Inhaltsverzeichnis

P1P20F - 005 : Setup - Calibration - Operation

1. Informations

1.1 Release

This document is valid except for errors or omissions.

Document:	**mdu_p1p20f-005**
Description:	User manual p1p20f-005
Editor:	Michele Sandri
Approver	Gabriele Bazzi
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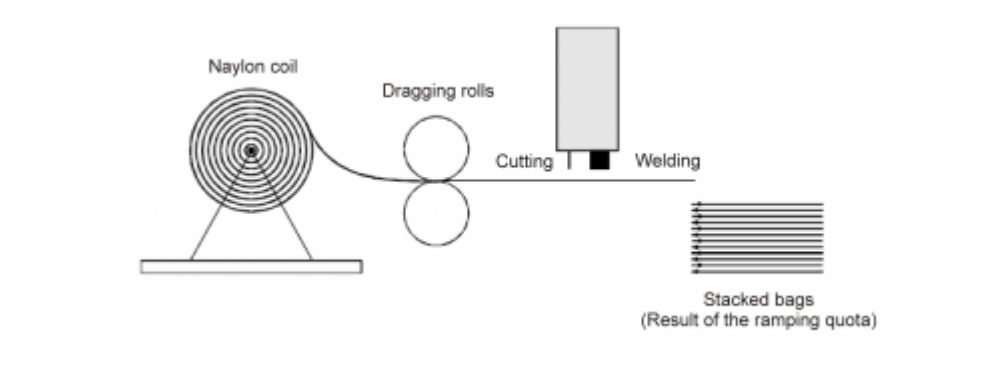
Language:	English

Document Release	Description	Note	Date
01	New manual		20/04/2017

1.1.1 Specifications/Copyright

2. Description

The **P1P20F - 005 application,** installed in the *Qmove J1-P20-FZ20 hardware,* manage a standard automatic cutter with 1 move forward axis and 1 optional axis for the cams management. The parameters that determine the mode of operation are only accessible to the installer by the introduction of a password.



2.1 Features implemented in the current proposal

- 1 axis control via +/-10Vdc analog output
- 1 axis control through 0-10 Vdc analog output (optional)
- Manage multiple levels of password access for operator, maintainer and installer
- Management of work programs identified by number and name
- Touchscreen functionality for data and actions introduction through buttons
- Operator Support Messaging
- Alarm Messaging
- Diagnostic pages

Special Working:

- Tailored bag cutting
- Bag cutting with Photocell
- Ramping quota
- Retreating to start bag
- Retreating to stop production
- Double welding
- Fast output for flight processing
- 7 accessories activated with digital cams
- Piece counter
- Temperature control with two thermo-regulators
- Manual jog of both axes
- Choice between the complete or a simpler interface

3. Command bar

The top bar on each page provides the following information:

or

- Machine status
- Page name
- Language in use
- Page Pass Commands
- Return button to Main page
- Menu Input button

3.1 Machine status

The machine states are the following:

-  : machine in initialization - data recovery
-  : machine in manual
-  : machine in setup - calibration
-  : machine in recipe insertion
-  : machine in automatic mode - automatic stop cycle
-  : machine in automatic mode - automatic cycle in progress
-  : machine in alarm

3.2 Buttons used

The buttons that can be used on each page are enabled and illuminated in green. The grey buttons are disabled.

-  : main page
-  : previous page

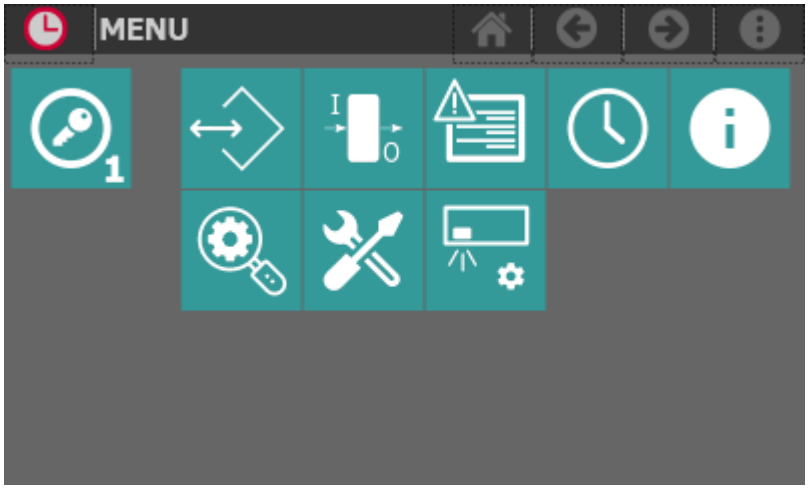
-  : next page
-  : menu page
- By pressing on the flag you go to the language selection page. Currently the implemented languages are:

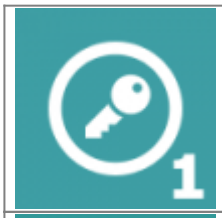
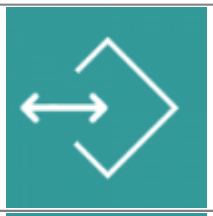
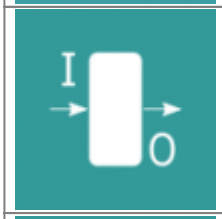
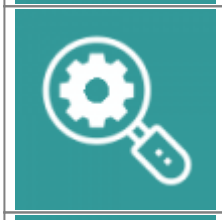
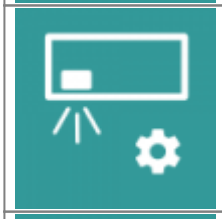
ITALIAN

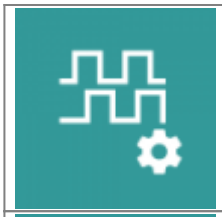
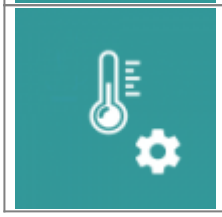
ENGLISH

4. Main Menu

Press the  buttons to access the Main Menu:



	access level change		creation / recipe choice (visible only if the full interface has been selected)
	I/O diagnostics		alarms page
	date and time setting		system info
	working parameters setup		accessory activation
	photocell parameters setup		CAMS setup
	generic setup		Web axis data setup

	WEB axis calibration		PID calibration
	thermoregulation setup		factory data forcing (default)

4.1 Access levels

Depending on the level of access, from the various sections of the menu you can access to the different features:

4.1.1 OPERATOR LEVEL

- It's possible to access without restriction to the menu sections of recipes programming, diagnostics, alarms, system info, setting the date and time
- You can access the working setup sections, accessory activation and photocell setting

4.1.2 MAINTAINER LEVEL

- It's possible to access without restriction to the menu sections of recipes programming, diagnostics, alarms, system info, setting the date and time
- You can access the working setup sections, accessory activation, photocell setting and cams setting
- It's possible to access the setup sections, but the data contained is read-only
- Not visible the access to factory reset

4.1.3 INSTALLER LEVEL

- It's possible to access without restriction to the menu sections of recipes programming, diagnostics, alarms, system info, setting the date and time
- You can access the working setup sections, accessory activation, photocell setting and cams setting
- It's possible to access to the setup sections
- It's visible and allowed access to factory reset

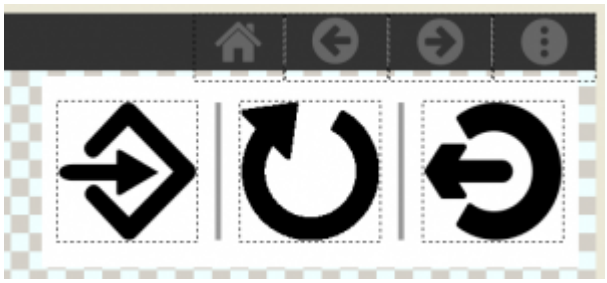
N.B. : Access passwords will be provided by the **QEM srl** to the machine manufacturer, or who will perform the commissioning or maintenance service.

