow. Below the navigation bar, there are four main control buttons: a list icon, an "01" button with a refresh icon, an "UPLOAD" button with a green arrow icon, a "START" button with a green arrow icon, and a "STOP" button with a red 'X' icon. At the bottom, there is a yellow status bar with the text "OK: LISTA PANNELLI: 3" and two indicator lights (blue and yellow).

An insertion device can be excluded by entering the value "**Park**" as the lead-in and lead-out reference.

B.2 STATISTICS

To access the **STATISTICS** environment, from the machining page (SYNOPTIC environment in WORK mode) click on the tools menu and then click on **STATISTICS**.



The STATISTICS environment allows production data to be monitored, such as, for example:

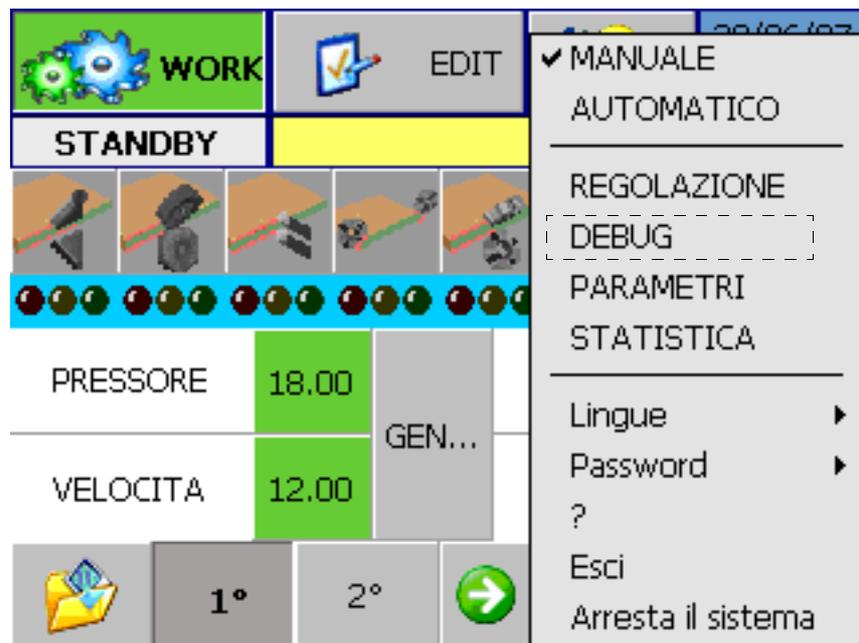
- partial + total machined runs
- partial + total linear metres of edgebanding strip machined
- length of the last panel (the value read is used above all during the inspection phase).

The partial counters can be reset by the operator as required, while the total counters refer to the machine test phase and cannot be modified.

Ambienti	Comandi	Socket	?
00092138 BP 280507 001.41			
LUNGH. ULTIMO PANNELLO [mm]			0
PARZIALE PASSAGGI LAVORATI			0
PARZIALE METRI LINEARI LAVORATI			0.00
TOTALE PASSAGGI LAVORATI			0
TOTALE METRI LINEARI LAVORATI			0.00
UPLOAD	RESET	START	STOP
OK: LISTA PANNELLI: 3			

B.3 DEBUG

To access the **DEBUG** environment, from the machining page (SYNOPTIC environment in WORK mode) click on the tools menu and then click on **DEBUG**.



The **DEBUG** environment is used to monitor the status of the input/output cards and the logic sequences of the PLC. It is also used to carry out tests by forcing the inputs and outputs on the cards.

B. Description of the environments

At the top of the page there is a status/selection area for the installed cards. Click on the card to change it. The status of the cards is defined by one of three colours:

Colour	Card status
GREEN	Working properly.
YELLOW	One error present that has not been repeated. If there are no more errors, after 30 seconds the card returns to the working properly status.
RED	Card continually subjected to errors.

The screenshot shows a control interface with a menu bar at the top containing 'Ambienti', 'Comandi', 'Socket', and '?'. Below the menu is a row of five red cards, each with a green icon. A dashed box labeled 'A' highlights this row. Below the cards is a table with the following columns: 'N', 'ed', 'codice', ':at', 'or:', and 'descrizione'. The table contains six rows of data. A dashed box labeled 'B' highlights the table area.

