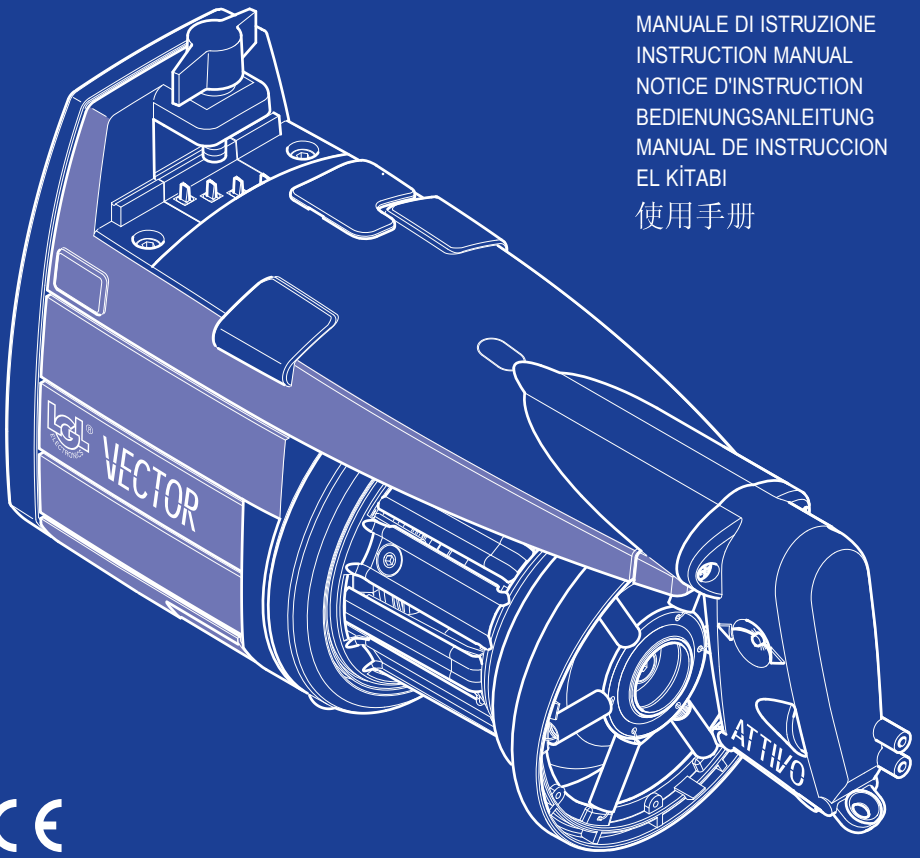
VECTOR

MANUALE DI ISTRUZIONE
INSTRUCTION MANUAL
NOTICE D'INSTRUCTION
BEDIENUNGSANLEITUNG
MANUAL DE INSTRUCCION
EL KİTABI
使用手册



CE

ALIMENTATORE DI FILO A SPIRE SEPARATE
YARN FEEDER WITH SEPARATE COILS
DELIVREUR DE FIL A SPIRES SEPAREES
SCHUSSFADENGEBER MIT GETRENNTEN WINDUNGEN
ALIMENTADOR DE HILO DE ESPIRAL SEPARADOS
İPLİK ARASI MESAFELİ İPLİK BESLEYİCİSİ
分离线圈导纱器

VALID FROM SERIAL
n° KVLG 27/0001

ISO 9001

BUREAU VERITAS
Certification

Scope of supply: Design, manufacture and after sales service of yarn and weft feeders, measuring winders, stands, creels and oil systems for textile machinery.

L.G.L. Electronics is gratified by your choice and thanks you for the preference

VECTOR
yarn feeder
INSTRUCTION MANUAL

ISSUED BY:	Service Manager	Date: 01/01/12
APPROVED BY:	Technical Manager	Date: 01/01/12

WARNINGS

1) Power down the yarn feeder's power supply box mains switch before beginning any power supply hook-up, maintenance or part replacement operations.