5. Start-up

5.1 Save and exit

The setup pages are equipped with their own menu:

- Press the  button

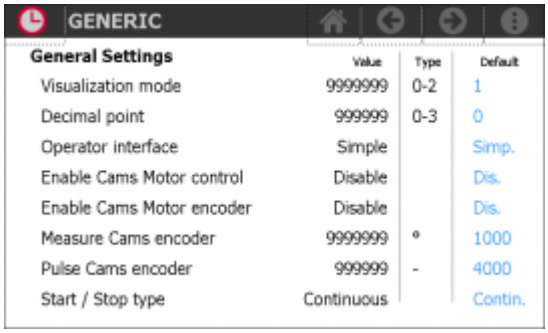


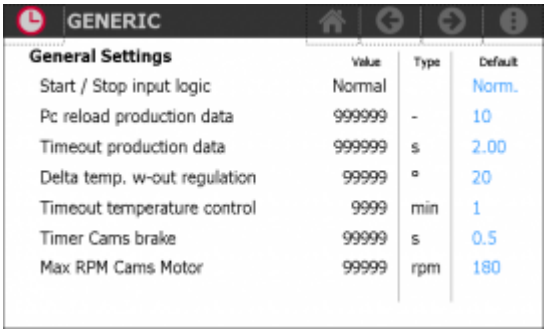
The available commands are:

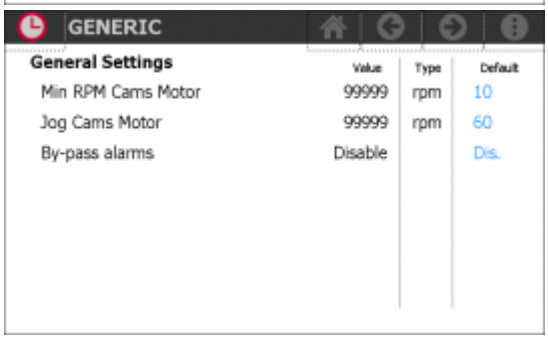
-  **Save and exit** : the setup values inserted are saved in the internal memory and put in execution. You return to the main page.
-  **Reload values** : the setup values inserted are not saved and the values in the internal memory are reloaded. You stay on the same page.
-  **Exit without saving** : the setup values inserted are not saved and the values in the internal memory are reloaded. You return to the main page.

5.2 Generic Setup

To access from the **MAIN MENU** page press the  button





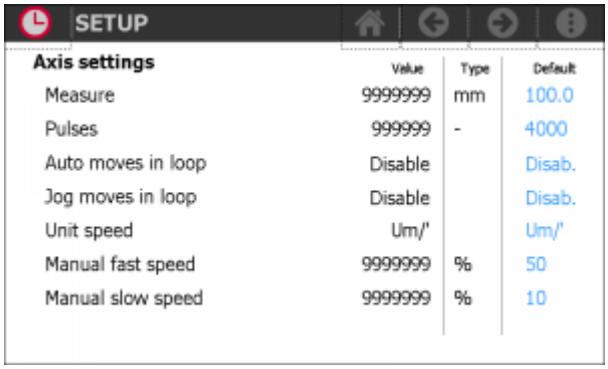


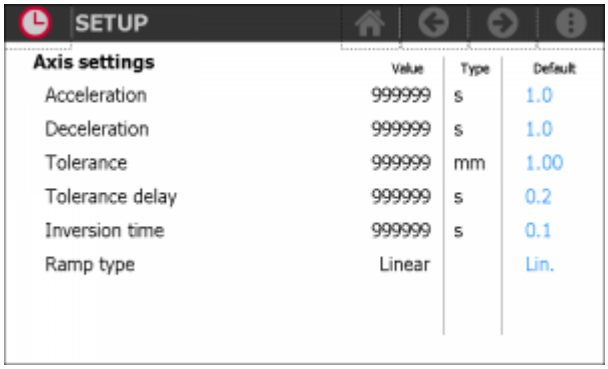
Parameter name	***Unit of Measure***	***Default***	***Range***	***Description***
View mode	-	0	0 ÷ 2	**0**: Normal view **1**: HDR is active, In the middle band between two units **2**: HDR is active on all the counting range
Decimal digits	-	1	0 ÷ 3	It is the position of the decimal point in the dimension views.
Operator interface	-	0	Simple ÷ Complete	Choosing the Operator interface. The simple interface allows a basic machining with only „working type“, „bag length“ and „pieces to make“.
Enabling Cams motor	-	0	Disabled ÷ Enabled	Enables Cams motor control, with the adjust speed mode.
Enabling Cams encoder	-	0	Disabled ÷ Enabled	Enables Cams axis encoder reading. This parameter enables the possibility to use the accessories.
Cam Encoder Measurement	°	100.0	0 ÷ 999999	Indicates the space, in units of measure, covered from Cams Encoder to obtain encoder pulses * 4 set in the **Cams encoder pulses** parameter.
Cams encoder pulses	-	4000	0 ÷ 999999	Indicates the pulses multiplied * 4 supplied by the Cams encoder to get the space set in the **Cam Encoder Measurement** parameter. *The ratio of Measurement to Pulses is the encoder resolution and must have values between 1 to 0.000935.*
Start/Stop type	-	0	Continuous ÷ Impulsive	Sets the START/STOP mode: **Continuous**: only I3 (START/STOP) input, must remain active during the automatic cycle. Any deactivation of the I3 input, suspend the current positioning. **Impulsive**: 2 inputs are used, I3 (START) input, I4 (STOP) input
Start/Stop IN logic	-	0	Normal ÷ Inverted	**Normal** = Activation on the rising front. **Inverted** = Activation on the descent front.
Production counter update	-	10	0 ÷ 9999	It is the number of pieces to be executed to update a new value of the production counter.
Production counter timeout	s	2.0	0 ÷ 9999	It's the maximum time to execute the necessary pieces for the Production counter, beyond which it's also updated.
Max delta temp. without regulation	°	20	0 ÷ 9999	It is the maximum temperature delta that can be recorded without the thermoregulation being active.
Regulation timeout	min	1	0 ÷ 9999	It is the maximum permissible time within which the temperature must begin to increase.
Cams Brake timer	s	0.5	0 ÷ 9999	It is time that passes between the release of the brake and enabling the Cams motor.

Parameter name	*Unit of Measure*	*Default*	*Range*	*Description*
Max RPM Cams motor	rpm	180	0 ÷ 9999	It's the number of pieces per minute at the maximum speed of the Cams motor.
Min RPM Cams motor	rpm	10	0 ÷ 9999	It's the number of pieces per minute at the minimum speed of the Cams motor.
Jog Cams motor	rpm	60	0 ÷ 9999	It's the number of pieces per minute for the jog movements of the cam motor.
By-pass alarms	-	0	Disabled ÷ Enabled	Enabled/Disabled the alarms monitoring.

