Sommario

~~BOZZA~~

P1P20FK20 - 001 : User Manual

Document	**P1P20FK20-001**
Description	Operation
Drawn up	Michele Sandri
Approved	Gabriele Bazzi
Link:	http://www.qem.eu/doku/doku.php/en/strumenti/qmoveplus/j1p20/mdu_p1p20fk20-001/setup_-_tarature_-_funzionamento
Languages	English - Italiano

Release	Description	Notes	Date
01	New Manual		10/04/14

Contents

3. Description

The **P1P20FK20 - 001** application software installata on the hardware *Qmove J1-P20-FK20*, is a controller for marble edging machinery with a maximum of 14 heads, providing the possibility to control the startup of the head motors and eventual movement of a floating system. Each head can be given an advance/lag on the start and end of the piece.

Main characteristics

- Touchscreen buttons to enter data and operations
- Program edit and run screens
- Independent on/off for each head
- Alarm and warning messages
- Cancel functions on all or only selected pieces

3. HMI

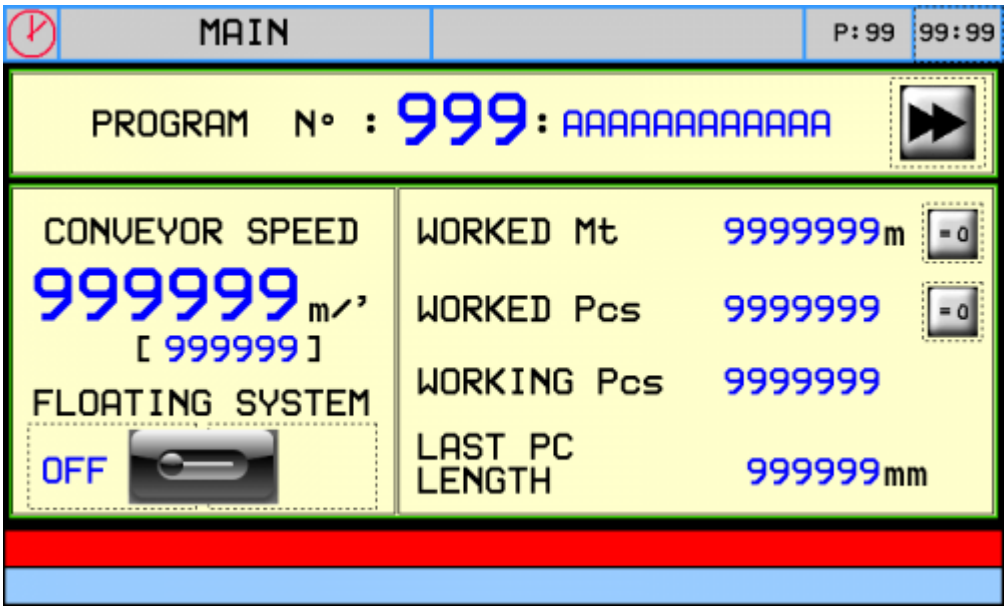
Standard Buttons

- Yellow settings can be modified. Press to change, use the keypad to enter a setting.
-  Select multiple choice parameters.
-  Confirm parameter setting
-  Go to previous screen
-  or  Change screen

Function keys

Function key	Led	Function	Hardware
	-	Main Menu	J1P20-FK20
	-	Manual operations	
	-	Program select	
	-	Reset pieces	
	-	Diagnostic	
	-	Alarms screen	
	-	Previous screen Press 1 second for Main screen	

3. **Top and Bottom Bars**



The Top Bar:	. Machine state .	. Screen name .	. Time .

Machine states

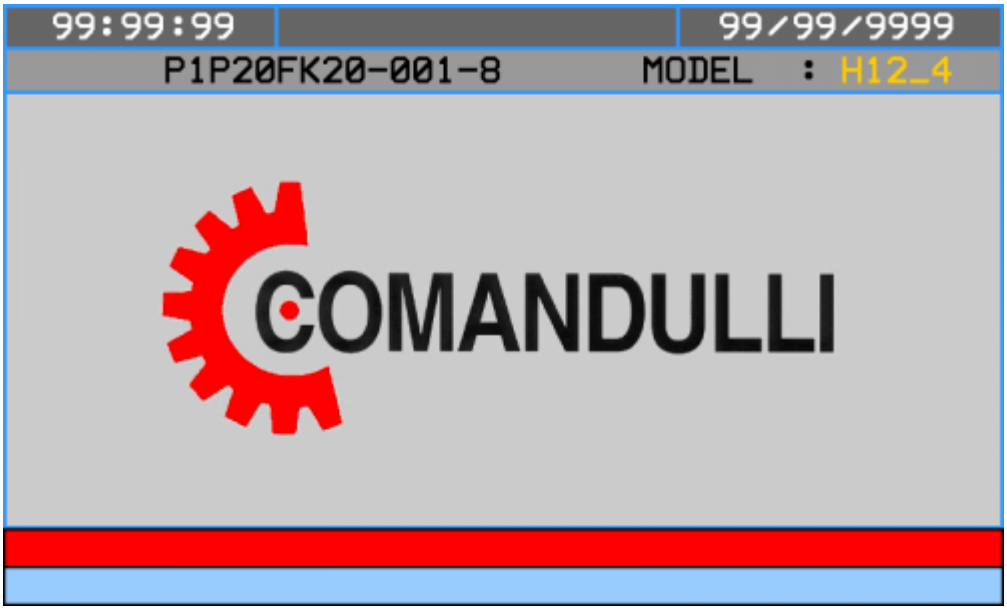
State	Icon	Description
INITIALISING		Machine startup, loading data
MANUAL		Machine in manual mode
SETUP		Machine in setup (reserved area)
PROGRAMMING		Machine in program edit
AUTO ON		Machine in automatic mode
ALARM		Machine in alarm mode