N	ed	codice	:at	or:	descrizione
0	1	GE0E07	0	=	24 volts presenti
1	2	AA1E01	0	=	F.C. inseritori lista 0
2	3	GE0E19	0	=	inverter frese lame
3	4	TT1E02	0	=	input posteriore basso
4	5	-	0	=	
5	6	-	0	=	

A Card status display and selection area

B Table containing the status of the inputs/outputs and forcing in the I/O page as well as the tasks being executed in the TASK page

The **COMMANDS** button on the bar at the top can be used to open a new drop-down menu from where it is possible to select:

I/O: selects the I/O page.

Task: selects the TASK page

Password: allows a new password to be inserted

Reset Password: allows the previously inserted passwords to be reset.

B.3.1 I/O

To access the input/output table click on **COMMANDS** and then, from the drop-down menu, select **I/O**. Once the relevant card has been selected, the table will show the status, the symbolic code and a short description of the inputs and outputs.

N	ed	codice	stato	forz.	descrizione
16	1	PS3E01	0	=	superiore alto
17	2	PS3E02	0	=	superiore basso
18	3	PS3E03	0	=	superiore avanti
19	4	PS3E04	0	=	superiore indietro
20	5	PS3E05	0	=	pannello in quota x su
21	6	PS3E06	0	=	inferiore alto

A
B
C
D
E
F

The fields in the table are as follows:

- A** **Progressive absolute number** of the input/output
- B** **Progressive number** relative to the input/output card
- C** **Code number** of the input/output
- D** **Status** of the input/output (0 white, 1 red)
- E** **Forcing field**
- F** **Description**

B. Description of the environments

From this page, it is also possible to access the table describing the configuration of the analogue references, the ENCODER channels and d.c. motors (display only). To do this, click on the corresponding card.

Ambienti Comandi Socket ?				
canale	codice	indirizzo	valore	errori
0	CGOB01	0	0	46368
1	AA1B01	1	0	46368
2	-	2	0	46368

C B A D E

The fields in the table are as follows:

- A Address** of the channel inside the card.
- B Alphanumeric Identification Code** associated to the channel.
- C Absolute Numbering** of all the inputs.
- D Number of pulses** on the channel.
- E Number of Transmission Errors** between the control and the card.

B.3.2 TASK

To access the input/output table click on **COMMANDS** and then, from the drop-down menu, select **TASK**.

Ambienti	Comandi	Socket	?
0	STATO LOGICO = SQB_FERMA		
1	MAINPLC: ATTESA RESET		
2	SEQ_SCOPE:INIT_PROG		
3	CONTROLLO ASSI		
4	MOTORI FRESE OFF		
5	CONTROLLO ALLARMI		
6	SEQREG:ATTESA ACCENSIONE		
7	SEQREG:ATTESA ACCENSIONE		

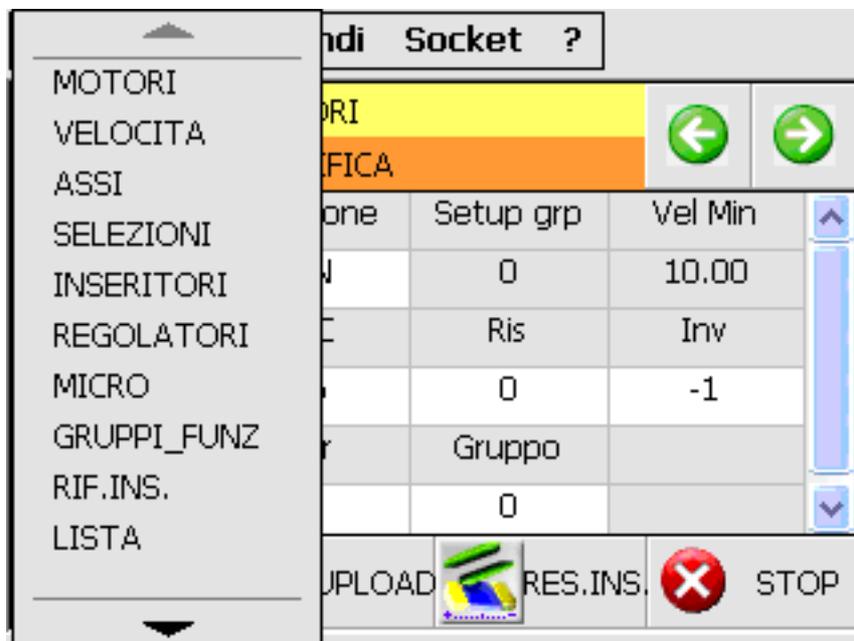
The table shows the messages of the procedures (tasks) in course in the PLC.