5.3 Axis Setup

To access from the **MAIN MENU** page press the  button

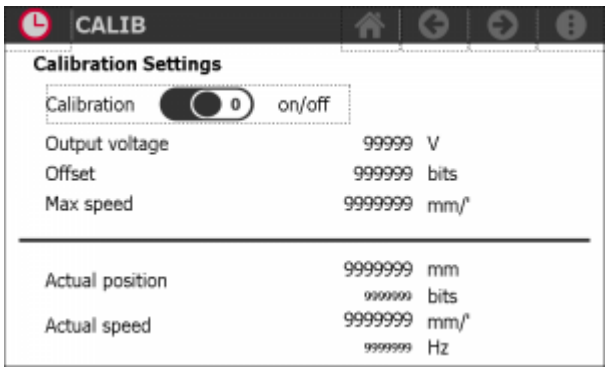




Parameter name	***Unit of Measure***	***Default***	***Range***	***Description***
Measure	mm	100.0	0 ÷ 999999	Indicates the space, in units of measure, covered from Axis Encoder to obtain the encoder pulses * 4 set to the **Pulses** parameter.
Pulses	-	4000	0 ÷ 999999	Indicates the pulses multiplied * 4 provided by the axis encoder to get the space set in the **Measure** parameter. *The ratio of measurement to pulses is the encoder resolution and must have values between 1 to 0.000935.*
Automatic Loop	-	0	Disabled ÷ Enabled	Enable continuous space control or only during placements.
Manual Loop	-	0	Disabled ÷ Enabled	Enable continuous space control in the manual state (movements in jog).
UM speed	-	0	Um/' ÷ Um/s	Speed measurement unit: **Um/'**: Speed in Um per minute **Um/s**: Speed in Um per second
Quick Manual speed	UM	1000	0 ÷ 999999	Axis speed used during manual jog movements with the selector on QUICK. The value is referred to the unit of measure set.
Slow manual speed	UM	500	0 ÷ 999999	Axis speed used during manual jog movements with the selector on SLOW. The value is referred to the unit of measure set.
Acceleration	s	1.0	0 ÷ 999.0	Axis acceleration Ramp. It's the time it takes from the axis to accelerate from zero to the maximum speed.
Deceleration	s	1.0	0 ÷ 999.0	Axis deceleration Ramp. It's the time it takes from the axis to decelerate from the maximum speed to zero.
Tolerance	mm	0	0 ÷ 9999	It's the counting range around the placement dimension that identifies if the placement was successfully completed.
Tolerance delay	s	0.2	0 ÷ 999.0	It is the delay time of the start of the activation procedure of the heads when the axis has entered the tolerance range.
Reversal Timer	s	0.1	0 ÷ 999.0	It is the minimum time that must elapse between two axis movements in opposite directions.
Ramps type	-	0	Linear ÷ S type	It is the type of ramp that uses the axis in acceleration and deceleration.

5.4 Axis Calibration

To access from the **MAIN MENU** page press the  button



On this page you can:

- Find the offset value to compensate for the drive drift
- Find the maximum speed corresponding to 10 Vdc

N.B. : The control must be in the manual state (I2 = OFF) and with the drive enabled (I8 = ON)

Parameter name	*Unit of Measure*	*Default*	*Range*	*Description*
Offset	bit	0	-99999 ÷ 99999	Defines the bit value of the analog output correction, to compensate the drift of the system.
Maximum speed	UM	2000	0 ÷ 999999	Defines the maximum axis speed for the +/- 10Vdc analog reference.

5.4.1 Checking connections

- First check the exact connection of the speedometer dynamo or the encoder phases of the drive
- Enable calibration by tapping the switch  selector
- Insert a low value (ex. 0.5) on **Output Voltage** and observe if the motor turns about at 1/20 of its maximum speed
- By providing a positive voltage, the motor must turn to the „forward“ direction with a speed proportional to the introduced value and the count showed on **Current Position** will have to increase

N.B. : The value introduced on **Output Voltage** it's supplied without acceleration or deceleration ramps.

5.4.2 Offset calibration

- Enable calibration by tapping the switch  selector
- Insert the **Offset** value so as to compensate for the drift of the motor when the space reaction is not enabled

5.4.3 Maximum speed calculation

The instrument is now able to calculate and display the maximum speed value to be introduced in the appropriate parameter.

- Enable calibration by tapping the switch 

selector
- Insert a value in **Output Voltage** and read the speed with which the motor moves on **Current speed**
- Calculate the speed that you get, if you are comparing the speed read with the 10 Vdc. For example, if you insert 1 Vdc, the maximum speed will be (Current speed x 10)
- Insert the result of the calculation in **Maximum Speed**

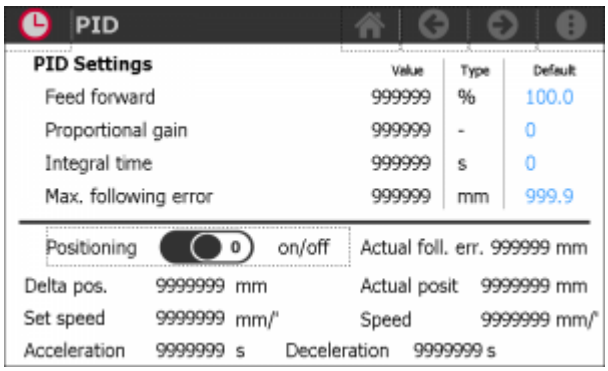
N.B. : The value introduced on **Output voltage** it's supplied without acceleration or deceleration ramps.

5.4.4 Introduction of a value on the count

On this page, you can enter a value in the **Current Position**

5.5 PID Calibration

To access from the **MAIN MENU** page press the  button



On this page you can find the values of the P.I.D. of the axis, through forward / backward movements on dimensions and with test speed.

N.B. : the control must be in the manual state (I2 = OFF) and with the drive enabled (I8 = ON)

Parameter name	*Unit of Measure*	*Default*	*Range*	*Description*
Feed forward	%	100.0	0 ÷ 200.0	It's the percentage coefficient that multiplied by the speed, generates the **FF** part of the control output.
Proportional Gain	-	0	0 ÷ 32767	It's the coefficient that, multiplied by the following error, generates the proportional **P** part of the control output.
Integral time	-	0	0 ÷ 32767	It's time, expressed in ms, that produces the coefficient of integrating the following error. This value generates the integral **I** part of the control output.
Maximum following error	mm	999.9	0 ÷ 999999	Defines the maximum acceptable deviation between the theoretical position and the actual position of the axis.

5.6 Test motion

The forward and backward movements, That the axis executes during the PID calibration procedure, are necessary to vary on the fly the various coefficients to find the most suitable calibration.

- Set the following parameters:

Parameter name	*Unit of Measure*	*Default*	*Range*	*Description*
Delta position	mm	0	0 ÷ 999999	It's the delta of position that the axis executes during the test movements.
Set speed	UM	0	0 ÷ 999999	It's the speed of movement of the axis during the test movements.
Acceleration	s	0	0 ÷ 999	It's the acceleration ramp used by the axis during the test movements.
Deceleration	s	0	0 ÷ 999	It's the deceleration ramp used by the axis during the test movements.

- Activate the test movements by tapping the switch 

selector

During the movements you can read in real time:

- the current position
- the current speed
- the current following error
- to disable test movements, tapping the switch 

selector

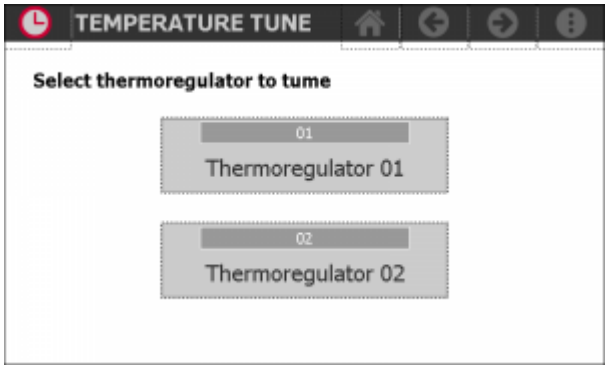
- the exit from the page causes an automatic deactivation

5.7 Calibration Tips

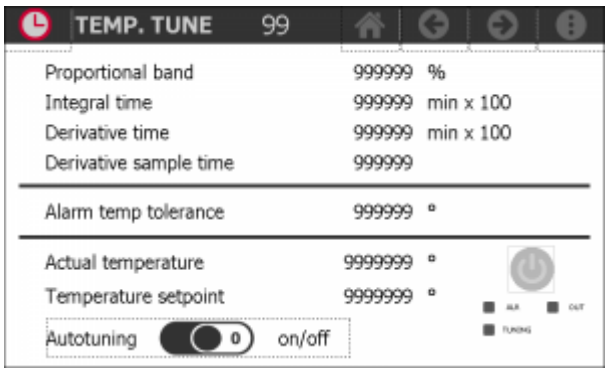
- Starting with a very low **Proportional Gain** value. Initially the axis is very slow, acceleration and deceleration ramps are not respected, maximum speed and position are not reached; means that the value is too low. Increase the value as long as the system will be dynamically passing, but without becoming unstable (pendulating withwith axis in movement And vibrations with still axis)
- Start with a 100.0 % of **Feed forward** value. The value must be increased if the following error is positive when the axis goes forward; in the same way it should be increased if the error is negative when the axis goes backward. Instead, it must be decreased if the error is negative when the axis goes forward; in the same way it should be diminished if the error is positive when the axis goes backward.
- If necessary, starting with the base value of 0.5 s of **Integral time**, gradually lower the time Until you get to a value where the axis improves its dynamic performance while remaining stable rimanendo stabile. Too high or too low values can cause pendulate. Setting 0 function is excluded.