The Bottom Bar:	Red bar: most recent alarm	Blue bar: warning messages

Warning Messages

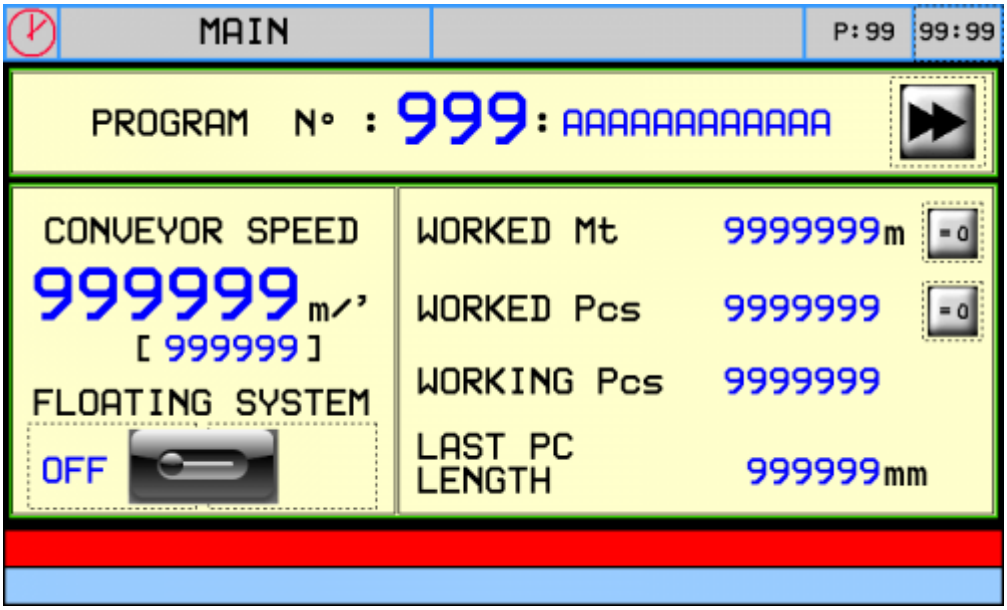
Message	Description
Too many pieces in machine	Too many pieces are on the conveyor (>30). Stop the piece feed to allow the machine work the pieces already loaded.
Waiting for power system...	The machine is waiting for the power system to be ready before quiting the initializing state
Zero floating system on	Searching for the zero position of the floating system
Zero floating system timeout	The set time to search for the floating zero has expired

3. Start Screen

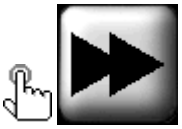


The machine will wait until the power system is ready before going to the main screen Progress messages are given during this time.

Main screen

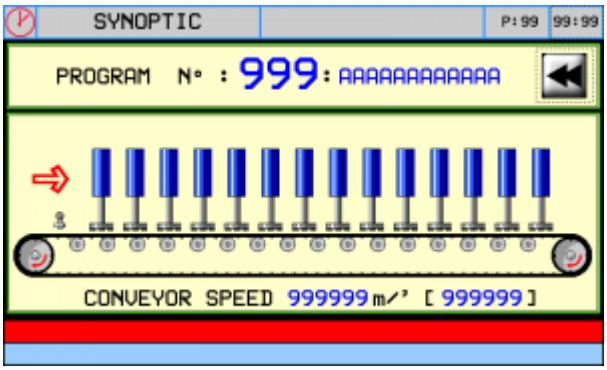


Name	Description
Program N°:	Program number and description of work in progress.
Conveyor speed	Conveyor speed in m/min.
Floating	Floating system On/Off.
Worked Mt	Total material worked by the machine in metres.
Worked Pcs	Total pieces worked by the machine.
Last Pc Length	Length of the last piece to enter the machine.

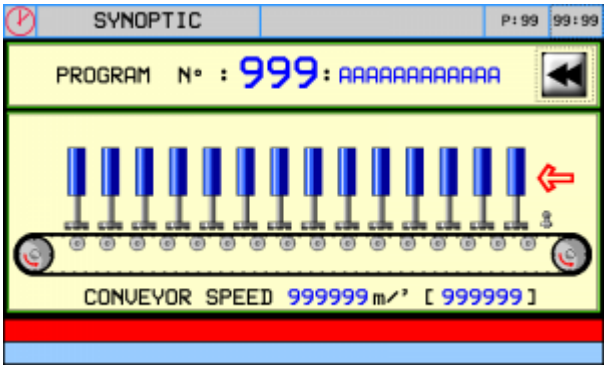
 and  to go from one main screen to another:

Main Screen 2

The screen format depends on the machine layout:



= machines with piece feed from left



= machines with piece feed from right

Display showing heads working, conveyor movement and speed, the piece infeed sensor state and the mandrel motor states.

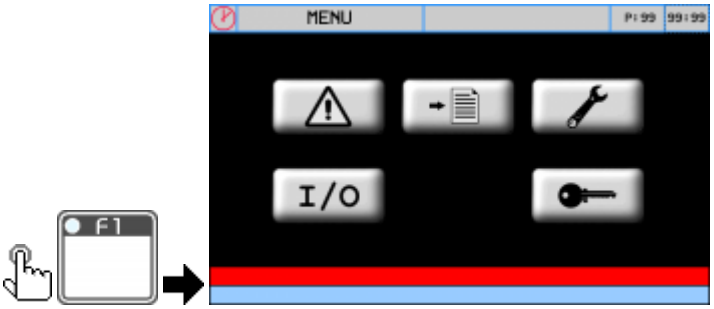
Heads ON/OFF Utility

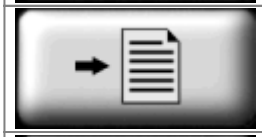
A shortcut panel to control the heads:

Head on

Head off

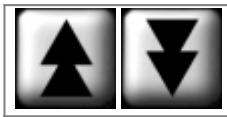
3. Menu



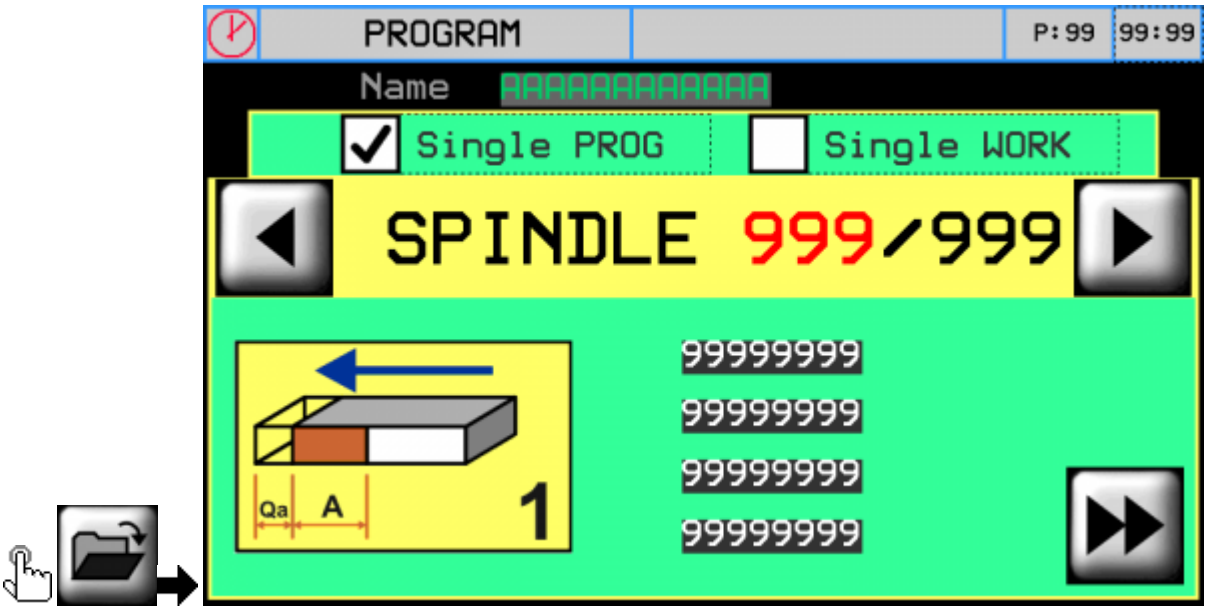
Button	Description
	Alarm screen
	Programming screen
	Functions menu
	Input/Output Diagnostic menu
	Reserved area (password needed)

