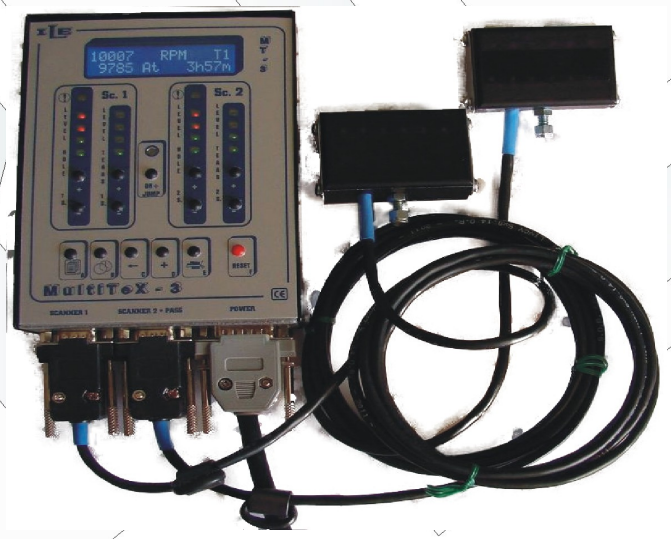
# NOTES OF OPERATION OF THE TOOL

# MULTITEX3



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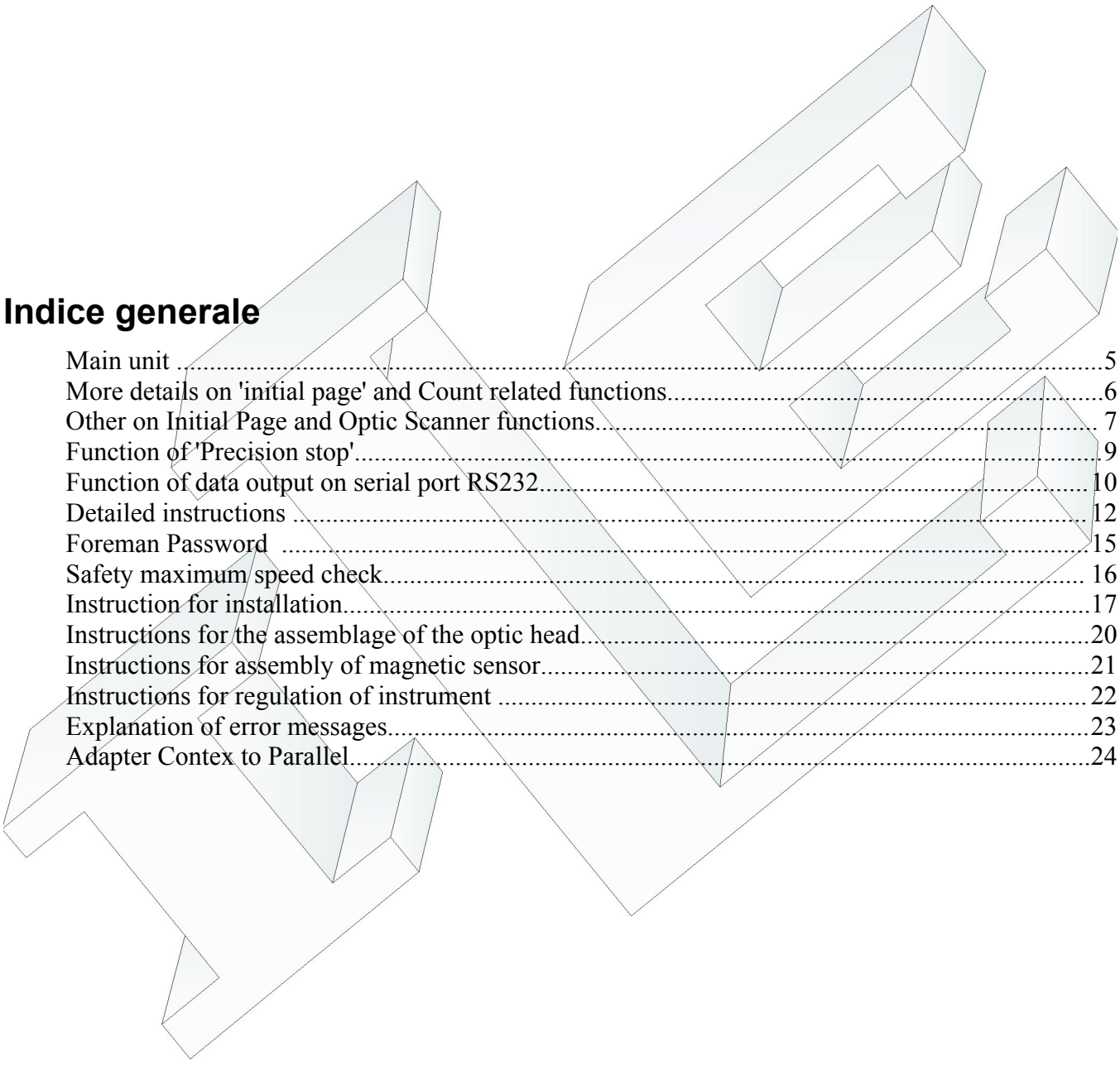

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# Introduction

The instrument Multitex3 is used on circular knitting machines for two main purposes:

1. Count the Piece rolls and perform some tasks related to the machine control
2. Check the fabric quality and perform tasks related to quality assurance

This two main purpose group together several functions as exposed below :

COUNTING:

- Piece turns count-down with speed measurement and time to end computation
- It measures the yarns absorbed by the feeders (LFA function) .
- It checks that the yarns consumption match the reference value +- allowed tolerance and stop machine in case of out-of-range.
- It notices the times of workmanship of the machine.
- Precision stop of the position of the roll produced with adjustable delay.
- Data output on serial port RS232.

QUALITY:

- Check of fabric quality using one or two infrared optic scanners
- Each optic scanner check a length of 60mm or 80mm, for up to 160mm each turn
- Separated section for Holes and for broken meshes
- Stop for reached limit of holes, large holes and broken meshes
- Memorize data about fault founds
- programmable stop delay to place the fault in a preferred position

The device is composed of:

- Main unit (controller) with keyboard, display and light bars for the signal from optic scanner.
- One or two optic scanner /optic heads for the fabric check, in different shapes so to cover from 60mm to 160mm of produced fabric per turn/loop
- Couple Magnet - magnetic Sensor to notice the turns of the loom.
- Up to 5 sensors for LFA function composed by Couples Magnet - Sensory magnetic to measure the yarns consumption from the feeders.

In other words this is a sum of already know devices FM10 and Contex8 .