5.8 Thermoregulation Setup

To access from the **MAIN MENU** pages press the  button



Choose the temperature controller that you want to set



Parameter name	***Unit of Measure***	***Default***	***Range***	***Description***
Proportional Band	‰	0	0 ÷ 1000	Proportional Band.
Integral time	s	0	0 ÷ 9999	Integral time.
Derivative time	s	0	0 ÷ 9999	Derivative time.
T camp derived	-	0	0 ÷ 255	Derivative sampling time 0 = PID Controller Sampling time 1 = 2 * PID Controller Sampling time . . n = (n+1) * PID Controller Sampling time
Alarm tolerance	°C	0	0 ÷ 999	It's the acceptable maximum deviation between the read and setpoint temperature during the adjustment.

5.8.1 Autotuning

The PID controller also includes the autotuning procedure, which allows you to automatically calculate the optimal value of the PID adjustment parameters when starting the process. It is therefore important to perform the procedure when the measured temperature is near to that of the environment (balance temperature in the absence of power). The function activates the maximum power set until the intermediate value is reached between the initial temperature and the set-point, then reset the power. The function evaluates the system response, so from the breadth of the overshoot and from the time between the zeroing of the power and the temperature peak, calculate PID parameters. After the evaluation of the response, The function disables itself and the regulator starts adjusting with the new parameters To reach the set point.

5.8.1.1 How to activate the autotuning function:

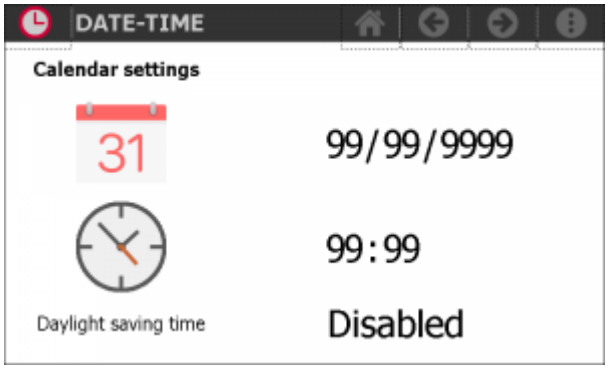
1. Disable adjustment 
2. Set the setpoint to the desired value
3. Make sure that the temperature is near to the environment temperature
4. Enable the autotuning function by touching the switch  selector
5. Enable adjustment 
6. Final stages of calculation

The following errors may occur during the autotuning phase:

1. Proportional band set error
2. Integral time set error
3. Derivative time set error
4. Derivative sampling time set error

5.9 Setting date and time

To access from the **MAIN MENU** page press the  button

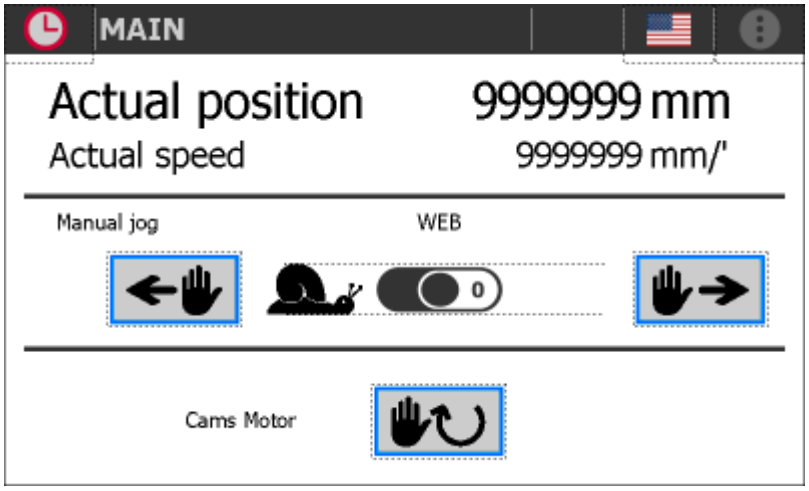


Inserting the correct date and time allows a better management of the alarms history.

6. Use

6.1 Manual

If the instrument is in manual state (I2 = OFF), the following page appears



The upper part shows the current WEB **Position** and **Speed**.

6.1.1 WEB axis manual movements

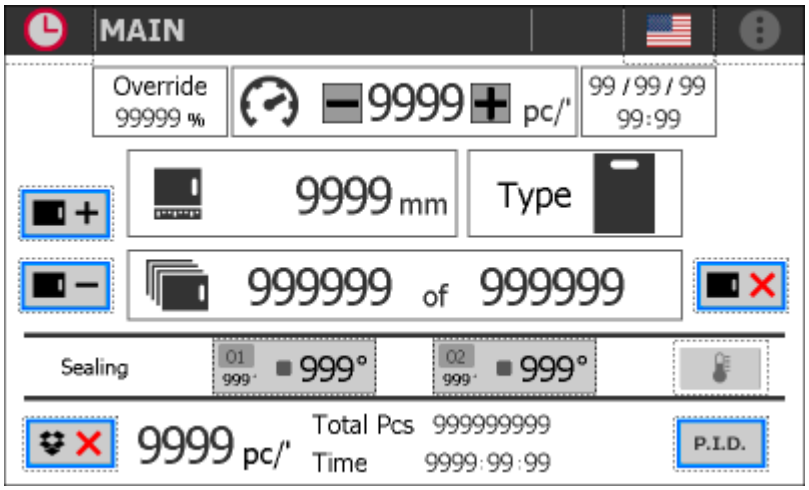
	Press to control the forward jog of the axis.
	Press to control the backward jog of the axis.
	The slow setup speed for jog movements is selected.
	The quick setup speed for jog movements is selected.

6.1.2 Manual Cams axis movements

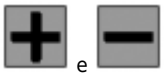
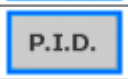
	Press to control the forward jog of the Axis.

6.2 Automatic - Simplified interface

If the instrument is in the automatic state (I2 = ON) and the simplified interface mode is selected, the following page appears



6.2.1 Visualization

Override	Percentage of the WEB axis maximum speed used for placements during the automatic cycle.
	Cams axis speed setpoint in pieces per minute. Used only if the Cams motor has been enabled in generic setup.
	Increases or decreases the speed of the Cams axis. Used only if the Cams motor has been enabled in generic setup.
	Bag length in use.
	Number of bags produced on the total set.
Type	Type of working set.
	Increase of the number of bags produced.
	Decrement of the number of bags produced.
	Zeroing the number of bags produced.
	Move to the positioning chart page.