B.4 PARAMETERS

The parameters environment can only be accessed after having entered the appropriate password (see paragraph “Password”).

To access the **PARAMETERS** environment, from the machining page (SYNOPTIC environment in WORK mode) click on the tools menu and then click on **PARAMETERS**.

The operational parameters of the machine are summarised in ten tables; these tables are accessed through the items present in the drop-down menu that appears when the button at the bottom left of the window is pressed, i.e. axes, selection, motors, speed, micro, insertion device, insertion device reference, working units, supervisor and list of right/left panels (the last three cannot be modified).

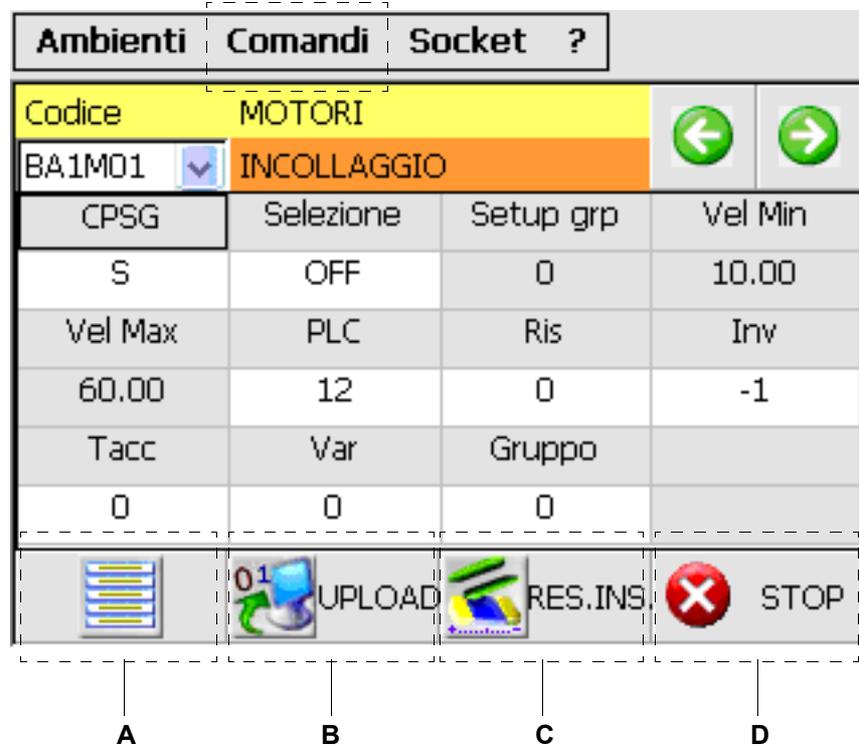


The table fields can either be numerical or selection type: the numerical fields are modified by selecting the box and entering the value directly from the keyboard, the selection fields are modified by selecting the box and choosing one of the options present in the drop-down menu.



The parameters define the operating characteristics of the numerical control. An incorrect entry can compromise the operation of the machine.

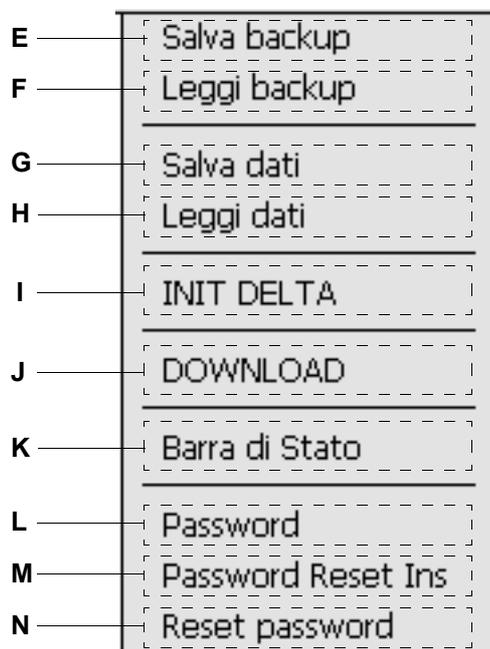
The following functions are available at the bottom of the page:



- A** Opens the drop-down menu from where it is possible to select the tables of the various operating parameters of the machine.
- B UPLOAD:** Loads the machine's configuration parameters.
- C RES.INS.:** Resets the lead-in and lead-out positions of the insertion devices for the panels present in the machine.
- D STOP:** Button used to stop the machining program in course.