3. Work Programs

Touch a program to select it.

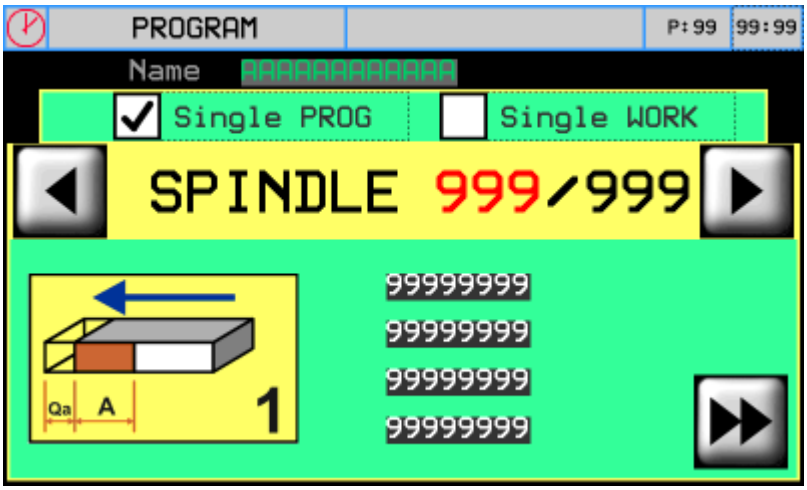
	Scroll the program list
	Mark the program to work
	Open the program to edit it

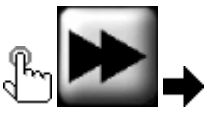
3. **Program editing**



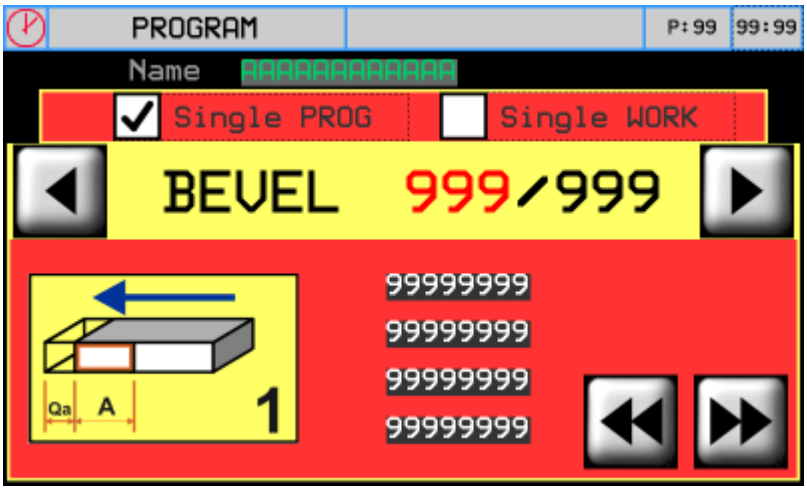
A work program includes:	• Mandrel work parameters • Bevel work parameters

Steps to edit a work program:





Bevel programming screen:



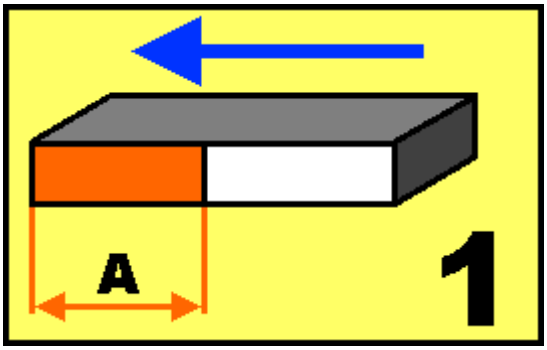
Touch a program name to change it.

Select if the program is for all heads or a single head:

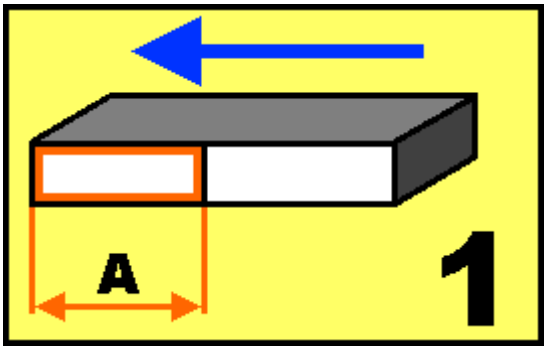
Button	Description
 : Uniform setting	Mandrel/Bevel program parameters valid for all Mandrels/Bevel on machine. The Head number scroll cannot be used
 and 	Change the Head number

-  the diagram on the left and select the work type, according to the head type.
-  and set  and  according to the parameters requested in the diagram.
-  is the work area, WHITE is the no work area