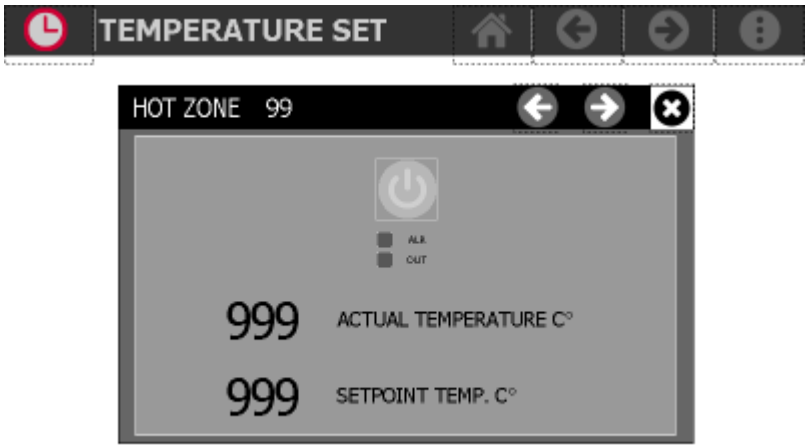
6.2.2 Production counter

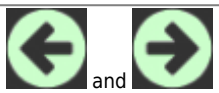
Speed	Current speed of the Cams axis in pieces per minute.
Total piece	Total pieces executed from the last reset.
Time	Total working time from the last reset.
	Production counter reset.

6.2.3 Welders

	Turning on/off the welders enabled.

To enable the single welder, Touch the corresponding gray box:

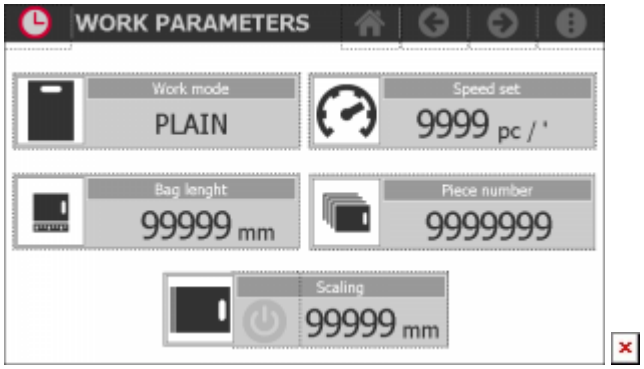


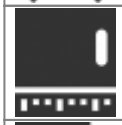
 and	Flows the various thermo-regulators.
	Closes the pop-up setting of the temperature controller.
	Enables the selected temperature controller.
Current temperature	Current temperature (expressed in °C) read by thermocouple.
Temperature setpoint	Temperature setpoint (expressed in °C).

6.3 Simplified interface - Working parameters

To access the working parameter section:

- press the **MENU** button on the top bar 
- access the programming with the appropriate  button

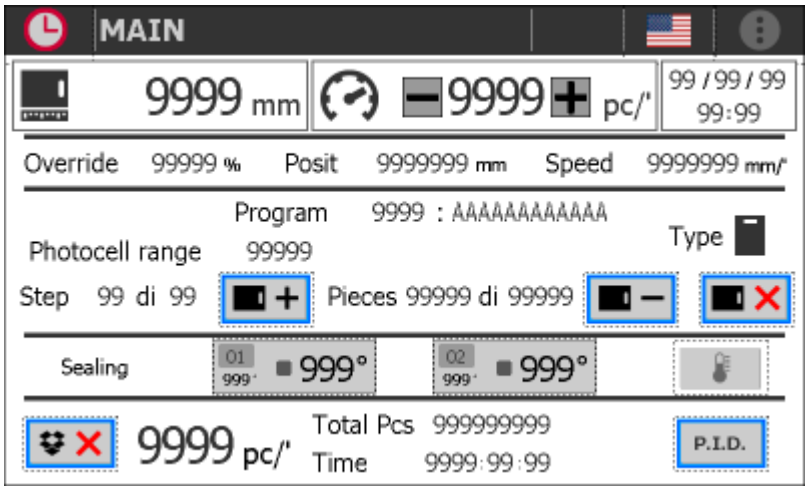


	**Work mode**	Type of working set:  : working to measure  : working with Photocell  : working to measure with double welding  : working with Photocell with double welding
	**Speed**	Cams axis speed Set. Used only if the Cams motor has been enabled in generic setup.
	**Bag length**	Bag length set.
	**Number of pieces**	Bags number.

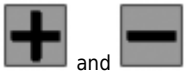
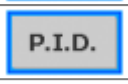
	**Ramping quota**	Set of the ramping quota.  : Enabling the function
	**Start backward**	Set of backward quota at the beginning of the bag.  : enabling the function
	**Stop backward**	Set of the backward quota at the end of working.  : enabling the function
	**U9 Activation**	U9 fast output activation quota set.  : enabling the function
	**Distance to the sth welding**	Set of distance between the first and sth welding.

6.4 Automatic - Complete interface

If the instrument is in the automatic state (I2 = ON) and the complete interface mode is selected, the following page appears



6.4.1 Visualization

	Bag length in use.
	Cams axis speed setpoint in pieces per minute. Used only if the Cams motor has been enabled in generic setup.
	Increases or decreases the speed of the Cams axis. Used only if the Cams motor has been enabled in generic setup.
Override	Percentage of the WEB axis maximum speed used for placements during the automatic cycle.
Posit	Current quota of WEB axis.
Speed	Currente speed of WEB axis.
Program	Number and name of the currently recipe in use.
Type	Type of working set.
Step	Recipe step number in use.
Pieces	Number of bags produced on the total set.
Photocell Range	Photocell enabling window.
	Increase of the number of bags produced.
	Decrease of the number of bags produced.
	Zeroing the number of bags produced.
	Move to the positioning chart page.

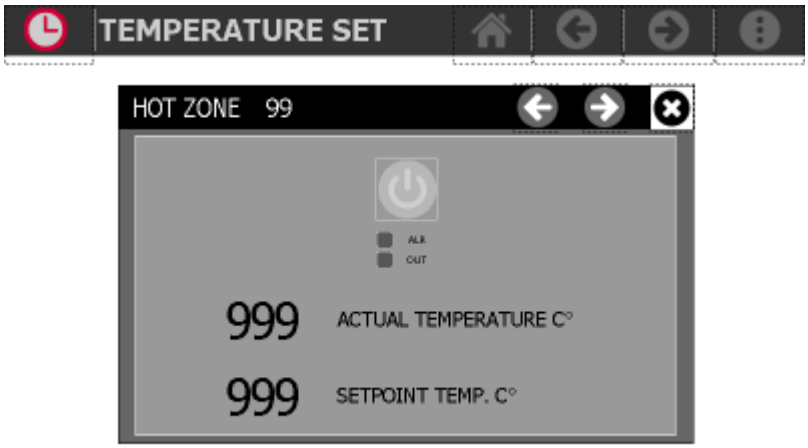
6.4.2 Production counter

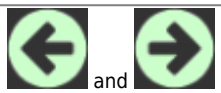
Speed	Current speed of the Cams axis in pieces per minute.
Total pieces	Total pieces executed from the last reset.
Time	Total working time from the last reset.
	Zeroing of the Production counter.

6.4.3 Welders

	Turning on/off the enabled welders.

To enable the single welder, touch the corresponding gray box:

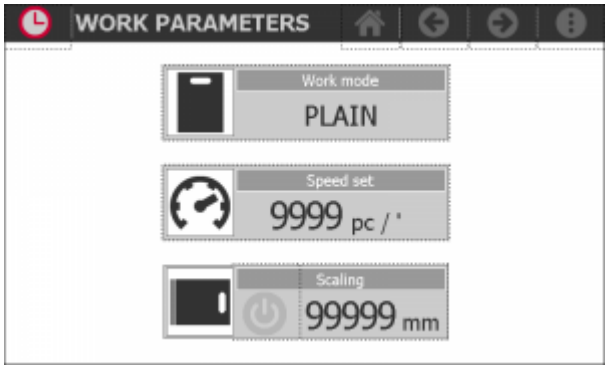


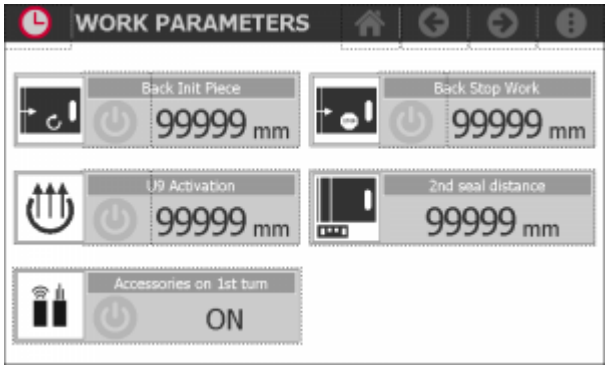
 and	Flows the various thermo-regulators.
	Closes the pop-up setting of the temperature controller.
	Enables the selected temperature controller.
Current temperature	Current temperature (expressed in °C) read by thermocouple.
Temperature SetPoint	Temperature SetPoint (expressed in °C).