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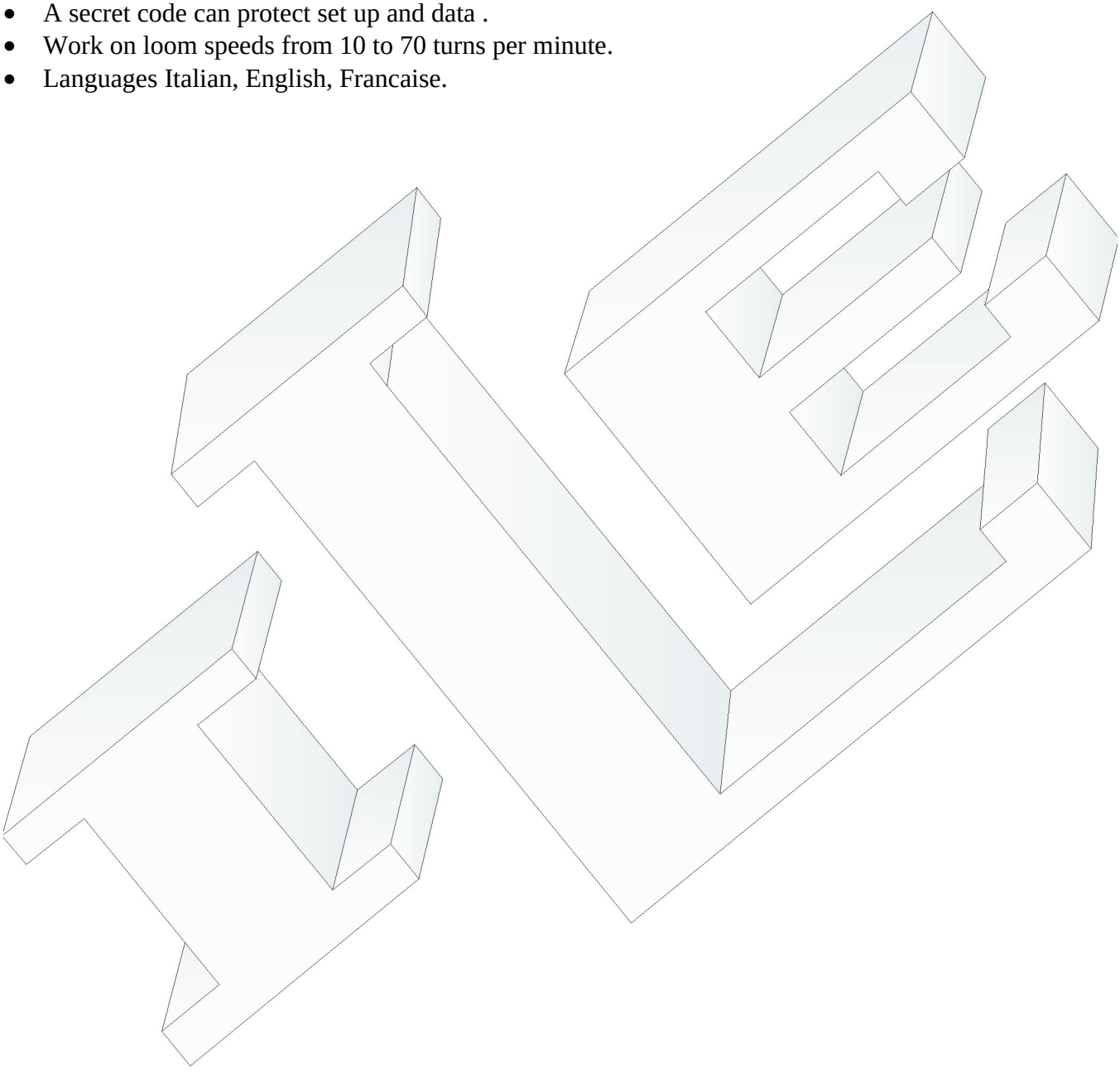
## Some technical characteristics

- Power supply voltage 24VAC.
- Power consumption 4W.
- Service Output 2A 250V.
- A secret code can protect set up and data .
- Work on loom speeds from 10 to 70 turns per minute.
- Languages Italian, English, Francaise.

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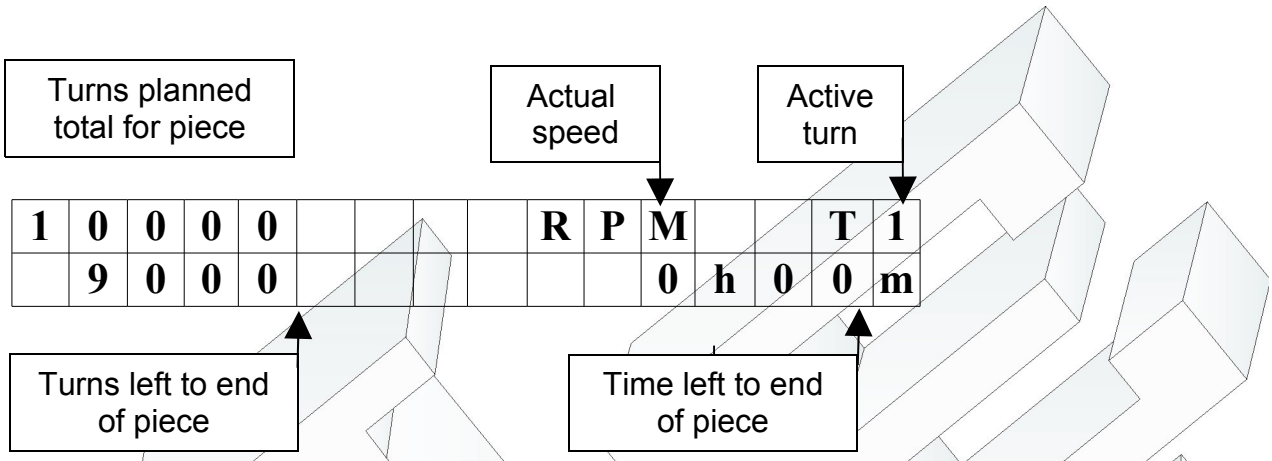
# Main unit

The messages on the display change according to the state of operation and the selected page.
Message shown after power-on , without pressing any key, is called 'initial page' and it looks like the following example:




Other information are exposed in the following detailed description of the pages.

The principal functions of the keys are the followings:

- Key 'A' 'Page' , at the left , is used to show the next page on display .
- Key 'B' , is used to change the working shift T1,T2...T5 .
- Key 'C' '←' used to enter data on as described later.
- Key '+' used to enter data on as described later.
- Key ' ' 'E' 'Production', is used to show pages related with LFA function of yarns consumption measure.
- Key 'Reset' restore the instrument to normal state after a stop, or clear data or other functions as described later.
- Key 'JUMP' used to enable the jump of the discarded needle, shown by the yellow light
- The Couples of key '+' and '-' put on the right are used to adjust the sensibility of the related light bar , one for Holes sensibility and one for Broken Meshes sensibility , for each optic scanner.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# More details on 'initial page' and Count related functions

As mentioned above , the message shown after power-on , without pressing any key, is called 'initial page' and it looks like the following example:

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | **0** | **0** | **0** | **0** | | | | | **R** | **P** | **M** | | | **T** | **1** |
| | **9** | **0** | **0** | **0** | | | | | | | **0** | **h** | **0** | **0** | **m** |

In this page there are the information more used :

- the number of turns planned for the piece, shown to the left top, in this example 10000.
- the remaining number of turns for the piece, shown under to the left, in this example 9000.
- the assigned working shift, shown the right top, in this example T1.
- the actual speed, shown in the center top, in this example 'RPM'
- the estimated time to end the piece at current speed ,shown at right bottom, in this example 0h00m.

This page is used for the device as a counter: write here the number of turns of the piece ; then the counter decreases the number of turns at every effected turn, stopping the machine when the number reaches Zero.

To write the number of turns to act this way:

1. To press for a long time the key 'Reset' until a digit flashes..
2. Pressing the key '+' this digit is increased.
3. Pressing the key '←' it shift to another digit
4. When the wanted number is seen press the key 'Reset', the number selected is loaded in the counter.

Pressing for a long time the key let appears the symbol '%'. This points out that the percentage control on the consumption LFA is enabled. To disable it press for a long time still it the key ''.

Then display show the writing 'At' in the inferior line when the device receives in input the special signal of 'activity'; this informs that the machine is turning. It is required that this signal is present to the device when the machine turns, and only when it turns.

There is also a '*' in the upper line of the display when the instrument receive signal from the magnetic sensor. The Key 'Shift' changes the working shift to the next of T1, T2, T3, T4, T5.



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# Other on Initial Page and Optic Scanner functions

As mentioned above , the message shown after power-on , without pressing any key, is called 'initial page' .

Initial page can show sensibility values for the optic scanner. Just press key '+' or '-' of the light bars and the values for the optic scanner will appear for few seconds . Then the display will return to counter .

As mentioned before the instrument check fabric faults using one or two optic scanners and show on related light bar the signal received from the scanner ; two light bars for each scanner, whereas the left bar show signal for holes and the right bar show signal for the broken meshes.

When signal reach red lights the machine is stopped with appropriate messages on the display. Stop can be delayed or conditioned from settings in appropriate sections.

When the machine is stopped the cause is explained from message and lights:

- the error of reaching the planned number of small holes cause the flash of first three leds at left of the tool (2 greens and a red)
- the error of presence of a big hole cause the lighting of all the five leds on the left (2 greens and 3 red)
- the error of 'tears' or dropped stitches cause the lighting of all 4 leds on the right (2 greens and 2 red)
- error of sensibility too high for broken meshes/tears through lighting of all 4 the leds of left.

Once that the error has been detected and the machine stopped, the employee can remove it and reset the tool through the pressure of the key ‘Reset '. Then he can proceed to the restart the machine.

There is also the JUMP key to enable or disable the jump of the discarded needle.

When the jump is enabled the yellow light is on and this immediately implicates the skip of the control of the zones of fabric following to the magnetic sensor . If the yellow light is out then the whole fabric is checked.

In some software version the position of the discarded needle is automatically detected and it is not required to be placed at the magnetic sensor . Anyway it is important that the Jump is enabled only if the discarded needle really exist on the fabric.