B. Description of the environments

From the **Commands** menu, on the top bar, it is possible to access the following functions:



- E Save backup:** Saves data relating to the entire PARAMETERS environment to a file.
- F Read backup:** Loads data relating to the entire PARAMETERS environment from a file.
- G Save data:** Saves configuration data relating to the current table to a file.
- H Read data:** Loads configuration data relating to the current table from a file.
- I DELTA START:** Allows initialisation of the insertion device delta.
- J DOWNLOAD:** Downloads data to the PLC.
- K Status bar:** Displays the Windows applications bar.
- L Password:** Modifies the password used to access the PARAMETERS environment.
- M Password Reset Ins:** Modifies the password used to access the insertion device reset function.
- N Reset Password:** Used to reset any previously inserted passwords.

B.4.1 Axis

The following table shows the parameters of the axes.

Ambienti Comandi Socket ?				
Codice		ASSI		← →
AA1B01	▼	SPESSORE		
Tipo prog	Tipo	Tipo azz	Stato azz	▲
G	255	2	0	▼
Comando	Quota	Q.attuale	Abilitaz.	
C FERMO	D 30400	E 0	F ON	
mm/giro	imp/giro	Q.prestop	Q.recup.	
G 2.50	H 1000	I 0.09	J 0.50	▼
	01 UPLOAD	RES.INS.	STOP	

- A Code number:** alphanumeric code identifying the axis
- B Description:** description of the axis
- C Command:** command given to the axis (see paragraph “Parameter management” in chapter 3. “Advanced operations”)
- D Position:** programmed position of the axis in Encoder Pulses
- E Actual Pos.:** actual position of the axis in Encoder Pulses (display only)
- F Enabling:** Enable/Disable the axis (ON/OFF)
- G mm/rev:** linear position developed by one revolution of the axis
- H pulses/rev:** number of Encoder Pulses per axis revolution
- I Prest Pos.:** difference with respect to the programmed position (necessary for compensating the mechanical inertia)
- J Recov Pos.:** position added to the programmed position to obtain a first position prior to reaching the final programmed position

B. Description of the environments

Ambienti Comandi Socket ?			
Codice		ASSI	
AA1B01	▼	SPESSORE	
Q.usc.len	Q.park	Q.fc +	Q.fc -
(K) 0.00	(L) 30.00	(M) 65.00	(N) -1.00
Q.riferim.	Dir.rifer.	In. Dref.	Q.toll.
(O) 64.50	(P) +++	(Q) 42	(R) 0.20
Mot.op.	N.enc.	Formula	N.ana
(S) -1	(T) 1	(U) 1	(V) -1
	 UPLOAD	 RES.INS.	 STOP

- K S out pos.:** position from which the axis moves slowly
- L Park pos.:** position reached after the **PARK** command
- M Q.fc+ :** limit position in the positive direction
- N Q.fc- :** limit position in the negative direction
- O Ref. pos. :** position arrived at when the **RESET** command is sent
- P Ref. dir. :** direction taken when the **RESET** command is sent
- Q In.Ref.0 :** axis reset sensor input to PLC
- R Pos. tol. :** limits within which the axis position value can vary with respect to the set value without any errors being signalled
- S Op.mot :** motor stopped input signal to PLC
- T N enc. :** reference encoder for the axis
- U Formula :** software formula number for managing the position of the axis
- V Ana. n. :** analogue card output number (the value –1 indicates no analogue output)

 The parameters not described are for the use of the assistance service only.

B.4.2 Selection

The following table shows the selection parameters.

Ambienti Comandi Socket ?				
Codice	SELEZIONE			
RT1S01	ANTIADDESIVIZZANTE			
CPSG	Selezione	T. accens.	Gruppo	
S	1	0	0	
Variazione	Sel.min.	Sel.max.		
0	0	1		
UPLOAD RES.INS. STOP				

- A **Code:** alphanumeric code number identifying the selection (display only)
- B **Description:** description of the selection (display only)
- C **Selection:** value of the selection
- D **Start-up T:** start-up time in ms
- E **Unit:** reference working unit
- F **Variation:** variation in the status of the selection
- G **Sel. min.:** minimum value for the current selection
- H **Sel. max.:** maximum value for the current selection

B.4.3 Motors

The following table shows the parameters of the motors.