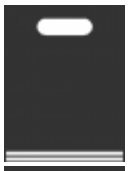
6.5 Simplified interface - Working parameters

To access the working parameter section:

- press the **MENU** button on the top bar 
- Access the programming with the appropriate  button





	**Working mode**	Type of working set:  : working to measure  : working with Photocell  : working to measure with double welding  : working with Photocell with double welding
	**Speed**	Cams axis speed set. Used only if the Cams motor has been enabled in generic setup.
	**Ramping quota**	Set of the ramping quota.  : enabling the function
	**Start backward**	Set of the backward quota at the beginning of the bag.  : enabling the function

	**Stop backward**	Set of the backward quota at the stop of the working.  : enabling the function
	**U9 Activating**	U9 fast output activation quota set.  : enabling the function
	**Distance sth welding**	Set of distance between the first and sth welding.

6.6 Recipes

The recipe section is enabled only if you have chosen the complete interface.

It is possible to access the working recipes only if a program is not running.

To access the recipe section:

- press the **MENU** button on the top bar 
- Access the programming with the appropriate  button

To select one of the listed recipes, you must touch the corresponding line.

 and 	To scroll through the recipe list. Each page can show 5 recipes at a time. you can move directly to the desired page to edit on the title bar.
	Executes the selected recipe.
	Opens the selected recipe to edit it.

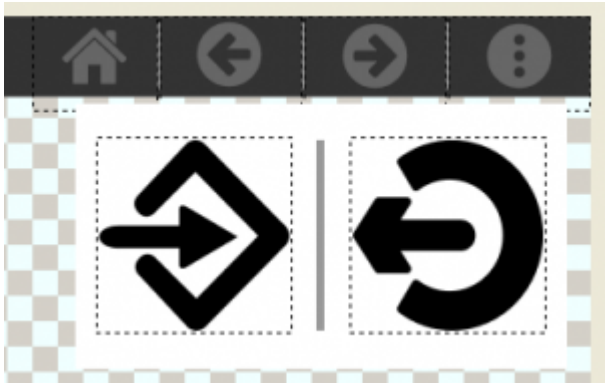
6.6.1 Editing the recipe

PROG	Number of the recipe that you are modifying
NAME	You can insert a name for the recipe. The name must be at most 12 characters.
Step	Step in programming.
Quota	Quota that you must execute in the step you are planning.
Number of Pieces	Number of repetitions of the dimension in the step you are planning.

6.6.2 Saving the recipe

The recipes section is equipped with its own menu:

- Press the  button



The available commands are:

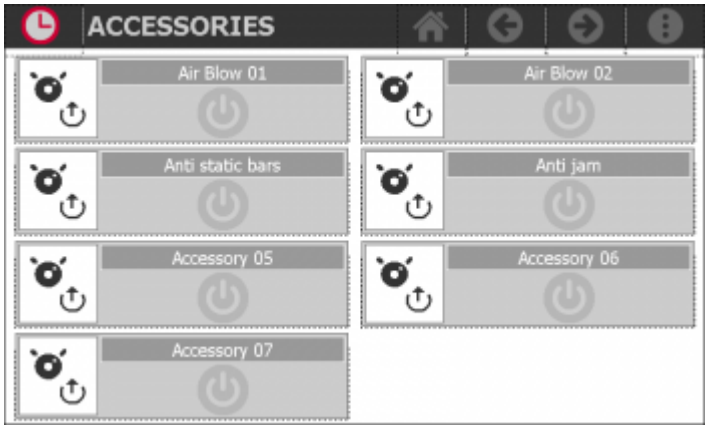
-  **Save and exit** : The values of the recipes set are saved in the internal memory put in execution. You return to the main page.
-  **Exit without saving** : The values of the set recipes are not saved and the values in the internal memory are reloaded. You return to the main page.

6.7 Accessories

The accessories section is only visible if the Cams axis encoder is enabled.

To access the accessories section:

- press the **MENU** button on the top bar 
- access the programming with the appropriate  button

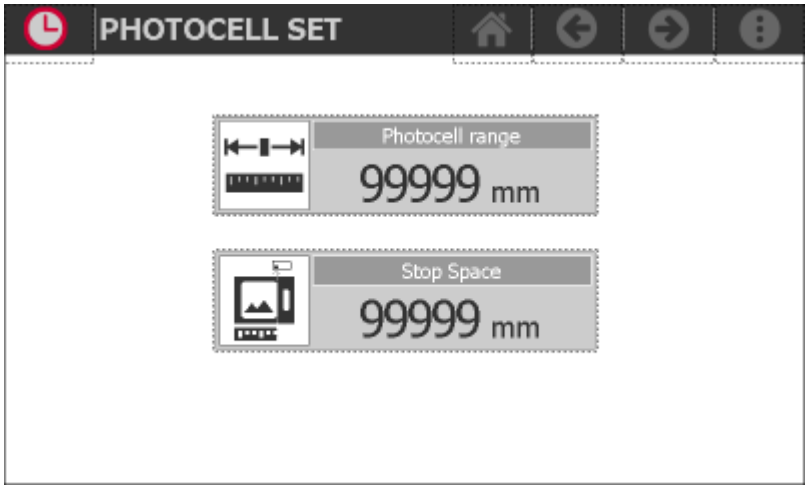


	**Air blow 01**	Accessory 01 : blower 1.  : enabling the accessory
	**Air blow 02**	Accessory 02 : blower 2.  : enabling the accessory
	**Anti-static bars**	Accessory 03 : Anti static electricity bars.  : enabling the accessory
	**Anti jam**	Accessory 04 : anti jam.  : enabling the accessory
	**Accessory 05**	Accessory 05 : available  : enabling the accessory
	**Accessory 06**	Accessory 06 : available  : enabling the accessory
	**Accessory 07**	Accessory 07 : available  : enabling the accessory

6.8 Photocell parameters

To access the parameter section of the Photocell:

- press the **MENU** button on the top bar 
- Access the programming with the appropriate  button



	**Photocell Range**	Enable window, around the notch, where the photocell is enabled to capture.
	**Braking space**	Space covered from the WEB axis once the notch is captured.

6.9 Cams

The Cams section is only visible if the Cams axis encoder is enabled.