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# Function of measure of the absorbed yarns (LFA)

This function counts the meters of yarns furnished by the feeders in a turn of the machine. The number shown in the special page is updated every 5 turns of the machine and the maximum shown number is 99 meters and 99 centimeters. The '*' that appears in the display points out that the corresponding magnetic sensor is active.

The tool reads up to 5 feeders of which the first 4 are suitable for feeders type MPF20 or MPF10 or MPF-L; the last visualized feeder 'P5' is predisposed for the feeder 'MER-2' or 'MER-3' used for the Lycra selectable by the dip-switch 4 located inside the instrument case:

- set 'OFF' the dip-switch 4 to configure the feeder input P5 for type MER-2
- set 'ON' the dip-switch 4 to configure the feeder input P5 for type MER-3

At power-on the processor read the dip switch configuration and show on display the writing 'L2' if configured for MER-2 type, or otherwise show 'L3' if configured for MER-3 type.
You can choose among two ways to see the quantity of absorbed yarns:

1) in the classical visualization the display show absorbed meters and centimeters for a turn of the loom , where the maximum shown number is 9999 centimeters which is 99 meters and 99 centimeters.
When this visualization is used, near to the number there is a 'Cm' or 'In' to point out the unity of measure, it depends on the choice of use centimeters or inches.

2) in the so-called 'advanced visualization' or 'for 100 needles' it is showed the yarns absorbed for 100 needles , where the maximum shown number is 9990 centimeters or 99 meters and 90 centimeters. The shown number often contains a decimal, for instance 7,5 centimeters for 100 needles.
When this visualization is used, close to the number there are 'Cm/K' or 'In/K' based on the unity of measure choose between centimeters or inches. In other words, the measured consumption is divided by the hundreds of needles and then shown on the display.

To choose between classical visualization or “for 100 needles” there is a special page called 'Needles Number ' used to write/point out the number of needles present in the machine. Such number of 4 digits can be zero, in such case the classical visualization is used. If instead such number is among 100 and 9999 the page 'LFA' show the “for 100 needles” or advanced visualization.
A number of needles smaller then 100 is considered as 0.

**As a rule of thumb the device is sent with a number of needles equal to zero so it uses the classical visualization.**

The instrument can memorize the measured value as a reference value , and then check that the consumption doesn't change too much from such reference value; the value of reference and the allowed tolerance can be planned through the special pages relative to the LFA function.
Reference and Tolerance control is enabled at the followings conditions:

- Planned tolerance is greater of 0%; note that there is a specific tolerance for each trace from P1 to P5.
- In the initial page tolerance has been enabled pressing for a long time the key ; in this case there is the symbol '%.
- The value of reference is different from '0.'

The control of the tolerance is performed on the average of 5 turns and it attends some turns to the starting.


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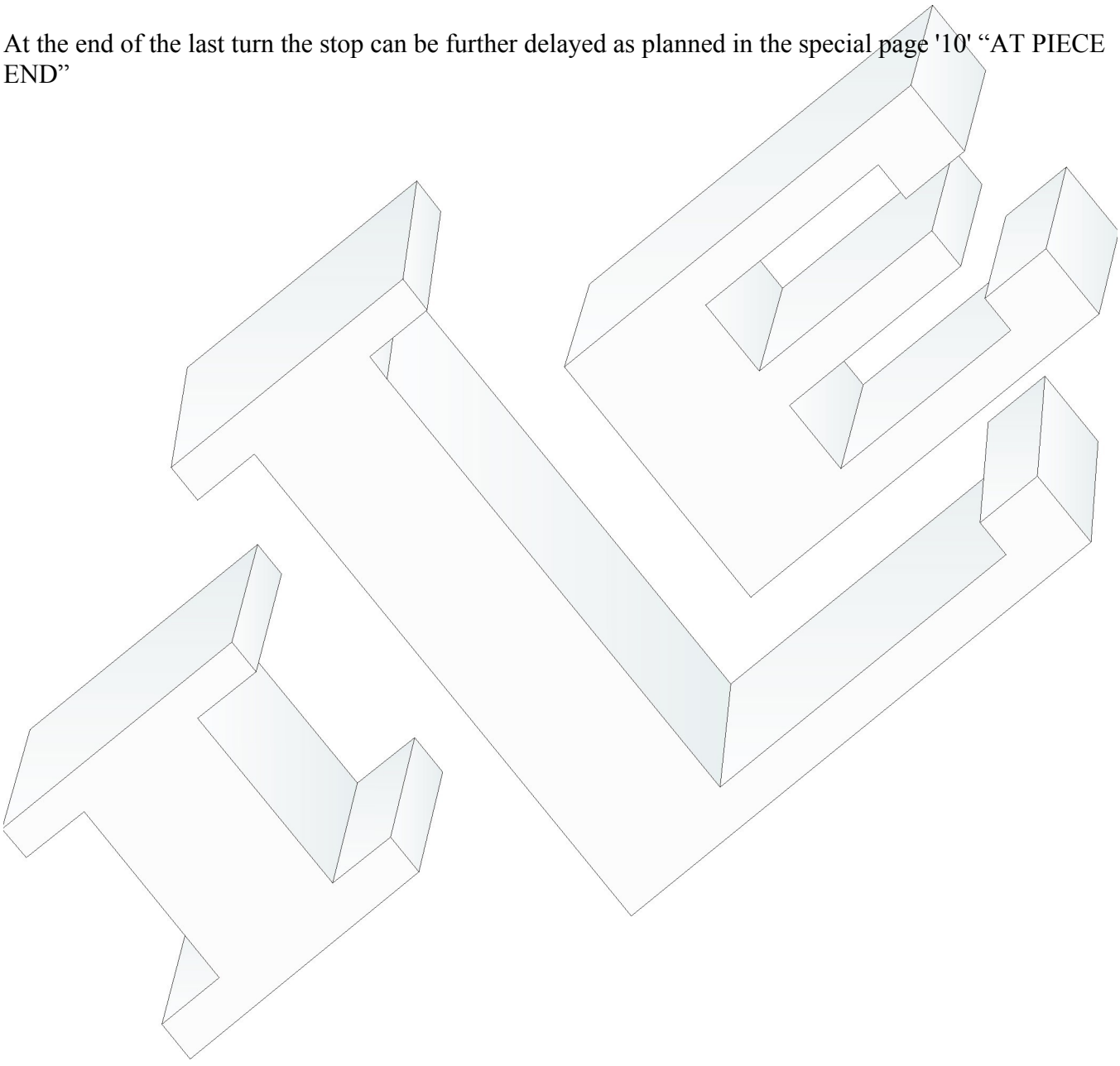
# Function of 'Precision stop'

The couple 'magnetic sensor and magnet' for turns have to be installed ; it is used by the counter to count the developed turns and then stop the machine in the precise point in which the magnet coincides with the sensor.

At the end of the last turn the stop can be further delayed as planned in the special page '10' “AT PIECE END”

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# Function of data output on serial port RS232

The collected data are put on serial port RS232 every second, updated at the time of the send. The format is readable on terminal ASCII set for 19200,n,8,1, no flow control. The string of data appear as the underlying example:

"%S- 352- 352- 352- 352- 950-Cm-0000-NNNN-NNNNNN-T5- 143-39.5-10000- 9758"

The fields are separate from the character '-. Here to follow one detailed exposure of the fields and their meaning:

| Data | Char number | Values | Progressive index | Comment |
|---|---|---|---|---|
| beginning | 1 | % | 0 | |
| march (activity) | 1 | A , S | 1 | A= activity,S = Stop |
| - | 1 | | 2 | |
| LFA1 | 4 | 0...9999 | 3 | |
| - | 1 | | 7 | |
| LFA2 | 4 | 0...9999 | 8 | |
| - | 1 | | 12 | |
| LFA3 | 4 | 0...9999 | 13 | |
| - | 1 | | 17 | |
| LFA4 | 4 | 0...9999 | 18 | |
| - | 1 | | 22 | |
| LFA5 | 4 | 0...9999 | 23 | |
| - | 1 | | 27 | |
| Unit of measure | 2 | In, Cm | 28 | |
| - | 1 | | 30 | |
| Needle number | 4 | 0...9999 | 31 | |
| - | 1 | | 35 | |
| Stop LFA | 1 | N, L | 36 | N = normal L= Stop for LFA |
| Stop Piece | 1 | N, P | 37 | N = normal P= Stop for Piece |
| Stop Scanner | 1 | N,T | 38 | N = normal T= Stop for Holes or Broken meshes |
| Stop general | 1 | N,A | 39 | N = normal A= Stop for other cause |
| - | 1 | | 40 | |
| AUX1 | 1 | N, 1 | 41 | N = low 1= high, active |
| AUX2 | 1 | N, 2 | 42 | |
| AUX3 | 1 | N, 3 | 43 | |
| AUX4 | 1 | N, 4 | 44 | |
| AUX5 | 1 | N, 5 | 45 | |
| AUX6 | 1 | N, 6 | 46 | |
| - | 1 | | 47 | |
| Working shift | 2 | T1,T2,T3,T4,T | 48 | |