Ambienti Comandi Socket ?			
Codice		MOTORI	
RT1M01		RETTIFICA	
CPSG	Selezione	Setup grp	Vel Min
S	ON	0	10.00
Vel Max	PLC	Ris	Inv
60.00	46	0	-1
Tacc	Var	Gruppo	
0	0	0	
		 UPLOAD	 RES.INS.
		 STOP	

A Code: alphanumeric code number identifying the motor (display only)

B Description: description of the motor (display only)

C Selection: status of the motor (ON/OFF)

D PLC: PLC output for motor command

E Res: motor status response input

F Inv: number of associated inverter

G startup T: start-up time in ms

H Var: variation in logic status

 The parameters not described are for the use of the assistance service only.

B.4.4 Speed

The following table shows the speed parameters.

Ambienti Comandi Socket ?			
Codice		VELOCITA'	
CGOV01		VELOCITA'	
CPSG	CFG	Vel. MAX	Vel. PRG
C	1	15.00	15.00
Num. analog.	Override	Gruppo	Variar
-1	100	0	0
   			

A Code: alphanumeric code number identifying the speed (display only)

B Description: description of the speed (display only)

C MAX. speed: maximum speed in metres/minute

D PRG. speed: current programmed speed

E Analo Num.: number of the analogue channel used by the control

F Override: multiplication factor with respect to track speed

 The parameters not described are for the use of the assistance service only.

B.4.5 Micro

The following table shows the parameters of the micros.

Ambienti Comandi Socket ?					
0				F.C. Lista 0	← →
A Of. T	B Of. C	C SPC	D IGE	E Lu. M	
0	0	540	1000	2500	
F Enc.	G In. m	H No. P.	I P. Min.		
0	1	0	30		
<input type="text"/>					
	01	UPLOAD		RES.INS.	STOP

- A Of. H:** head position reset offset in mm
- B Of. T:** tail position reset offset in mm
- C TPD:** track pinion development
- D ERP:** encoder revolution pulses
- E M. Le.:** machine length in mm
- F Encoder:** encoder channel associated to the micro
- G M.in.:** input associated to the micro
- H No. P.:** number of panels in the machine relative to the micro (display only)
- I P. Min.:** minimum panel length

B.4.6 Insertion device

The following table shows the parameters of the insertion devices.

Ambienti Comandi Socket ?			
Codice		INSERITORE	
RT1U03		RETTIFICAT POST.	
CPSG	P	Delta	T1
C	0	230	0
T2	Tipo	Cmd	Micro
0	1	47	0
Quota	In	Quota	Out
0	BW	-100	BW
01		RES.INS.	STOP

- A Code:** alphanumeric code number identifying the insertion device (display only)
- B Description:** description of the insertion device (display only)
- C CPSG:** type of insertion device programming:
C: the insertion device can be programmed from the configuration page (does not appear in SYNOPTIC environment);
S: the insertion device can be programmed from the programming page (SYNOPTIC environment).
- D P:** activation (1) or deactivation (0) of the insertion device
- E Delta:** distance between the reference micro and the reference unit
- F T1:** unit lead-in time in ms
- G T2:** unit lead-out time in ms
- H Type:** type of command on the unit
- I Cmd:** indicates the progressive number of memories
- J Micro:** reference micro
- K Position:** lead-in position of the insertion device
- L In:** insertion device lead-in reference:
FW: panel head reference
BW: panel tail reference