To access the Cams section:

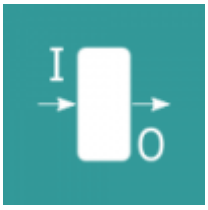
- press the **MENU** button on the top of the bar 
- Access the programming with the appropriate  button

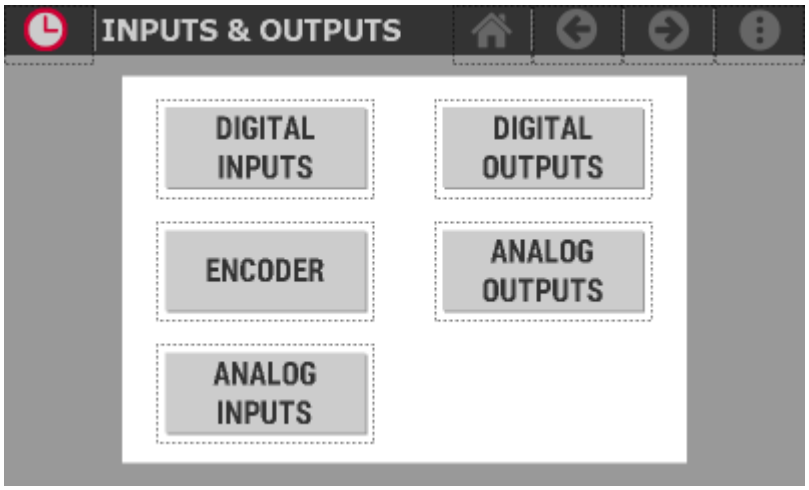
Start WEB	Enabling Cam to start WEB positioning during automatic cycle.
Cams motor stop	Currently not implemented.
Air blow 01	Accessory 01 Enabling Cam : blower 1
Air blow 02	Accessory 02 Enabling Cam : blower 2
Anti-static bars	Accessory 03 Enabling Cam : Bars Anti Static electricity
Anti Jam	Accessory 04 Enabling Cam : anti jam
Accessory 05	Accessory 05 Enabling Cam : available
Accessory 06	Accessory 06 Enabling Cam : available
Accessory 07	Accessory 07 Enabling Cam : available
WEB jog enabling	WEB axis manual motion enabling Cam.

The  led indicates that the Cam is active.

7. Diagnostic

To access the diagnostics section:

- press the **MENU** button on the top bar 
- access the diagnostics with the appropriate  button

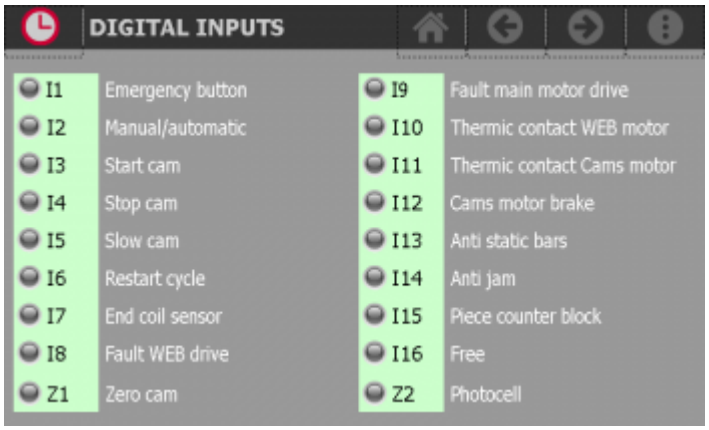


From this screen you can access the various diagnostic sections:

1. Digital input diagnostics
2. Digital outputs diagnostics
3. Counters diagostics
4. Analog outputs diagostics
5. Analog input diagnostics

7.0.1 Digital inputs diagnostics

Pressing the button for digital inputs you have access to the following screen, where the status of each input is showed.

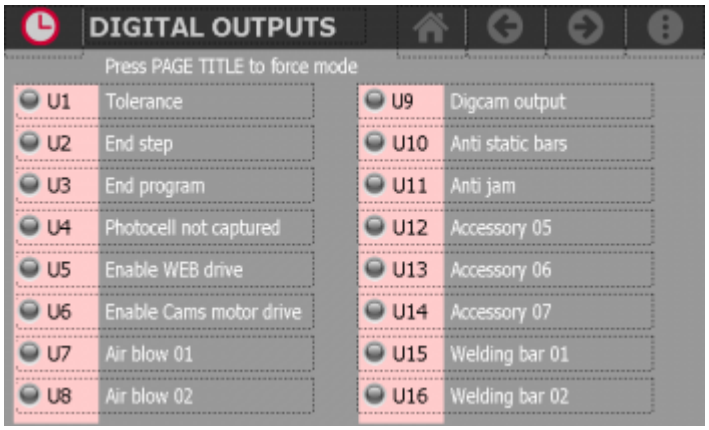


To scroll through the various pages, use the  and  buttons on the top bar.

To return to the diagnostics menu press the  button

7.0.2 Digital outputs diagnostics

Pressing the button for the digital outputs the following screen is accessed, where you see the status of each output in the hardware used.



To scroll through the various pages, use the  and  buttons on the top bar.

7.0.2.1 Forcing the outputs

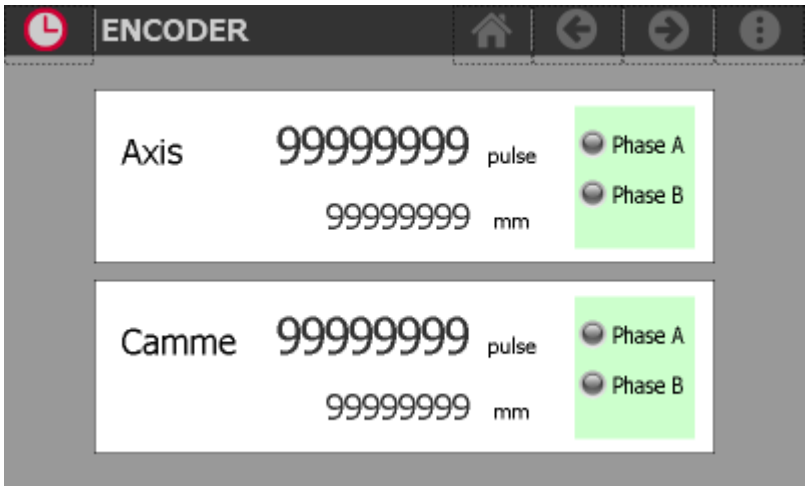
To access the output forcing function:

- Press on top where the **DIGITAL OUTPUTS** page title is showed
- The title changes to **ACTIVE FORCING** and starts blinking→ Active function
- Press the output to activate it. Press again to turn it off.
- Press the title space to turn off the function.
- When the page exits, the function automatically switches off.

To return to the diagnostics menu press the  button

7.0.3 Counters diagnostics

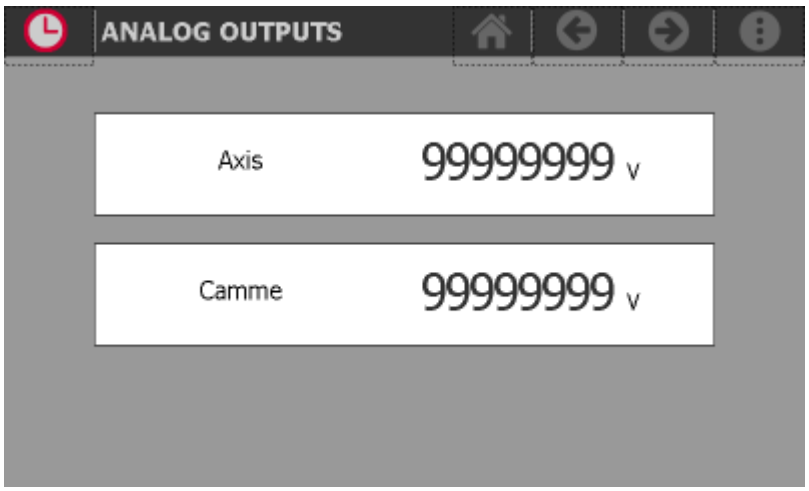
The following screen is accessed by pressing the Counts button.



To return to the Diagnostics menu press the  button

7.0.4 Analog outputs diagnostics

By pressing the button for the analog outputs, the following screen is accessed.