WORK 1

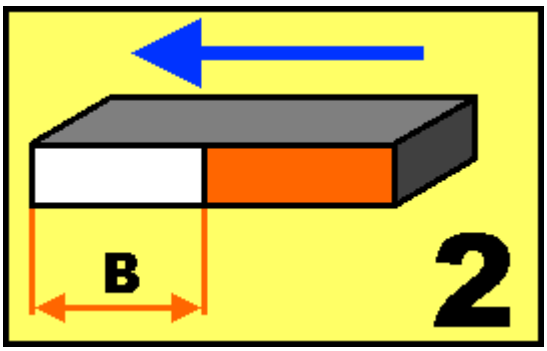


for Mandrels

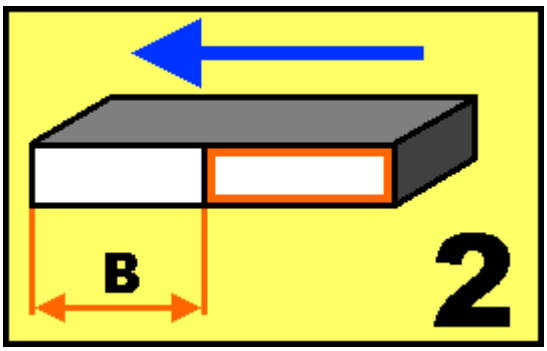


for Bevels

WORK 2

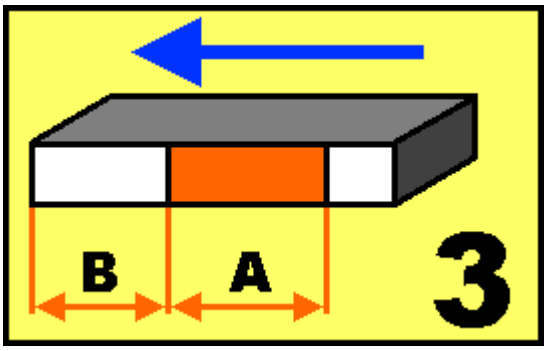


for Mandrels

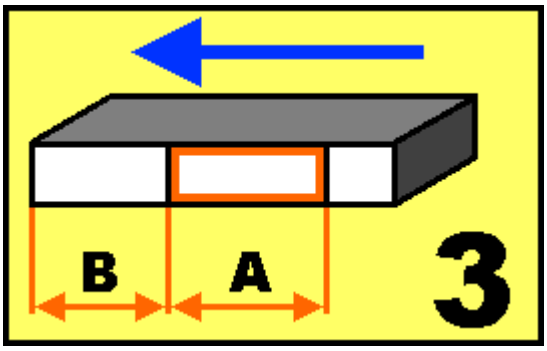


for Bevels

WORK 3

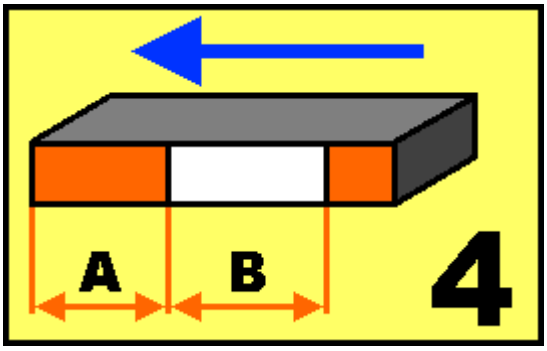


for Mandrels

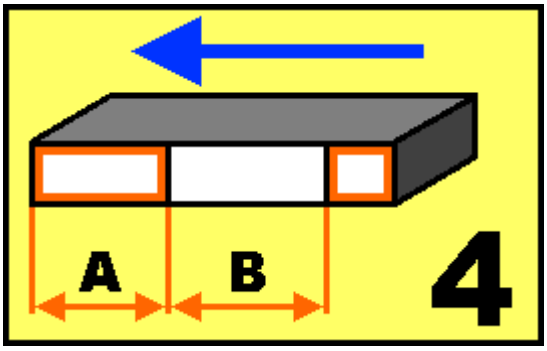


for Bevels

WORK 4

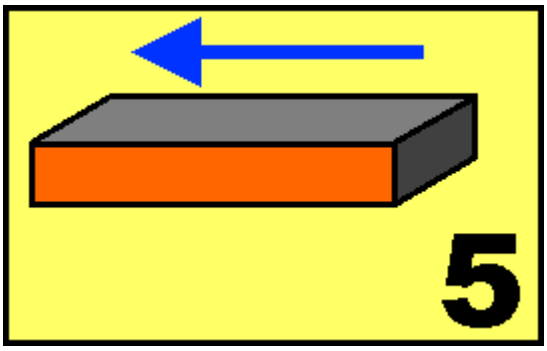


for Mandrels

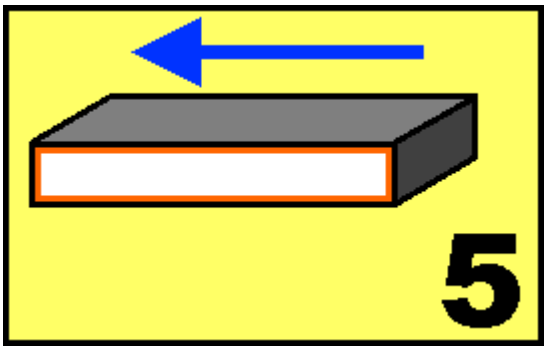


for Bevels

WORK 5

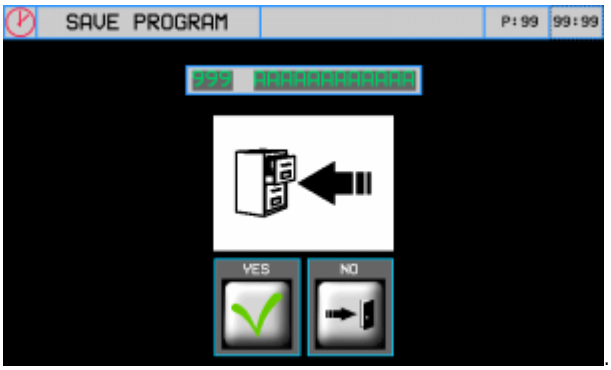


for Mandrels

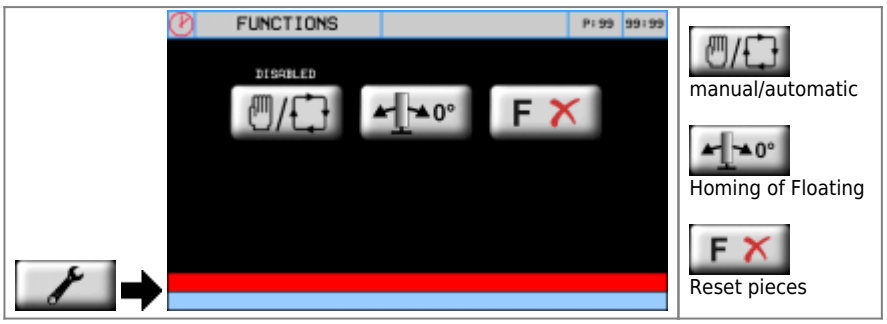


for Bevels

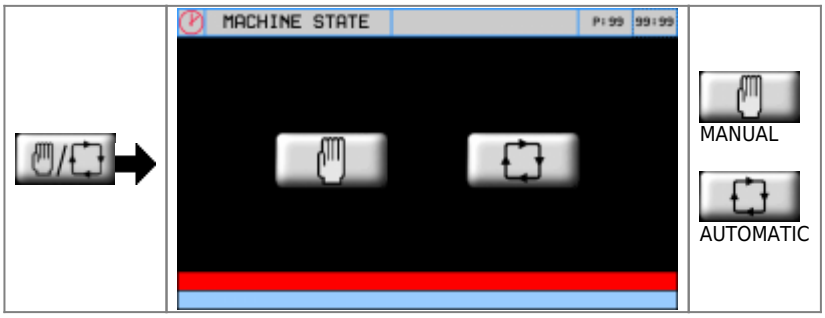
When exiting the screen, confirm to save the program :