B. Description of the environments

P: Park

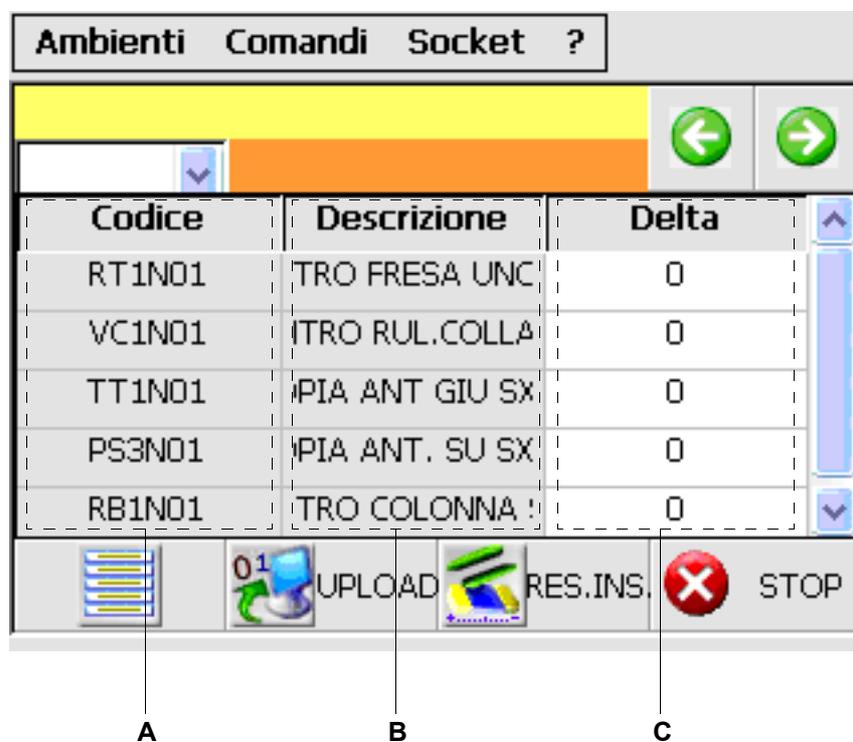
M Position: lead-out position of the insertion device in mm

N Out: insertion device lead-out reference

 The parameters not described are for the use of the assistance service only.

B.4.7 Insertion device reference

The following table shows the reference parameters for the insertion devices.



Codice	Descrizione	Delta
RT1N01	TRO FRESA UNC	0
VC1N01	ITRO RUL.COLLA	0
TT1N01	PIA ANT GIU SX	0
PS3N01	PIA ANT. SU SX	0
RB1N01	TRO COLONNA	0

A B C

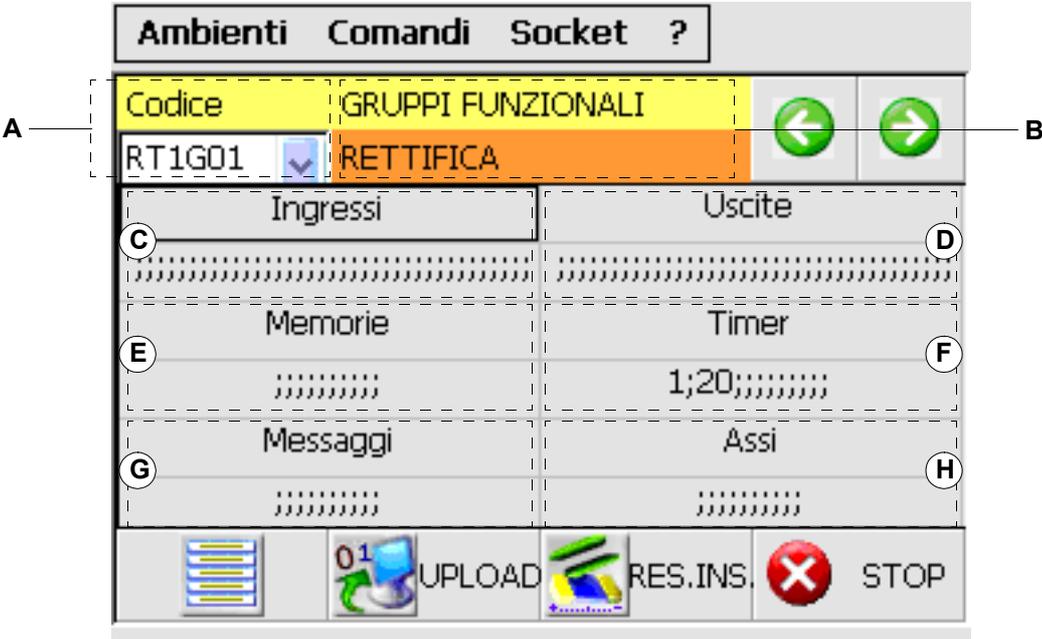
A Code: alphanumeric code number identifying the unit and the reference (display only)

B Description: description of the reference (display only)

C Delta: distance between the unit and the reference

B.4.8 Working units

The following table shows the parameters of the working units.