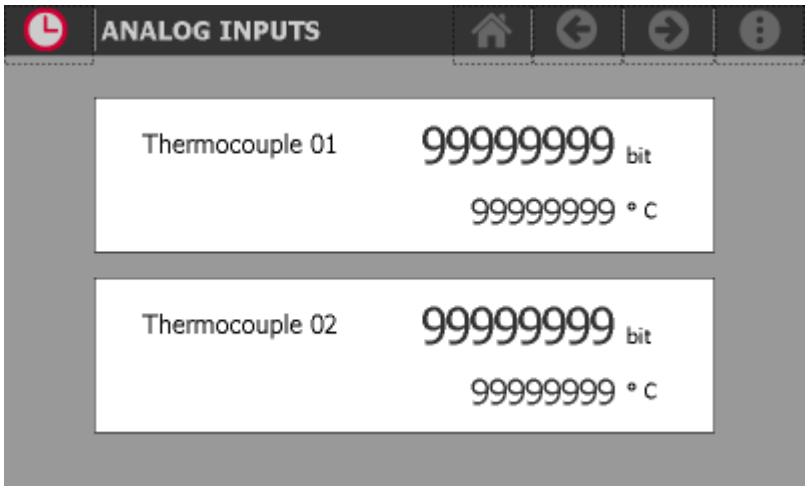


The analog output is expressed in volts.

To return to the diagnostics menu press the  button

7.0.5 Digital inputs diagnostics

Press the digital inputs key to access the following screen.

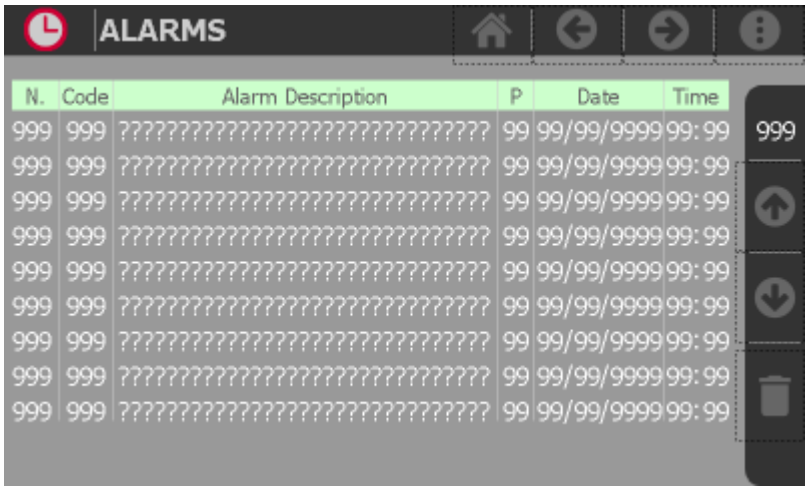


To return to the diagnostics menu press the  button

8. Alarms

To access the Alarms section:

- press the **MENU** button on the top bar 
- access the alarms with the appropriate  button



Message	Cause
EMRG - emergency	The emergency button was pressed or the auxiliary circuit was interrupted (I01 = OFF).
FOLL - following error	The axis has detected an following error above the permitted threshold.
DATA - Axis Data Error	One or more axis parameters generate an error. The parameter number is indicated in the **P** column Refer to the ANPOS2 device manual.
TOLL - Axis out of tolerance	The axis has concluded a positioning out of tolerance.
FLT1 - Fault WEB drive	The WEB axis drive is in error (I08 = OFF). Check with the manual.
FLT2 - Fault Cams drive	The Cams axis drive is in error (I09 = OFF). Check with the manual.
THR1 - Thermal WEB motor	It spring the thermal protection of the WEB motor (I10 = OFF).
THR2 - Thermal Cams motor	It spring the thermal protection of the Cams motor (I11 = OFF).
BRK - Cams axis brake alarm	Cams axis brake problem (I12 = ON).
STB - Anti-static bar alarm	Antistatic bar problem (I13 = ON).
JAM - Anti jam alarm	Anti jam problem (I14 = ON).
COIL - End coil sensor	End of coil material (I07 = OFF).

The number of active alarms is indicated on the sidebar.

	Flows the active alarms upward.
	Flows the active alarms downwards.
	Alarm delete command.
	Move to the page of the alarm history.

8.1 Alarm History

On this page you will see the history of the last 200 alarms.
For each alarm is indicated the date and time of operation.

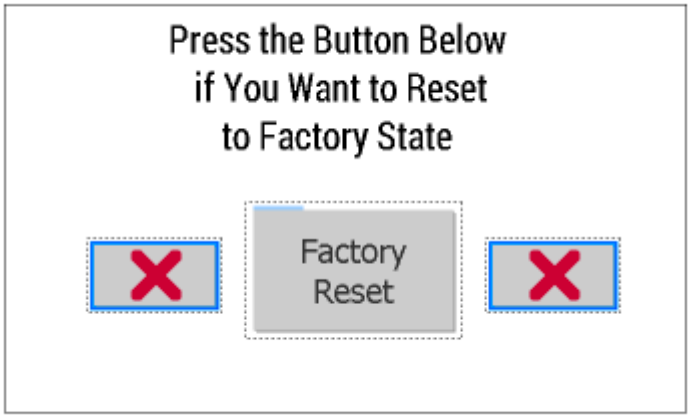
	Scrolls the historic alarms upward.
	Scroll the historic alarms down.
	Historical alarm delete command.
	Switching to the Alarms page.

9. Factory Reset

To be able to execute this function you must have the **INSTALLER** level permissions : 

To access the function:

- press the **MENU** button on the top bar 
- access the function with the appropriate  button

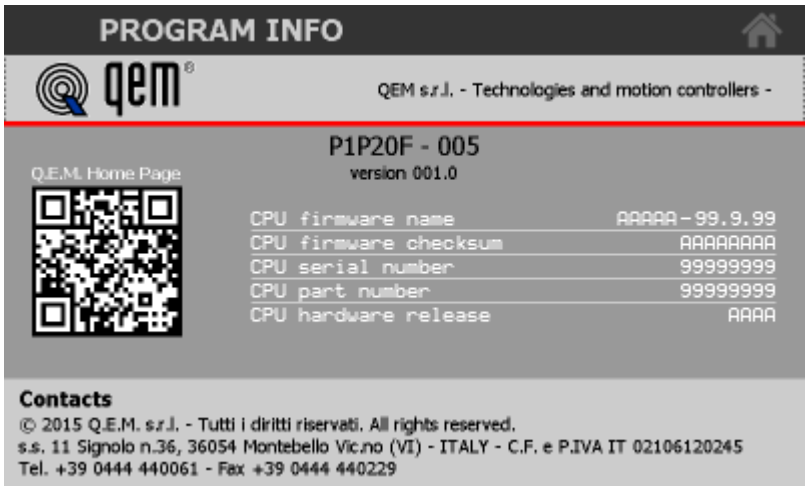


Reset di fabbrica	Activates the data reset function to factory reset (DEFAULT).

10. System Info

To access the System Info section:

- press the **MENU** button on the top bar 
- Access the function with the appropriate  button



This page lists the CPU diagnostics info and other useful information to identify the instrument, the software installed and how to contact the manufacturer.

CPU firmware name	Firmware versio
CPU firmware checksum	Firmware checksum
CPU serial number	Serial number of the CPU
CPU part number	Part number of the CPU
CPU hardware release	Hardware release of the CPU

11. Assistance

For supplying you fast service, at the lowest cost, we need your support.

	
Follow all instructions provided in the MIMAT manual	If the problem remains, fill out the „Request Form for assistance“ on the page Contacts at www.qem.it site. Our technicians will get elements essential for the understanding of your problem.

Repair

To provide you with an efficient service, please read and adhere to the instructions given here

Shipping

It is recommended to pack the instrument with materials that are able to cushion any falls.

		
Use the original package: it must protect the instrument during transport.	Attach: 1. A description of the anomaly; 2. A part of the electric scheme where the equipment is inserted 3. The planning of the equipment (set up, quotas of job, parameters...). 4. Request a quote for repair; if not required, the cost will be calculated in the final balance.	A full description of the problem, will help identify and resolve your problems fast. A careful packaging will avoid further inconveniences.