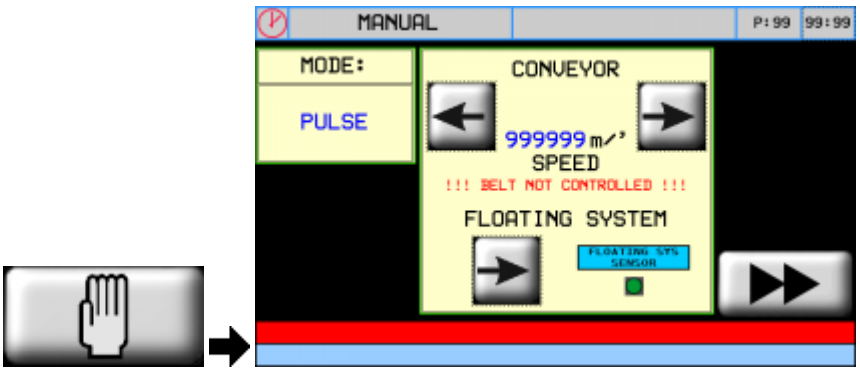
3. Functions menu



Manual/Automatic



3. **Manual**



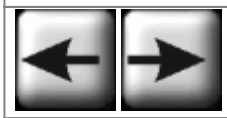
Functions in this screen:

- Move conveyor by manual jog (only if implemented)
- Move the floating system by manual jog (only if implemented)
- Command each head up/down and motor start

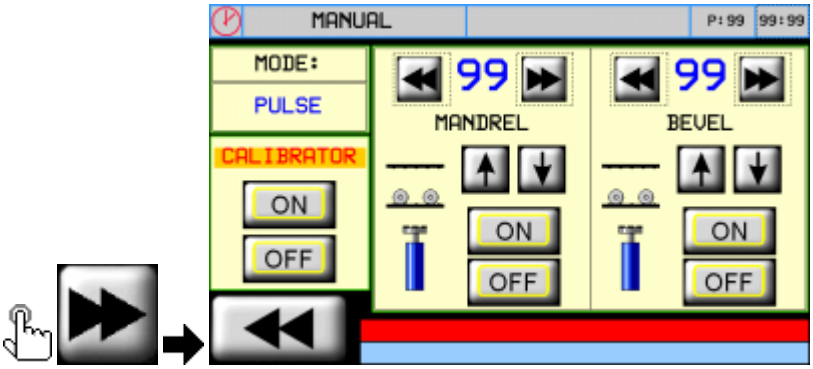
To operate a movement, select the touch buttons for the function and press Start. **MODE** indicates indicate the manual operation mode:

- PULSE = keep Start pressed to operate the function, release to stop (standard)
- CONTINUOUS = press Start to operate the function, press to stop

MANUAL Screen 1: conveyor and floating system

Button	Description
CONVEYOR	
	Select forward or backward jog direction. The real speed is given in m/min
FLOATING SYSTEM	
	Select jog movement of the floating system

3. **MANUAL Screen 2: head up or down and motor start**



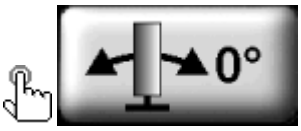
- **Select a head**

Button	Description
	Select UP for selected head
	Select DOWN for selected head
	Select OFF for the selected head motor
	Select ON for the selected head motor

The diagram next to the buttons shows the state of the selected head.

In manual mode the heads are disabled. If a piece is fed into the machine, it is detected but not worked.

3. Homing of floating system



Start ZERO homing procedure on the floating system

Description

1 - the floating system is operated until the zero sensor input is not received once

2 - the second time the sensor is tripped, a timer is started equal to the time from the previous input plus a setup parameter

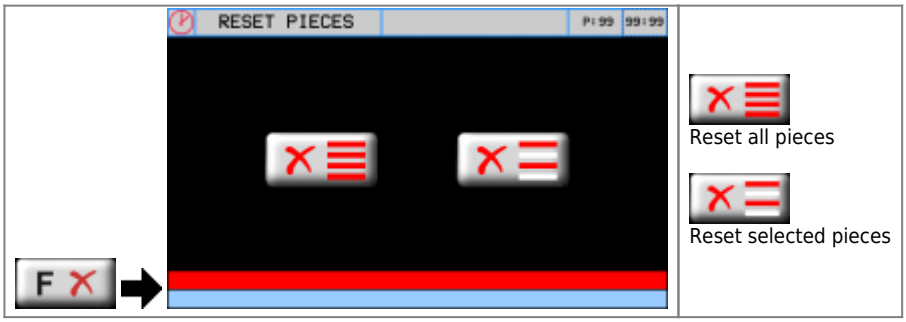
3 - when the timer ends, which should correspond to a full cycle of the floating system, a control checks that the system is at the zero sensor

4 - if the system stops before or after the sensor, the homing starts again, increased or decreased by a the time, plus or minus a setup parameter

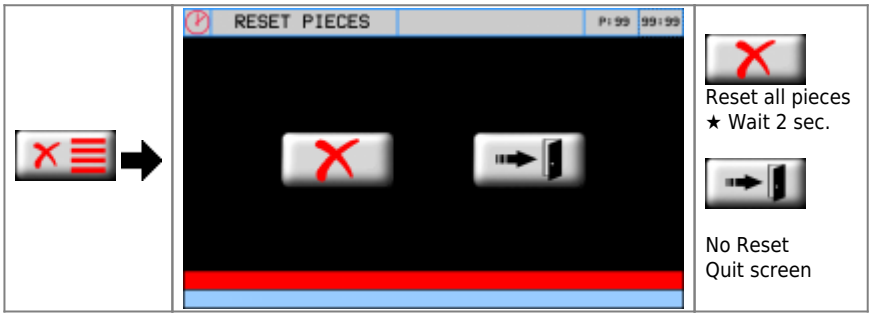
5 - the cycle is repeated until the system stops exactly on the zero sensor

6 - Each cycle is delayed for a set time.