- A **Code:** alphanumeric code number identifying the working unit (display only)
- B **Description:** description of the working unit (display only)
- C **Inputs:** index of working unit inputs
- D **Outputs:** index of working unit outputs
- E **Memories:** index of working unit memories
- F **Timer:** index of working unit timers
- G **Messages:** index of working unit messages
- H **Axes:** index of working unit axes

B. Description of the environments



- I **Selection:** index of working unit selections
- J **Motor:** index of working unit motors
- K **Speed:** index of working unit speeds
- L **Insertion device:** index of working insertion devices
- M **Counter:** index of working unit counters
- N **Regulators:** index of working unit Pids

B.4.9 Regulators

The following table shows the parameters of the regulators.

Ambienti Comandi Socket ?			
Codice		REGOLATORI	
VC1C01		RULLO	
Setpoint	Valore	Dutyc.	Led
0.0	0.0	100	0
TipoPrg	Fondoscala	Prerisc	Lavoro
G	250.0	145.0	190.0
Offset	Consenso	Isteresi	Config
0.0	160.0	15.0	0
		 UPLOAD	 RES.INS.
		 STOP	

- A Code:** alphanumeric code number identifying the regulator (display only)
- B Description:** description of the regulator (display only)
- C Set point:** reference temperature (display only)
- D Value:** temperature value read (display only)
- E Duty cycle:** percentage value of the ON period with respect to the OFF period
- F Led:** status of the regulator (display only)
- G PrgType:** choice of display level of regulator data (configuration C, programming P, synoptic S and general G)
- H End of scale:** temperature limit
- I Preheat:** preheat temperature
- J Work:** working temperature
- K Offset:** set temperature correction margin
- L Consent:** consent temperature
- M Hysteresis:** lower set point for switch off
- N Config:** work mode at machine start up

B. Description of the environments

Ambienti Comandi Socket ?			
Codice		REGOLATORI	
VC1C01	RULLO		
Selezione	BandaSup%	BandaInf%	Periodo
O 2	P 5	Q 5	R 8
KP	KI	KD	Gruppo
S 11000	T 1190	U 25438	V 0
Out	AIN	Timer	Timeout
W 17	X 0	Y 0	Z 0
	01 UPLOAD	RES.INS.	STOP

- O Selection:** choice of regulator operating mode (off/preheat/service)
- P UpperBand %:** percentage value with respect to the set temperature (set point) above which the regulator intervenes
- P LowerBand %:** percentage value with respect to the set temperature (set point) below which the regulator intervenes
- R Period:** time interval between temperature readings (in seconds)
- S K_p :** proportional constant
- T K_i :** integrative constant
- U K_D :** derivative constant
- V Unit:** working unit to which the regulator refers
- W Out:** on/off output index
- X AIN:** temperature measurement analogue index
- Y Timer:** regulator timer index
- Z Timeout:** timeout for automatic switch-on/switch off (in tenths of a second)

Ambienti Comandi Socket ?			
Codice		REGOLATORI	
VC1C01	RULLO		
Out	AIN	Timer	Timeout
17	0	0	0
Stato	Val.Prec	Period.ON	Period.OFF
AA 1	AB 0.0	AC 800	AD 0
Errore	BandaSup	BandaInf	Acc.KI
AE 0;0;0;0	AF 105	AG 105	AH 0
	01	RES.INS	STOP

AA Status: regulator status (off/preheat/service)

AB Prev.Value: temperature value read in the preceding period (display only)

AC Period On: percentage of time with regulator active (display only)

AD Period Off: percentage of time with regulator inactive (display only)