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| | | | | |
|---|---|---|---|---|
| | | 5 | | |
| - | 1 | | 50 | |
| Turn work.shift | 5 | 0...99999 | 51 | |
| - | 1 | | 56 | |
| speed | 4 | 0...99.9 | 57 | |
| - | 1 | | 61 | |
| Piece turns | 5 | 0...99999 | 62 | |
| - | 1 | | 67 | |
| Turns left | 5 | 0...99999 | 68 | |
| | 1 | 0x0A | 73 | |
| | 1 | 0x0D | 74 | |

Additionally to how much above stated, if an auxiliary input is active, is also sent every second a line containing the message related to the active input, that always begins with the character '$'.
For example if the auxiliary input entry is 2, it will appear on serial port :

"$YARN FEEDER INLET OR OUTLET"

## Magnetic sensor and Magnet used to notice the turns of the loom

Install the sensor on a firm part of the loom, in protected position from the bumps. Place the magnet on a rotating part in such position to activate the sensor every turn of the loom. The distance between sensor and magnet has to be from 2 to 4 mm.

**Attention that the support is not vibrations subject!**
The cable of the sensor finishes with some threads to connect to the back terminal block of the device, as described in the special chapter.
If the sensor is correctly installed it will be noticed on the display the appearance of the character '* to the conclusion of every turn, and the display will show the correct speed.

## Sensory for measure of the absorbed yarns (LFA)

Install a couple sensor - magnet for LFA on every feeder of which is wanted to measure the consumption, following the instructions of the section 'installation.' The sensor must be connected to the back terminal block of the device, which receives the impulses and it calculates the consumption of yarns.

Up to 5 sensory LFA can be connected to the main unit , or the main unit has 5 input for sensory LFA. The inputs for sensor LFAs from P1 to P4 are suitable for sensory placed on feeders type MPF20 or MPF10 or MPF--L; the last entry 'P5' it is suitable for sensory placed on feeder 'MER-C10' used for the Lycra.


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# Detailed instructions

The device is endowed with various pages that allow to plan all the necessary parameters for a correct operation.
The various pages are flowed in sequence using the special key 'A' -'Page' first to the left having the sketch of the pages; it is possible to return to the initial page flowing all the pages or by the Reset key. Usually the 'C'-'←' moves the cursor and the 'D'-'+' key changes the digit or option pointed.

Here following the description of the various pages, where the pages can be recognized from the page number on the superior line at the left of the display. Note that this description refers to the simplest situation or without 'foreman password', described subsequently.

| *Page* | *Description* |
|---|---|
| Initial one | Here there are shown the information more used. This page is already described in detail in the chapter 'initial page of the central unity.' Pressing the key 'Page' he passes to the following page. |
| **01** WORK DATA T1 | The device counts the turns and the worked time adding these data to the total one of the active shift', which is the shift T1,T2,.. shown in the initial page. In this page the data are seen for the shift 1. It is to notice that the worked time is counted only when the machine is turning , when the device receives the signal of Activity; in such condition appears 'At' in the initial page. To reset the data to press the key 'Reset '. |
| **02..05** WORK DATA.. | As the preceding page for the shift from 2 to 5 following. |
| **06** HISTORIC DATA | This page shows the total one counted of turns and times of worked time. These data cannot be cleared. |
| **07** DISPLAY LFA IN | In this page it is chosen whether to visualize the quantity of absorbed yarns in centimeters or thumbs. The key '+' it changes the option. |
| **08** NEEDLE NUMBER | In this page it show the number of present needles in the machine. If it is desired to read the data of LFA related to 100 needles then write here the correct number of needles, otherwise leave it to '0.' Read the section 'Function LFA' for more details' . To modify the number to press the key '+' that it will also serve for increasing the flashing digit, the key '→' it passes to other digit. At the end press the key 'Page' to confirm and to pass over. |
| **09** PIECE SETUP | In this page it is possible to specify if the reload of the counter can be done by whoever or if it require the foreman password. The password and use is described in special chapter. The key '+' it changes the option. |
| **10** AT PIECE END DELAY.. | In this page can be specified a delay to be used at the end of the piece , useful for the precision stop. Such 'Timer' it begins to count after the last impulse of the turns magnet , and it stops the machine when it reaches zero. Varying such delay the machine can be stopped in the wanted point. |
| | |


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| *Page* | *Description* |
|---|---|
| **11** OPTICAL HEAD | It allows to plan the number of holes of small dimensions to count before stopping the machine. Choice happens through the keys '+ and '← '. |
| **12** HOLES AMOUNT | It visualizes the total number of holes that have caused the stop of the machine. Such number accumulates that due to the survey of holes of big dimensions with that due to the attainment of the quantity of holes of small dimensions planned into the preceding page. The number can be reset by the 'Reset ' key. |
| **13** STOP FOR TINY HOLES | It visualizes the total number of machine stop for little holes . The number can be reset by the 'Reset ' key. |
| **14** LADDERS AMOUNT | It visualizes the total number of machine stop due to broken meshes/ ladders / broken needles. The number can be reset by the 'Reset ' key. |
| **15-16** STOP DELAY SC.1 or SC.2 | In the case of machine stop due to scanner signaled fault it delays the stop of the machine in percentage on the duration of the last noticed turn. Enter the percentage with '←' and '+' keys. |
| **17** NEEDLE JUMP LENGHT | In this page it is possible to specify the duration of the jump of needle that effects after received the signal by the magnet. During such jump the control of the fabric is suspended, so that possible lacks of needles foreseen in the fabric doesn't cause a block. The value 9 are the maximum duration (100ms) while 1 are the minimum duration (11ms). The value 2 correspond to 22ms, and so following. |
| **18** NEEDLE STOPS | It allows to select if during the stop due to ladders/broken meshes the output relay is always active or intermittent. This can help to recognize the stop . |
| **19** LANGUAGE ENGLISH/ITALIANO.. | Select the language , actually available English , Italian , French. Other languages can be included. |
| LFA1= | In this page (obtained pressing the key when in the initial page) it is shown the quantity of yarns absorbed by the feeder connected to the input P1. Such measure can be in centimeters, Inch, or reported to 100 needles, as exposed in the chapter of the Function LFA. In the inferior Line it is visible the reference value assumed for the optional percentage control . This page also allows to set up the reference value, and to specify the tolerance to use on such value.<br>• Pressing the key '+' appear the flashing cursor and such flashing number be modified pressing the key '+'<br>• To pass to other digit press the key '←'<br>• When tolerance is set to the desired value press key 'Page' to confirm.<br>Pressing the key 'Page' the shown value is assumed as reference value.<br>One 'P' appear to point out this. Pressing the key goes to other LFA traces . |
| LFA 2..5 | As above but for the other LFA traces named P2... P5 |
| | |