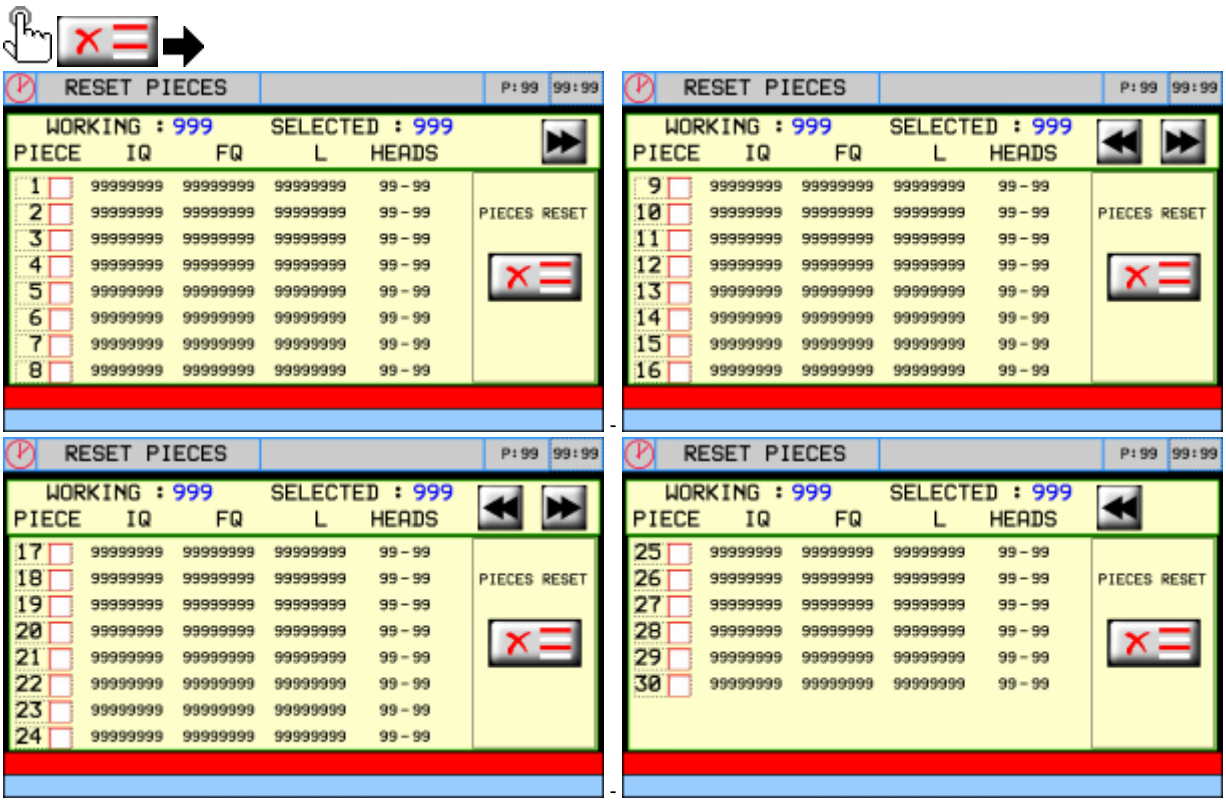
3. **Reset pieces**

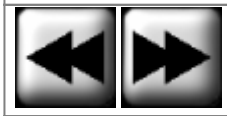


Reset all pieces



3. **Reset selected pieces**



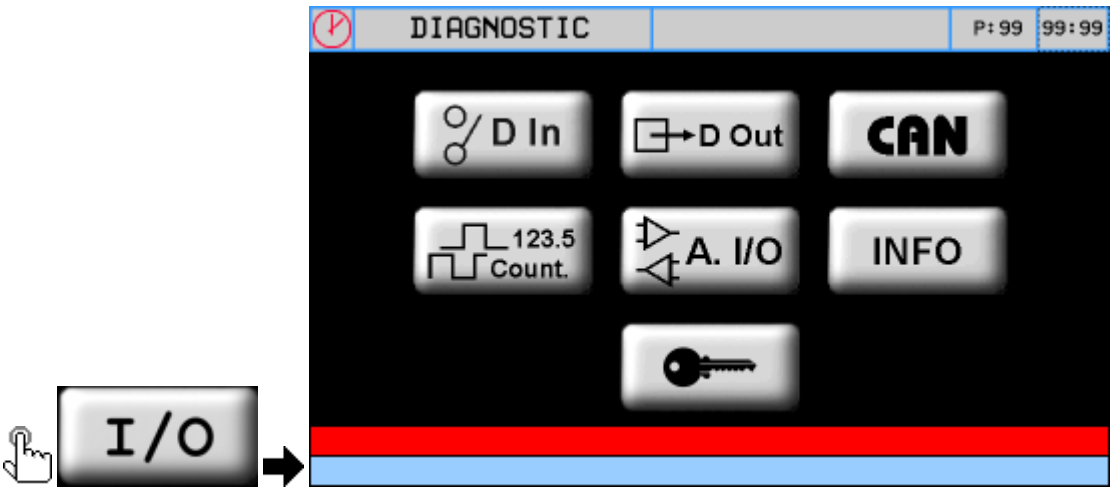
Parameter	*Unit measure*	*Description*
IN WORK	-	How many pieces are loaded in the machine
SELECTED	-	How many pieces have been selected for cancellation
	-	Forward and back through the piece data screens. If a screen does not have pieces it is not shown
PIECE	-	The piece number loaded. Touch to select or unselect
QI:Start position	mm	The distance from the piece read sensor and the front of the piece
QF:End position	mm	The distance from the piece read sensor and the end of the piece
L:Length	mm	Length of the piece
HEADS	-	The two heads at the front and end of the piece. An empty space between two heads is indicated by <> next to it