AE Error: measured errors

AF Upper Band: value delimiting the intervention band of the regulator

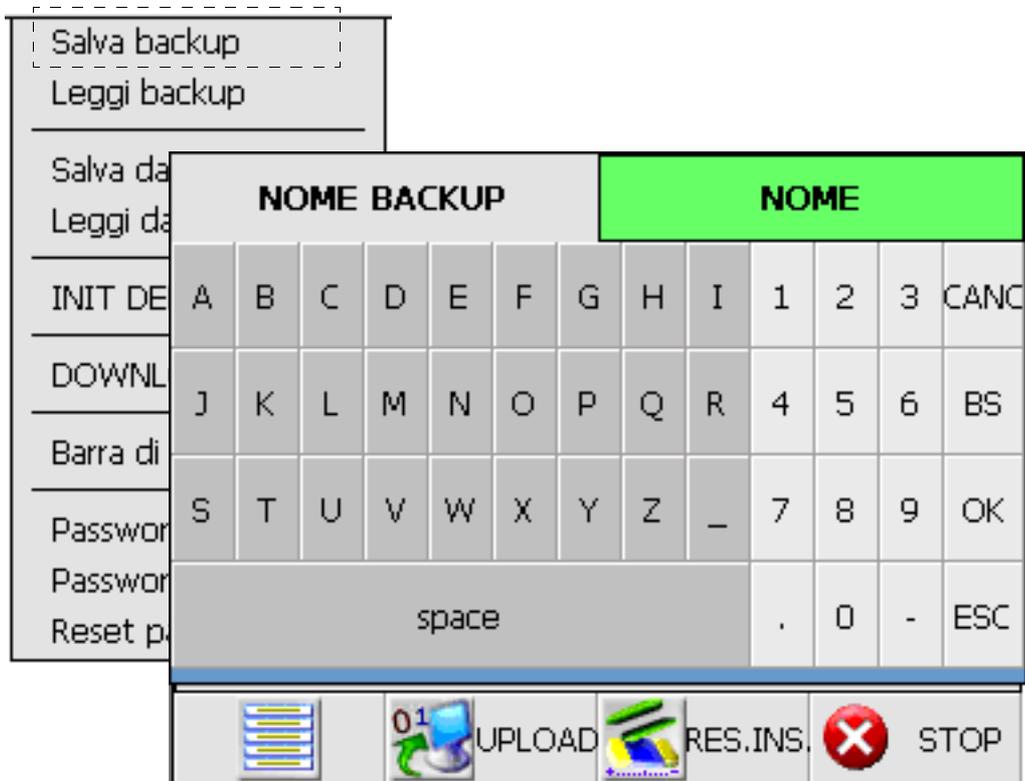
AG Lower Band: value delimiting the intervention band of the regulator

AH Acc KI: incremental integrative accumulator.

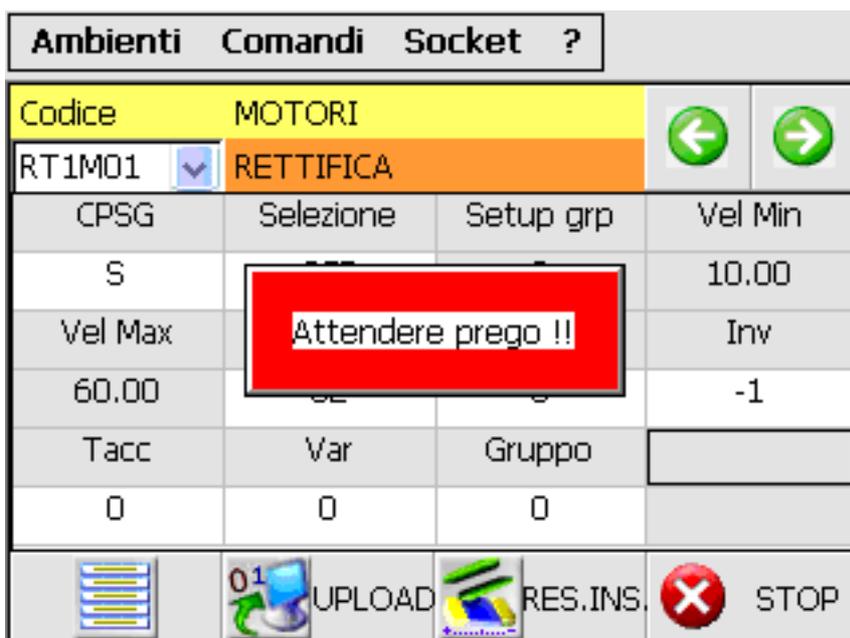
The parameters not described are for the use of the assistance service only.

B.4.10 Save backup

Save the data before shutting down the system and turning off the machine.



Wait until the following message closes:





BIESSE S.p.A.

Sede legale

Via della Meccanica, 16

61100 Pesaro (PU) Italy

Tel. +39 0721 439100

Fax +39 0721 439150

sales@biesse.it

www.biesse.com