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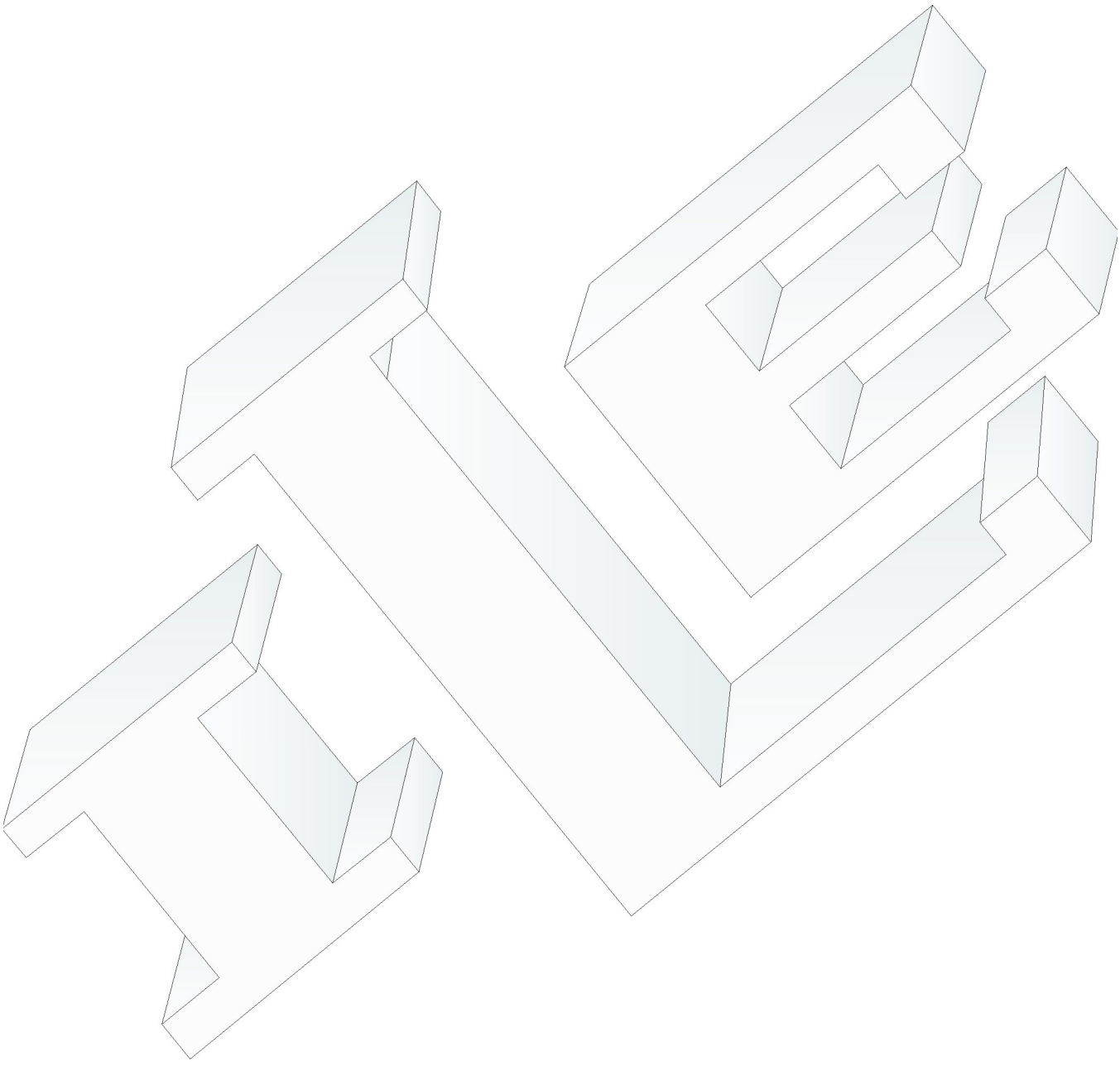
**Important note :**
Some version of the instrument does not show all of the pages above described, because some functions and related pages are substituted and integrated in the versions sequence.

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# Foreman Password

The foreman password serves to limit the access to the set-up pages of the device.
If the password is trained, the initial page is shown as usual but the password is required for the other pages .
If the password is trained then it is required also when pressing the key ; if correctly introduced it proceeds as usual with the pages LFA, if the password is wrong then the pages LFA are shown but it is not possible to vary the tolerances or the reference value.

To choose and enable the password, to act as it follows:

1. After power on , effect a short circuit among the two inputs of the device labeled as 'PASS.'
2. Then appears the page 'CHOOSE PASSWORD.' The password is a decimal number of 3 digits. With the key '+ the flashing number is increased while the key '←' goes to the following digit. Pressing the key page the device brings him to the initial page and the password is memorized. The password is enabled if different from '000.'

In fact the password is trained only if different from '000.' Then to disable the password protection choose the password '000.' The device is furnished with password of default planned to '000, such password it allows the unconditional access to all the pages.

When the password is trained, pressing the key 'page' cause the password request :

To insert the password use the keys described above. Pressing the key 'page', the instrument proceeds to the following pages if the password is correct.

When the password is trained, the page of the shift data collected changes as here described:

| *Pagina* | *Descrizione* |
|---|---|
| PASSWORD T1: | The device counts the turns and the worked time adding these data to the total one of the active shift , which is the shift T1..T5 shown in the initial page. In this example the data are seen for the shift 1. To notice that the worked time is counted only when the machine is turning, in other words when the device receives the signal of Activity; in such condition appears 'At' in the initial page. To reset the data press the key 'R '. Also in this page a password can be planned , that will be required to make T1 active.<br>To specify a password press the key '+', that will serve also for increasing the flashing digit, the key '←' goes to other digit. Press the key 'Page' to confirm the password. |
| PASSWORD Tx | As the preceding page but for the shift from 2 to 5 . |


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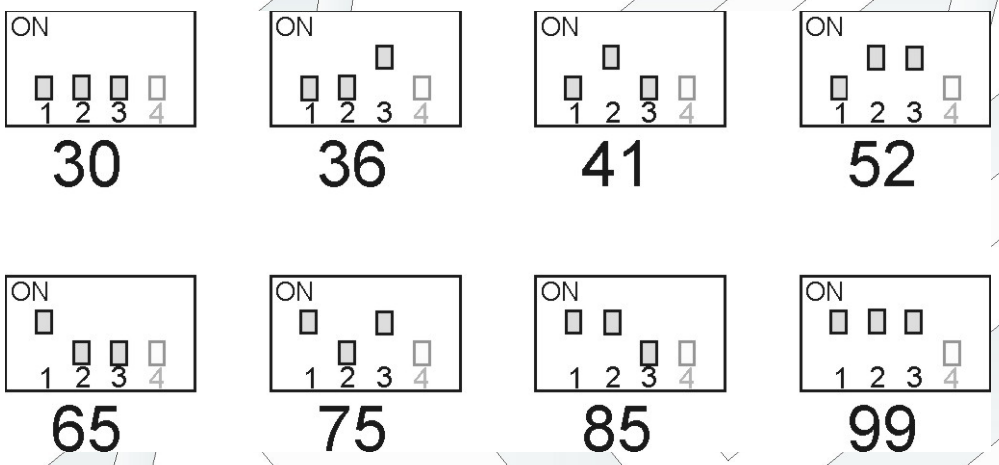
# Safety maximum speed check

As stated by Europeans normative on the safety, the instrument has to stop the machine and give an error message “speed” if the speed of the machine (in turn per minute ) exceed a safety limit .

Such limit is preset through some dip-switches placed inside the device and accessible removing the back panel ; please make this only when power is off**.** Based on the configuration assumed by the four dip-switches the instrument show the limit speed at power on of the device, according to the following table :




**It is up to the system integrator to set the dip-switch at the proper value for each textile machine .**

The dip-switch 4 is used for the LFA function as described in the related pages.