Button	Description
	Confirm selection and go to reset screen

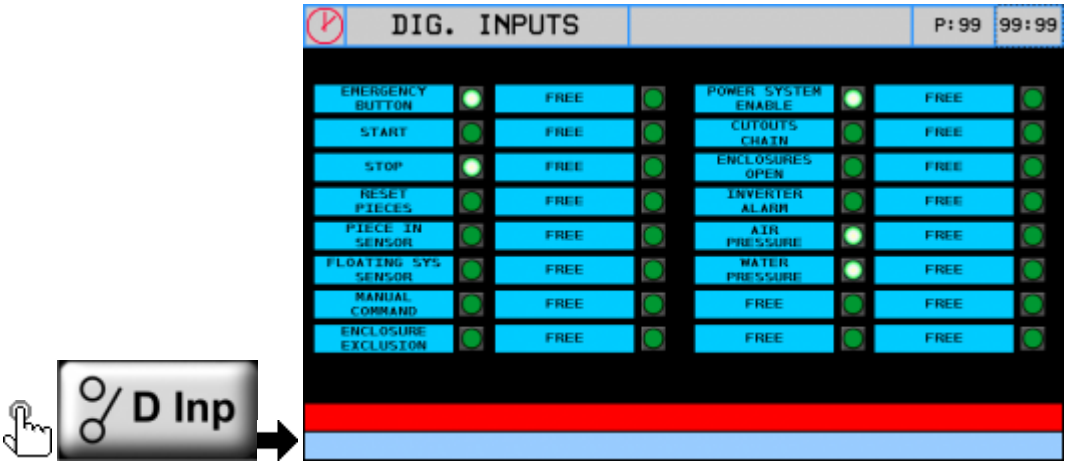
Reset selected pieces
★ Wait 2 sec.