2) During standard machine operation, the yarn feeder may suddenly start up without prior warning.
CAUTION: the orange lights do not signal that the yarn feeder is ON, but that the feeder has gone into an alarm mode. Therefore, during standard operation they should be OFF.

3) Before yarn feeder start-up, inspect it physically for damage (check the flywheel/the eyelet/all moving parts).

4) Strictly avoid touching any moving part during feeder operation.

5) Only use the original L.G.L. Electronics spare parts and accessories.

6) Any repairs to the feeder's electronic parts must be performed by appropriately qualified personnel, regularly authorised by L.G.L. Electronics accordingly.

7) Yarn feeders that are moved from warehouse storage into a warmer knitting mill environment may develop condensation; please wait until they are completely dry before connecting them up. Failure to do so may damage the electronic components.

8) Never pick the yarn feeder up by its yarn spool body or by its tensioning unit.

WARNINGS

ADVICE TO ALWAYS KEEP THE FEEDER IN PERFECT WORKING ORDER AND EXTEND ITS SERVICE LIFE.

For an always satisfying performance of the weft feeder over the years, we deem it advisable to provide you with some simple tricks:

1. *At the time of installation, passing from the store to the warm knitting environment, Condensation may form on a yarn feeder that has been stored in cold places when this is brought into a warm area.Wait until this is completely dry before connecting it, otherwisethe electronic components could be damaged.*

2. *Water and dampness may harm the electronic parts of the feeder. Operating the weft feeder for long time periods in extremely dump environments (dampness exceeding 80%) or using water-impregnated threads might quickly compromise the electronic cards. Moreover, the feeder shall not be cleaned with water or similar substances.*

3. *Machines working in environments featuring a lot of dust require increased maintenance. By prevent the knitting environment clean, you avoid residual dirt and dust from compromising the performance of the machine by stressing the moving parts. The latter are protected, but the accumulation of dust might result in a more difficult movement and, as consequence, in early wear-and-tear.*

4. *We suggest storing feeders that are not used for long time periods in the special polystyrene boxes, which ensure the best storage.*

5. *When the weft feeder is being loaded, use the special heddle tool. Do not use other tools, especially if made from metal, as he inlet sensor might be damaged, along with any outlet brakes.*

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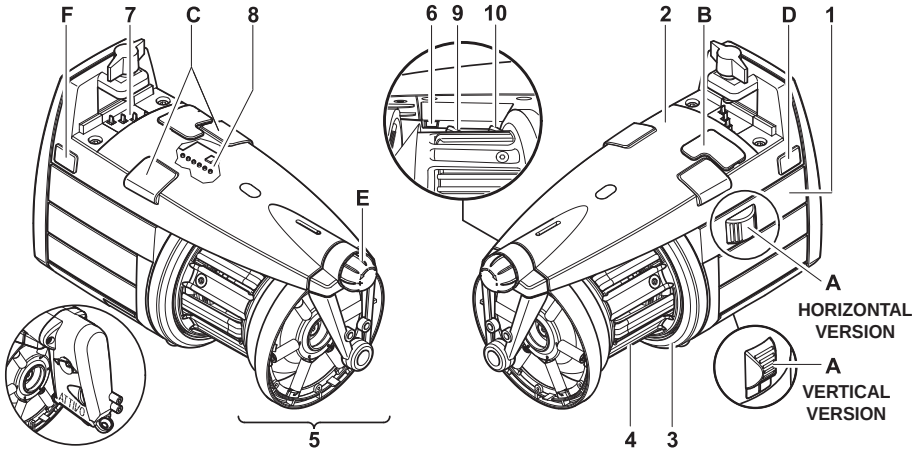
1 - GENERAL FEATURES

1.1 MAIN PARTS – CONTROL AND ADJUSTMENT POINTS

Main Parts:

1 • MOTOR
2 • TOP PANEL
3 • FLYWHEEL
4 • YARN SPOOL BODY
5 • OUTPUT TENSIONER UNIT
6 • OPTICAL OUTPUT SENSOR
7 • POWER CABLE CONNECTION
8 • MAIN ELECTRONIC CONTROL BOARD
9 • WINDING RESERVE CONTROL FEELER
10 • INPUT FEELER

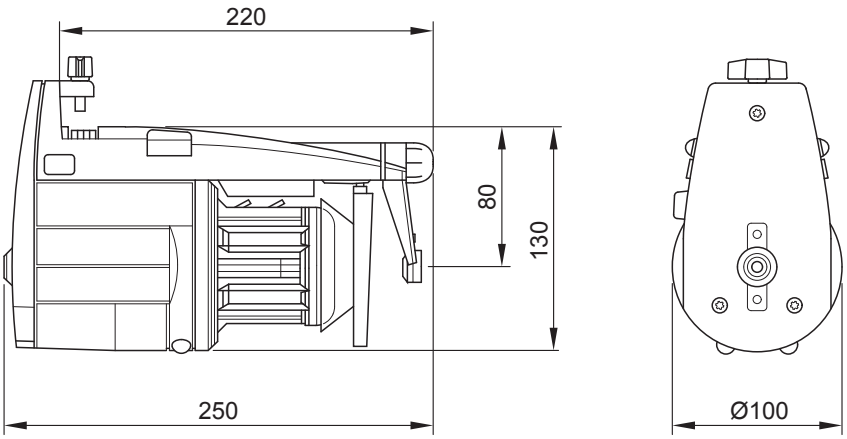


FOR FURTHER DETAILS CONCERNING THE ATTIVO ELECTRONIC TENSIONS, PLEASE GO TO CHAPTER 7

CONTROLS / ADJUSTMENTS		FUNCTION
A	**0 – I SWITCH**	• Switches the yarn feeder ON and OFF.
B	**SERIAL COMMUNICATION PORT**	• Enables Pocket and PC interfacing.
C	**SIGNAL LAMPS**	• If yarn feeder is turned on and there are no malfunctions, they will not light up. • They will light up if any malfunction arises. *(consult paragraph 9 "Trouble shooting").*
D	**DIP SWITCH**	• Enables adjustment of the optical sensor's sensitivity range, reverse the direction of rotation, self-calibrate magnetic sensors and perform the termination of the serial bus *(see chapter 4.1*).
E	**ADJUSTING TWIST-KNOB**	• Enable adjustment of the outbound yarn tensioning.
F	**THREE-WAY CONNECTOR**	• Enables connection of an output yarn feeler *(see chapter 1.8)*.

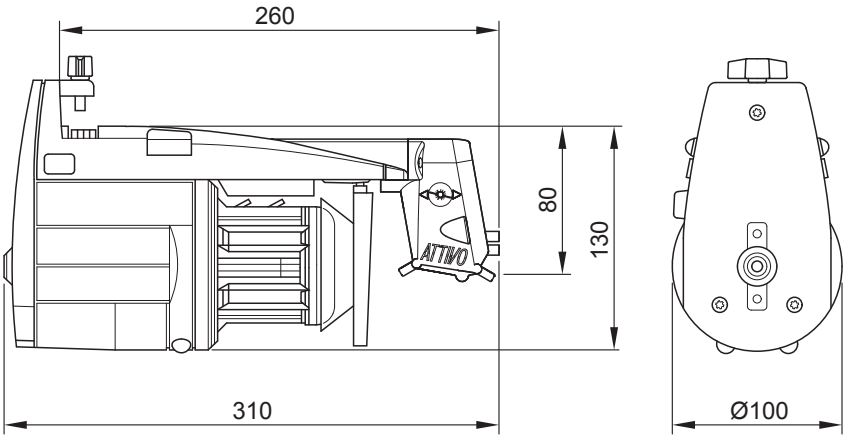
1.2 OVERALL DIMENSIONS

VECTOR featuring the TWM tension modulator



Weight 2.5 kg

Vector with ATTIVO electronic tensioner



Weight 2.6 Kg

1.3 INTENDED USE – TECHNICAL AND OPERATIONAL FEATURES

Intended Use:

The VECTOR is a yarn feeder featuring **separate coils**, suitable for all types of knitting machines or for textile machines requiring yarn feed-in with constant tension.
Optimised operation is provided with yarn counts ranging from **500 den** (the thicker yarn counts) down to **10 den** (fine yarn counts).