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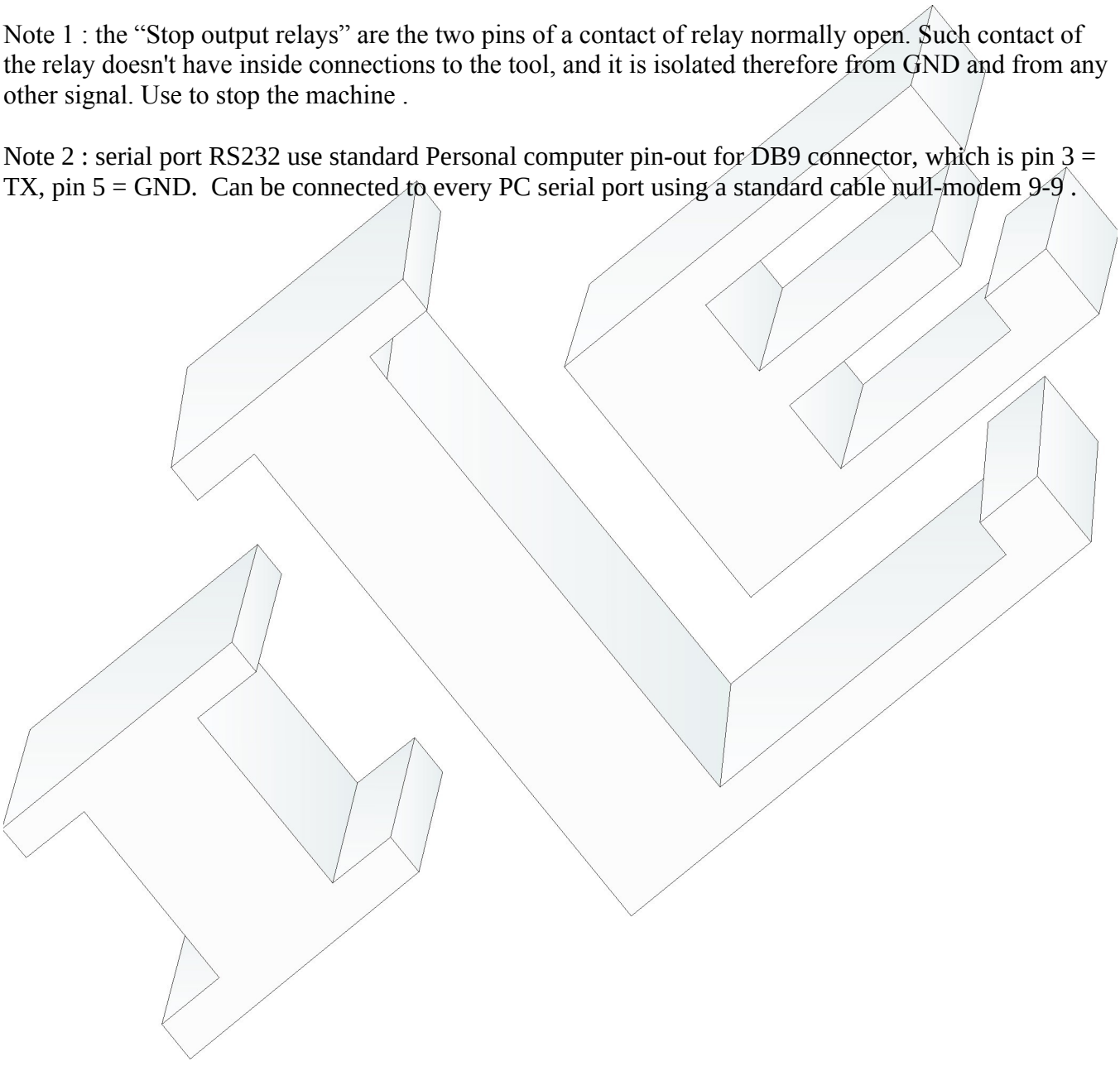
# Instruction for installation

Follow the scheme of the connections on the following page.

Note 1 : the “Stop output relays” are the two pins of a contact of relay normally open. Such contact of the relay doesn't have inside connections to the tool, and it is isolated therefore from GND and from any other signal. Use to stop the machine .

Note 2 : serial port RS232 use standard Personal computer pin-out for DB9 connector, which is pin 3 = TX, pin 5 = GND. Can be connected to every PC serial port using a standard cable null-modem 9-9 .





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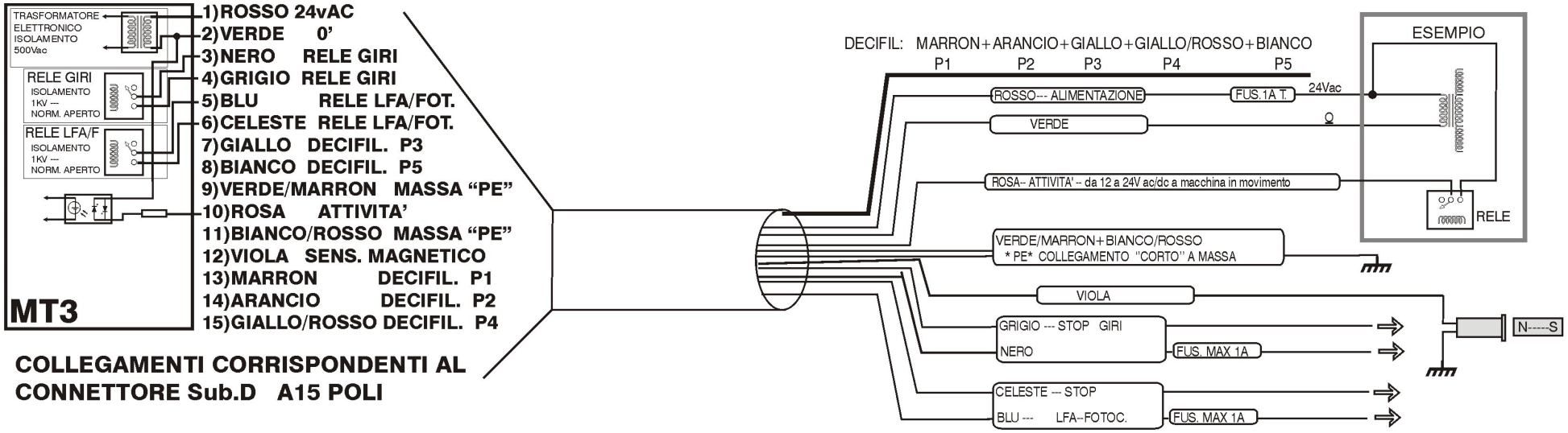
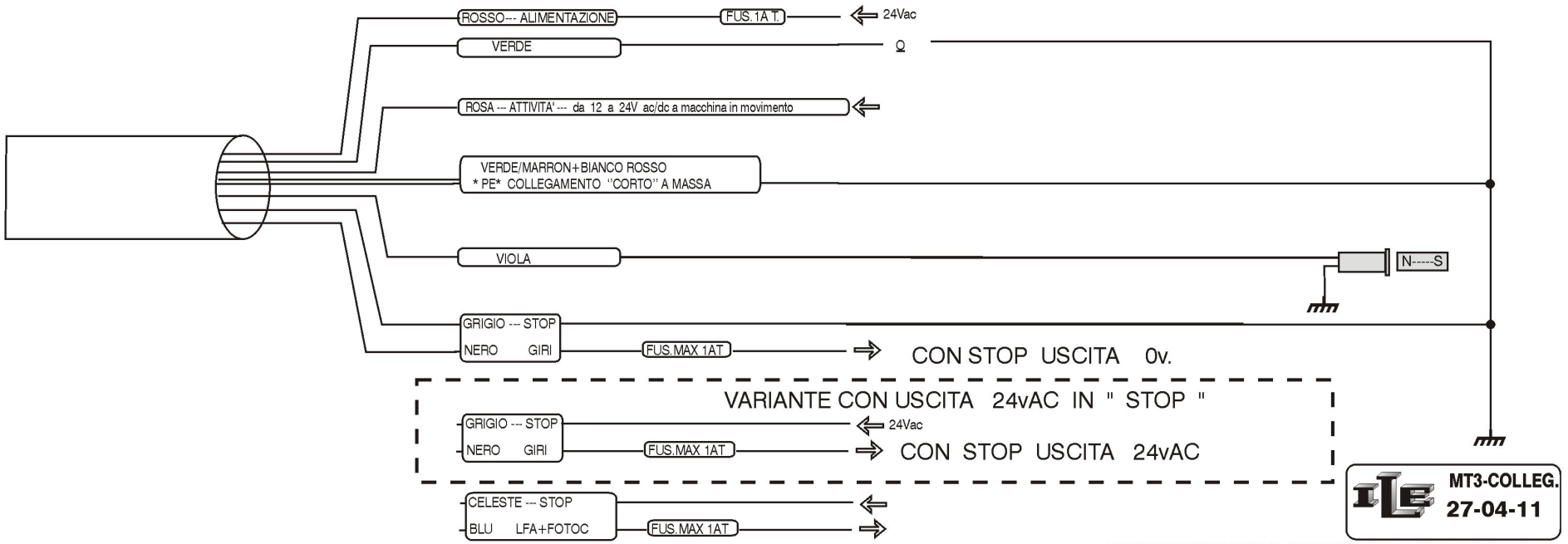