No Reset
Quit screen

3. Diagnostic

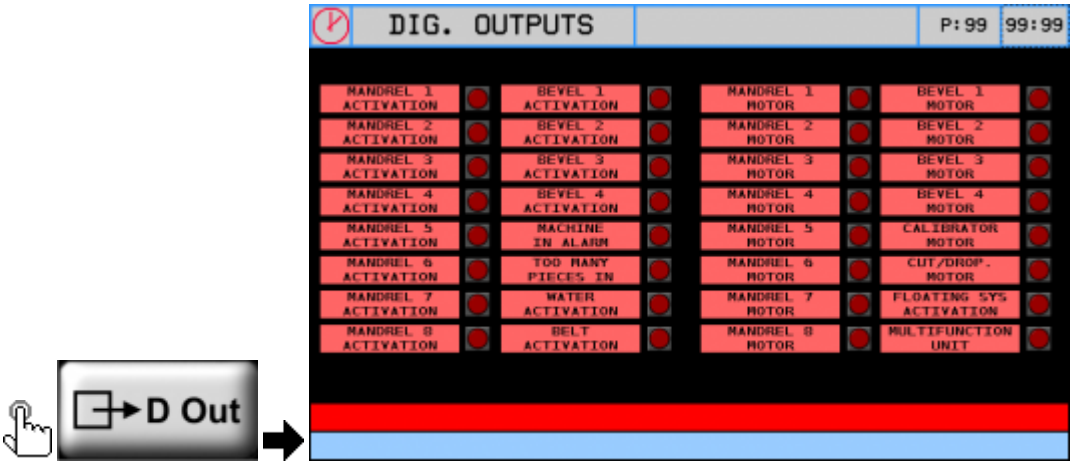


Digital Inputs Diagnostic



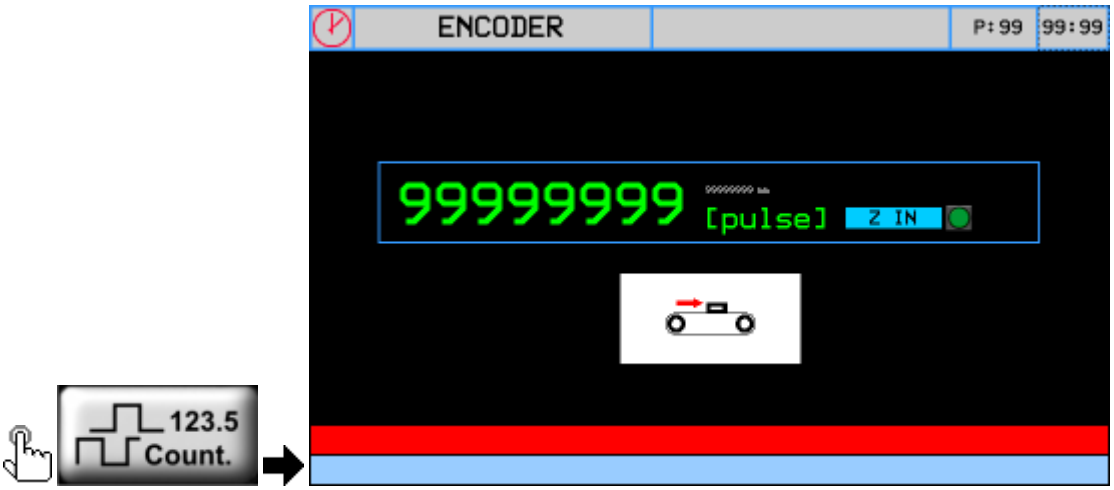
The LED is on when the input is active

Digital Output Diagnostic



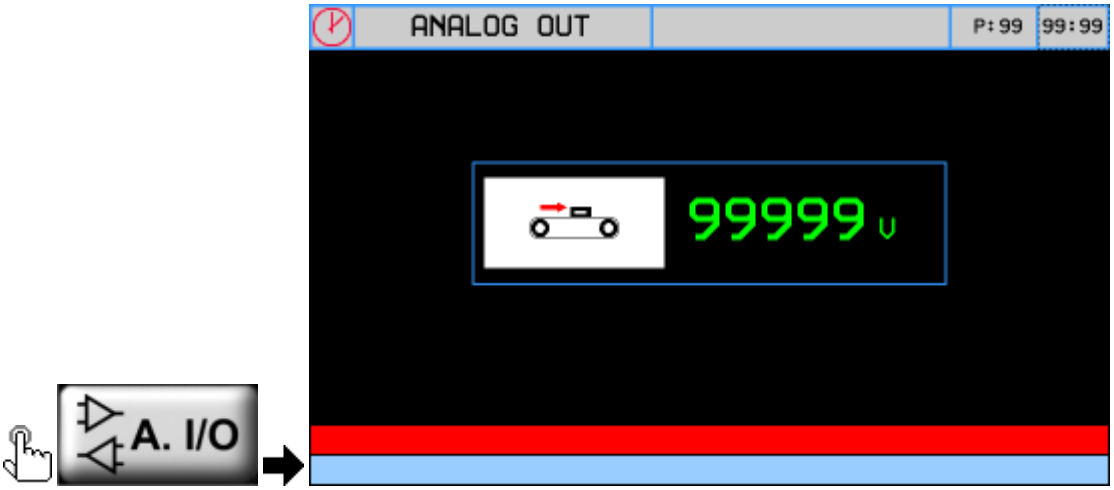
The LED is on when the output is active

3. **Encoder Counts Diagnostic**



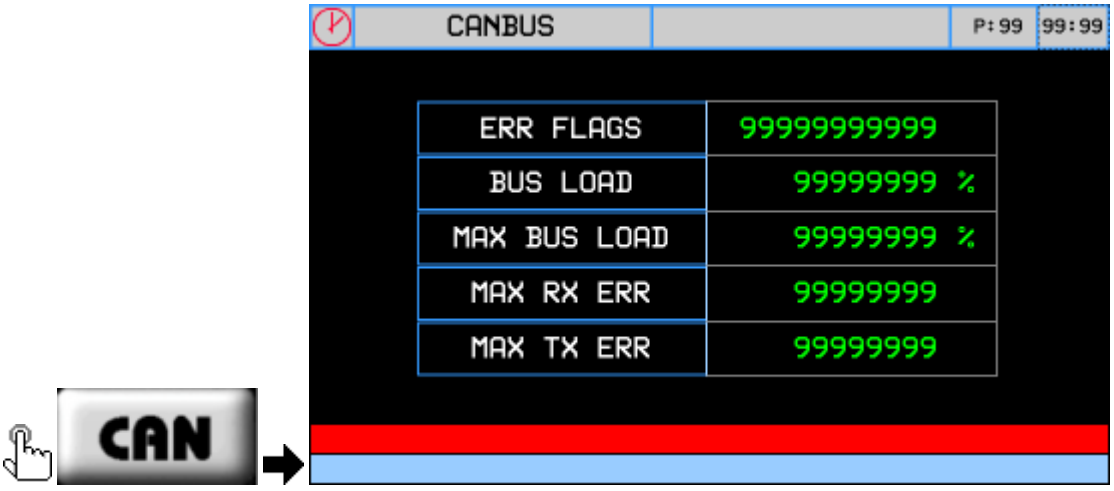
Z IN led shows the Z input state (zero pulse).

Conveyor Analog Out Diagnostic



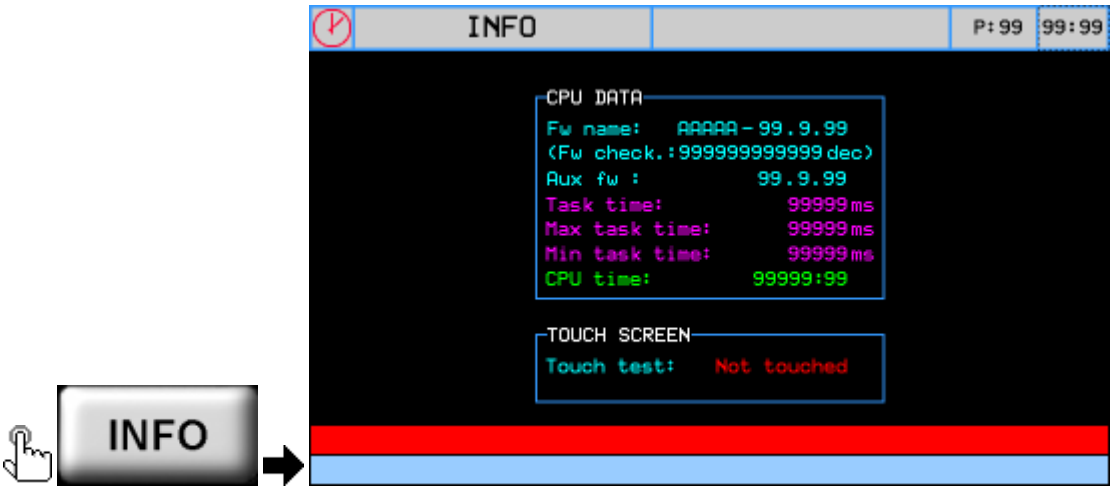
The analog output is given in Volts.

CANbus Network Diagnostic



Canbus Monitor

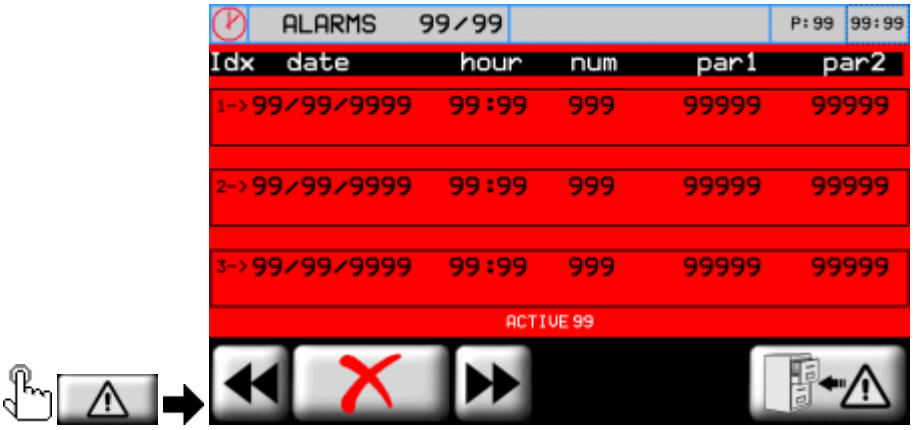
3. **System Information**



Fw name	firmware and checksum
Aux fw	I/O module firmware (only if implemented)
Task time	CPU cycle time : **Minimum, Average, Maximum**
CPU time	CPU time in Run state (hh:mm)
Touch screen	Test touch

3. Alarms

The Alarm messages are given in the screen below:



Alarm Message	Cause
Emergency pressed	The emergency is pressed and the machine disabled
Inverter fault	An inverter fault has been detected
Conveyor encoder fault	No signals from conveyor encoder input.
Thermal cutouts	Check the circuit breakers in the electric cabinet
Enclosures open	Check that all enclosures are closed
No air	heck the compressed air circuit
Can Bus Error	Can network error (only if implemented)
Can Node Guarding	Can node detection error (only if implemented)
Fix Me!	Can module disconnected

	To cancel an alarm : ★ eliminate the cause ★ press the button for 3 seconds

Alarm history listing:

★ To cancel the alarm history
eliminate the causes
★ press the button for 3 seconds

N.B. Alarm history maximum = 60

3. Aftersales Service

Shipment Pack the controller adequately to avoid knocks and crushing during transport.
A good packing will avoid future problems.

Enclose:

- The serial number of the machine mounting the controller
- A description of the fault
- Controller program data (e.g. setup, work distances, parameters, etc)

A detailed description with allow a rapid identification and solution to the problem.