Operational features:

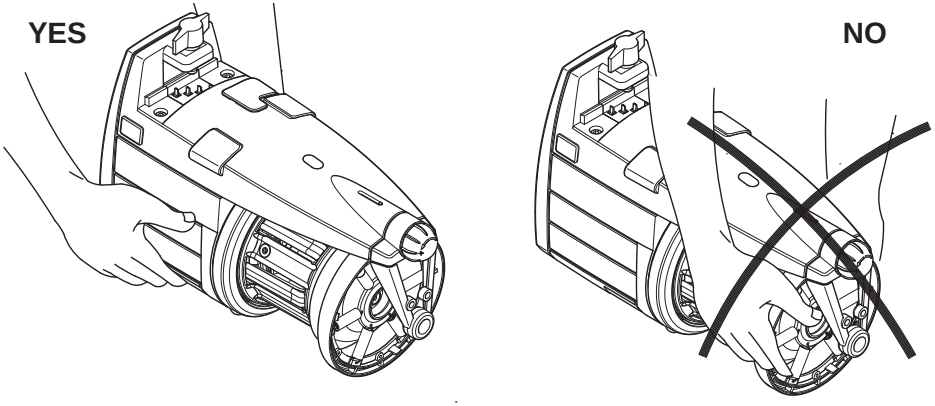
- Automatic speed adjustment designed to cover the machine's yarn quantity requirements.
- Spool body winding reserve control by means of a magnetic feeler system.
- Yarn feeder and machine stop function if no yarn is detected at the feeder's yarn input (broken yarn or empty yarn bobbin).
- Kit KLS (Optional):
  Feeder and machine stop function when no yarn is found on feeder outlet without using mechanical sensors (yarn broken or out of the needles).
- The option of being able to fit on various tensioning devices based on the type of yarn actually being used, at both the feeder's inlet and outlet.
- Either vertical set-up or horizontal set-up assembly option, selectable based on requirements.
- Real-time detection and display function of the yarn consumption related to each machine feed (VECTOR XL)
- **ATTIVO** electronic tensioner (optional). The operator sets the desired output tension, and the system will maintain it, to avoid all tension changes depending on the yarn, the bobbin and the like issues.

Technical specifications:

- Power supply by means of a direct connection with the machine, or through a power supply box that is supplied separately by L.G.L. Electronics.
  Power supply voltage data: **V = 42-48V three-phase AC Hz = 50/60**
- Automatic yarn input speed control provided up to a maximum of **1000 m/min**.
- Coil separation feature fixed at **1 mm**.
- Three-phase asyncronous motor, maintenance-free.
  Motor data:
  Maximum power: **35 W** Average absorbed power: **18 W**
- Equivalent continuous A-weighted sound pressure level at maximum speed: **>70 dB (A)**
- Operation and storage conditions:
  - Room temperature: from **+10** to **+40 °C**
  - Maximum humidity: **80%**

1.4 HANDLING AND STORAGE INSTRUCTIONS

Never pick the yarn feeder up by its yarn spool body, by its top panel or by its tensioning unit.

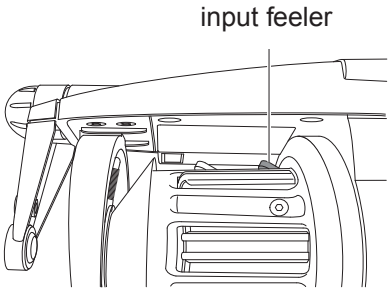


The yarn feeder is supplied in an appropriate polystyrene casing; please store the casing for use during any future handling.