**COLLEGAMENTI CORRISPONDENTI AL CONNETTORE Sub.D A15 POLI**

COLLEGAMENTI CONSIGLIATI PER MACCHINE DI VECCHIA PRODUZIONE
NON CONFORMI ALLE LEGGI APPLICATE AI NUOVI PRODOTTI




IL PRESENTE DISEGNO E' PROPRIETA' DELLA I.L.E. OGNI RIPRODUZIONE O CESSIONE A TERZI E' VIETATA A NORMA DI LEGGE

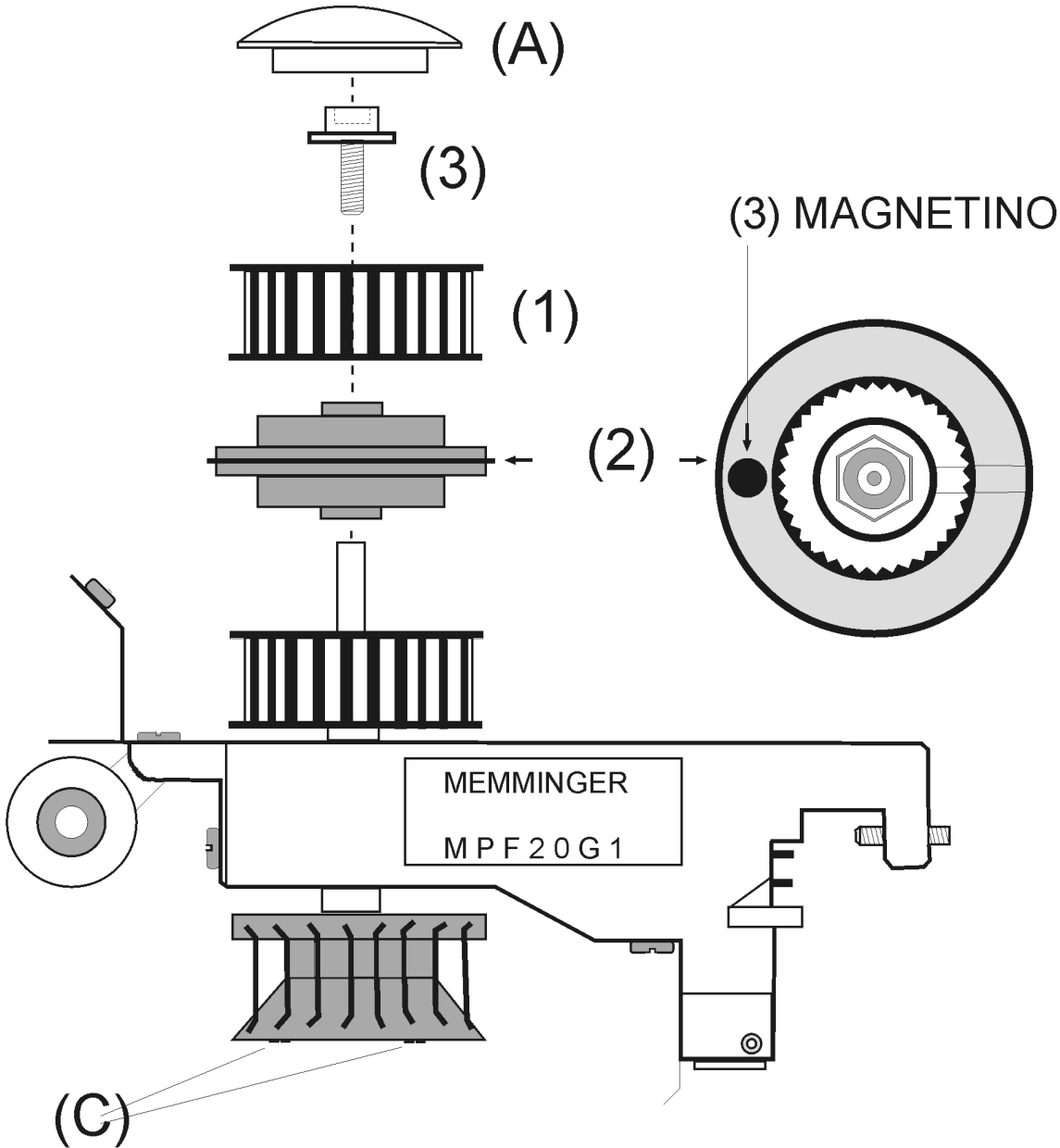
IACUZZI LABORATORI ELETTRONICI (UD)-ITALY

# ILE laboratori elettronica-Udine

## MAGNETIC SENSOR INSTALLATION ON " MPF20 "

Remove lower cover releasing screw (C).
Remove upper pressure-hold cover (A).
Hold lower block ,with grip of 13 mm.
Remove screw and upper ring (B) using a grip of 5mm.

Remove the first wheel (1).
Remove second black wheel (2).
On this black wheel, make a hole large 6.5mm , plug into the magnet and fix with glue. (3)
Remount all .



# Instructions for the assemblage of the optic head

1. The optic head has a black plastic front with a transparent window, as visible in the following image, and a plastic cork on the back. Mount one or two sleighs of metal on the optic head so that sticks out of around two millimeters from the front. Then mount the optic head with the sleighs in contact with the fabric, so that the front of the head is firmly two millimeters apart from the cloth.

2. The head must be placed on top, next to the needles, where the fabric is formed. It is generally fixed on the yarn guide. The transparent window of the front , visible in the following image, has to be parallel to the defects of the fabric as the dropped stitches. Mainly the head is placed standing in portrait (not landscape), exactly as in the image.

3. If the head is very near to the needles, only the lower sleigh is necessary.
4. Check that the fans don't make to tremble the cloth at their passage. This could cause some stop not necessary.
5. At this point it is advisable to install the magnetic sensor as described in the following pages .

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# Instructions for assembly of magnetic sensor

1. If you have to make the jump of the discarded needle, place the loom in a position that the discarded needle is placed about 1cm before the middle of the optic head. With the loom in that position mount paired the magnetic sensor and magnet .
2. Mount the magnetic sensor in a firm place, protected from bumps. Place the magnet on the rotating part of the loom so to activate the magnetic sensor at each turn. The distance between magnetic sensor and magnet should be around 4 mm .
3. The above instructions are necessary be able to effect the jump of discarded needle, which happen immediately after received the signal from the magnetic sensor. During such jump the control of the fabric is suspended, so that programmed lacks of needles foreseen in the fabric doesn't cause a stop. Remember to enable the jump with 'J' key if needed.
4. The magnetic sensor has to be connected one wire to Ground and the other one to the clamp labeled MAG.SW as in the connections design .
5. If the jump of the discarded needle is not necessary then it is not important the position where magnetic sensor and magnet coincides related to optic head position. It is enough if they match on each turn. The magnetic sensor is always used for the dropped stitches / ladder detection.

This instrument use only one magnetic sensor even if there are two optic heads/scanners.



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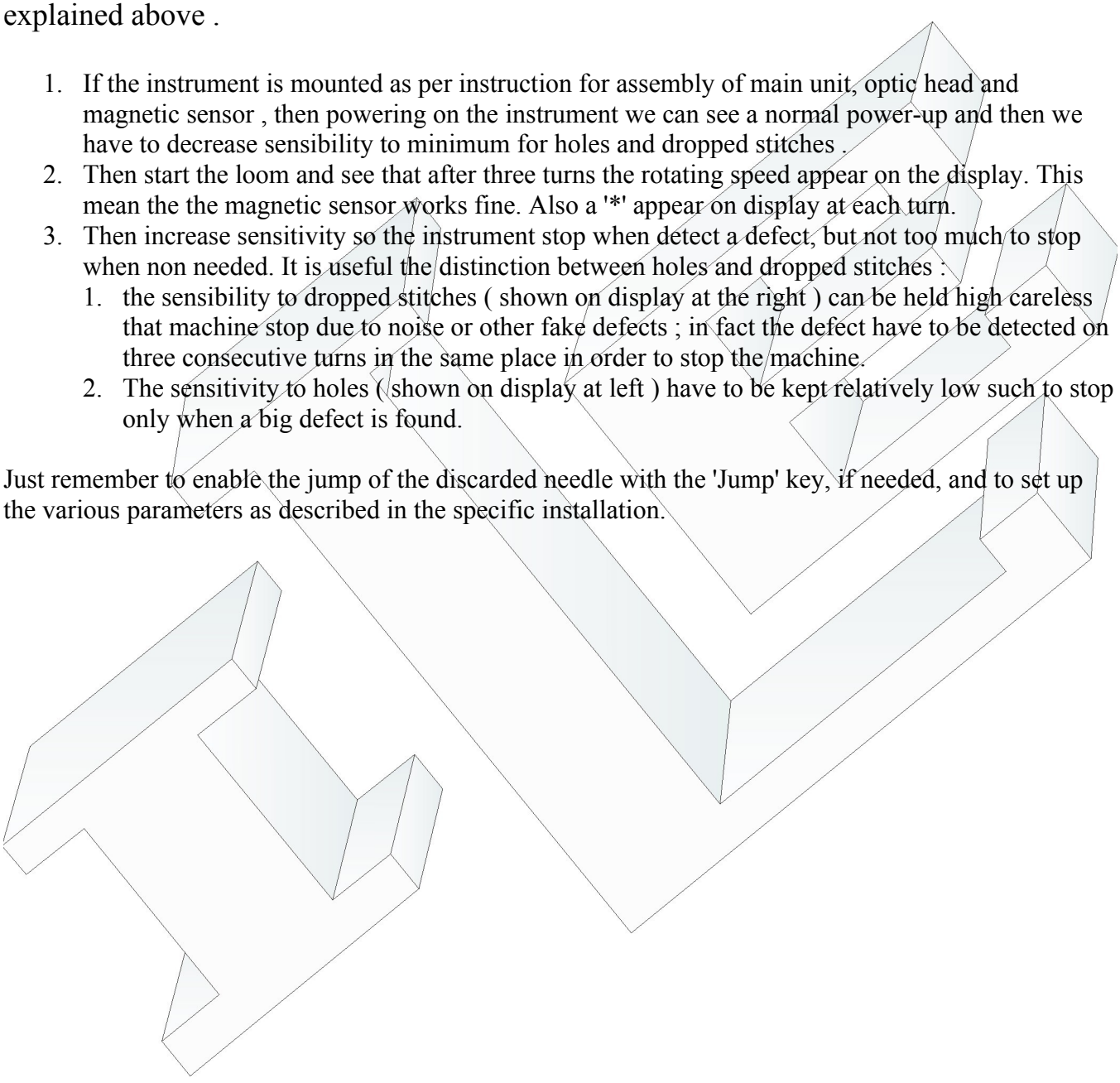
# Instructions for regulation of instrument