1.5 INPUT FEELER

The yarn feeder features an input feeler that provides the following function:

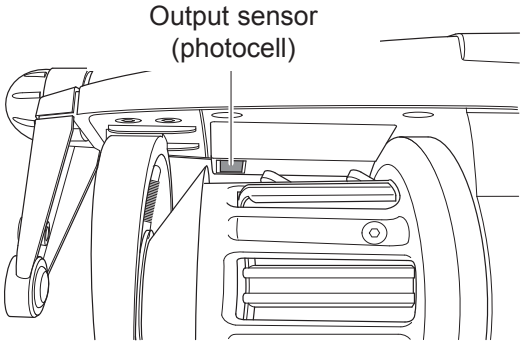
- **"Machine stop" function:** this function stops both the feeder and the machine if no yarn is detected at feeder input (broken yarn or empty yarn spool).



Caution: the machine will not stop if the feeder comes to a halt. The machine stop signal is operative only if the signal lamps are ON.

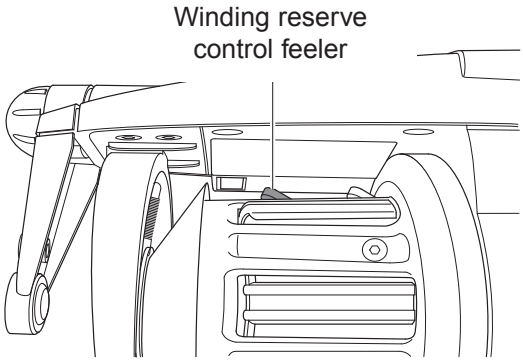
1.6 OPTICAL OUTPUT SENSOR

The optical sensor featured by the yarn feeder provides automatic speed adjustment based on the quantity of yarn needed by the machine. For very fine yarn count processing (lower than 40 den), the sensor requires DIP SWITCH settings *(paragraph 4 refers).*



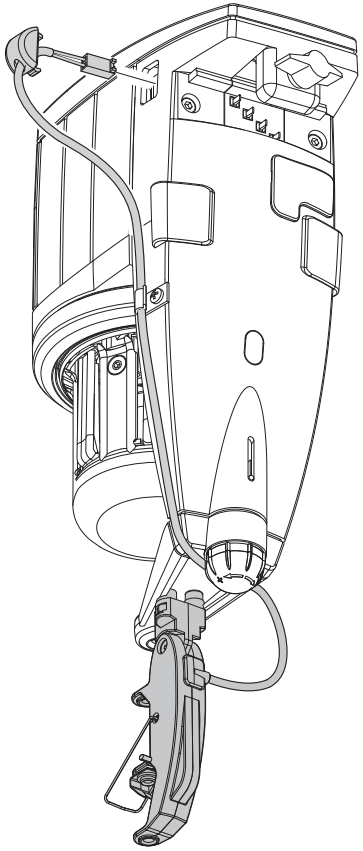
1.7 YARN SPOOL BODY WINDING RESERVE CONTROL FEELER

The magnetic sensor that the yarn feeder is provided with has the functionof monitoring the yarn winding reserve on the spool body.



1.8 YARN OUTPUT DETECTION FEELER

The assembly of this detection feeler onto the feeder output, enables the machine to receive a stop signal that is relayed by the feeder when it detects output yarn snaps/breaks.