**Note :** before to regulate the instrument follow and check the mounting instruction explained above .

1. If the instrument is mounted as per instruction for assembly of main unit, optic head and magnetic sensor , then powering on the instrument we can see a normal power-up and then we have to decrease sensibility to minimum for holes and dropped stitches .
2. Then start the loom and see that after three turns the rotating speed appear on the display. This mean the the magnetic sensor works fine. Also a '*' appear on display at each turn.
3. Then increase sensitivity so the instrument stop when detect a defect, but not too much to stop when non needed. It is useful the distinction between holes and dropped stitches :
    1. the sensibility to dropped stitches ( shown on display at the right ) can be held high careless that machine stop due to noise or other fake defects ; in fact the defect have to be detected on three consecutive turns in the same place in order to stop the machine.
    2. The sensitivity to holes ( shown on display at left ) have to be kept relatively low such to stop only when a big defect is found.

Just remember to enable the jump of the discarded needle with the 'Jump' key, if needed, and to set up the various parameters as described in the specific installation.





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# Explanation of error messages

" BIG HOLE Sc.(1 or 2)"
The Scanner 1 or 2 has noticed a defect great enough to produce a lot of signal . The loom is therefore immediately stopped to point out to resolve the problem.

" SMALL HOLE Sc.(1 or 2)"
The tool has noticed a defect in the fabric not so great to have immediately to stop, but the sum of small holes has reached the limit planned in the special page . The loom has stopped therefore to point out to resolve the in relief problem.

" LADDER Sc.(1 or 2)"
The scanner/optic head 1 or 2 have noticed for three consecutive turns a defect in the same zone of fabric, and the loom has stopped therefore to point out to resolve the problem.

"LACK TURN PULSE "
The tool stops because it doesn't receive signal from the magnet while it is receiving instead the signal of 'Activity' from at least five minutes. Please note that the signal of activity ( 24VAC) must be supplied only to the tool on the suitable clamp when the loom turns. If so it is, then it misses indeed the signal of the magnet, therefore it is opportune to verify the connections of the magnetic sensor and that the magnet activates the sensor to every turn.

"LACK ACTIVITY "
The tool stops because it doesn't receive the signal of activity while instead it has been receiving at least 8 pulses from the magnet. Please note that the signal of activity ( 24VAC ) must be supplied to the tool on the suitable clamp (only) when the loom turns, and the magnetic sensor must be activates once from the magnet to every turn of the loom. It is useful to verify the connections of the signal of activity.

"ERROR:DISAB.JUMP OR + HOLE LEVEL // OR + TEARS LEVEL"
The tool stops because it has the jump of discarded needle enabled but it doesn't succeed in seeing the defect caused from discarded needle. There are two possible causes:

- The sensibility planned for the optic head is too much low and doesn't even turn on the red light when discarded needle passes in front of the optic head. So increase the sensibility for holes, or the sensibility for tears, as pointed out by the message, until the corresponding red light flashes at every turn.
- The discarded needle it is not present in the loom nor in the fabric. In such case disable the jump with the key 'Jump', the yellow light has to be turned out to confirm that the jump is disabled.


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# Adapter Contex to Parallel

The adapter 'Contex Parallel' receives the information on the state of the textile machine from the serial port RS232 of the Contex8 and it brings such information on 24 digital signals placed on the output connector .

The active state of the signal is pointed out by the low level (low electric level) of the output and lighting of the relative led.

Each output has a meaning as explained below :

| | |
|---|---|
| 1 | Textile Machine turning |
| 2 | Lack of activity signal |
| 3 | Lack of power supply 24V |
| 4 | Feeders alarm on input or output |
| 5 | stop from broken needle detectors |
| 6 | stop from auxiliary devices |
| 7 | Lack of oil or air |
| 8 | Textile machine doors open |
| 9 | Stop for out of LFA tolerances |
| 10 | stop for end of piece |
| 11 | Lack of signal from turns magnetic sensor |
| 12 | |
| 13 | |
| 14 | |
| 15 | Built-in test – serial port receive correct messages |
| 16 | Built-in test – serial port receive data |
| 17 | Speed bit0 |
| 18 | Speed bit1 |
| 19 | Speed bit2 |
| 20 | Speed bit3 |
| 21 | Speed bit4 |
| 22 | Speed bit5 |
| 23 | Speed bit6 |
| 24 | Power supply present |


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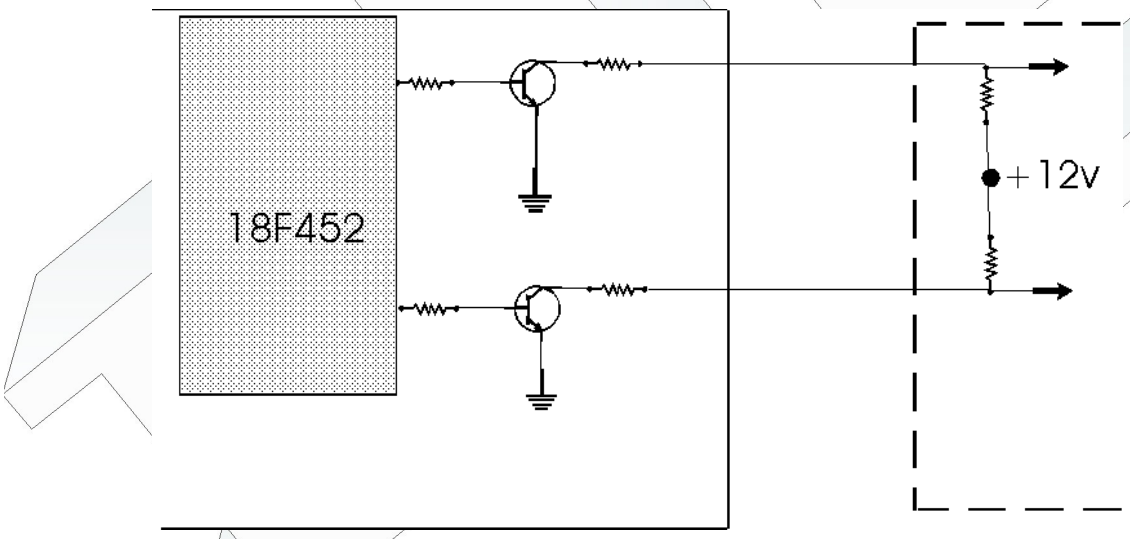
The output labeled 'speed0-*6'* (pins 17-23) show the turning speed value in hexadecimal .
Look at the examples in table below :

| ***Turns per minute*** | ***Coded output*** | | | | | | |
|---|---|---|---|---|---|---|---|
| | pin. 23 | pin. 22 | pin. 21 | pin. 20 | pin. 19 | pin. 18 | pin. 17 |
| 5 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 10 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 25 | 0 | 0 | 1 | 1 | 0 | 0 | 1 |
| 40 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 85 | 1 | 0 | 1 | 0 | 1 | 0 | 1 |

The two pins at the beginning of the connector labeled with 'M' are connected to Ground.
Outputs are open-collector stile as follows :




Maximum current is 100mA , maximum voltage is 16V.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