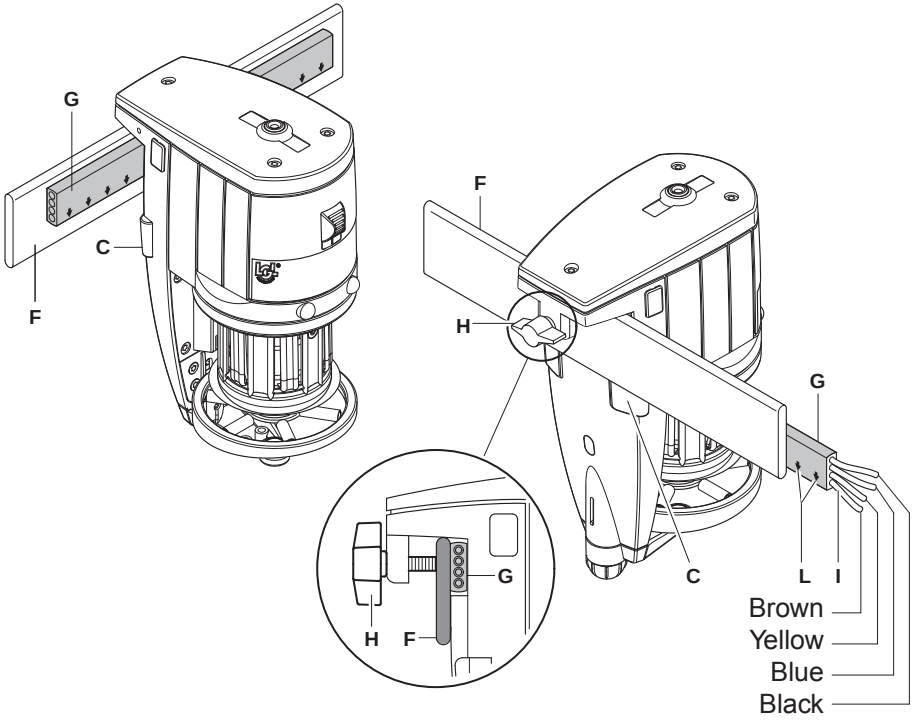
Installation: once the feeler has been fixed onto the feeder using the nuts and bolts provided on the support bracket, connect up the wire with the three-way connector located on the feeder housing.

2.1 YARN FEEDER INSTALLATION AND START-UP

N.B.: Yarn feeders that are moved from warehouse storage into a warmer knitting mill environment may develop condensation; please wait until they are completely dry before connecting them up.
Failure to do so may damage the electronic components.
For installation of the yarn feeder onto the machine, proceed as follows:

VERTICAL SET-UP VERSION

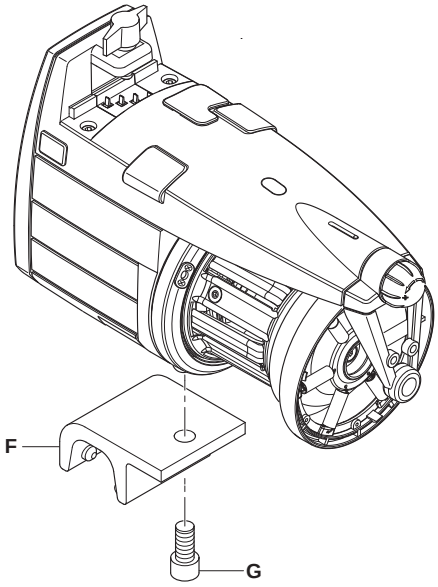
Fix the feeder onto the appropriate support plate (**F**) and fit in the power supply cable strip (**G**) as well; tighten in grub screw (**H**) until the strip is punctured.
IMPORTANT: To avoid damaging the electronic components, the installation sequence illustrated in the figures below must absolutely be complied with exactly.
The brown cable (**I**) must be kept facing the signal lamps (**C**) (if the cable strip is supplied by LGL, the brown cable (**I**) can be identified by the arrows (**L**) printed on the cable strip).
N.B.: Make sure that the support plate the yarn feeder is fixed onto is provided with an earth connection, the same goes for the 48V three-phase power supply transformer star-connection.

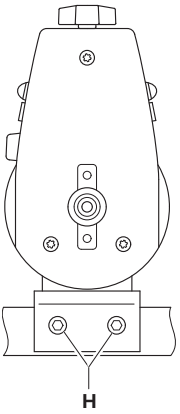


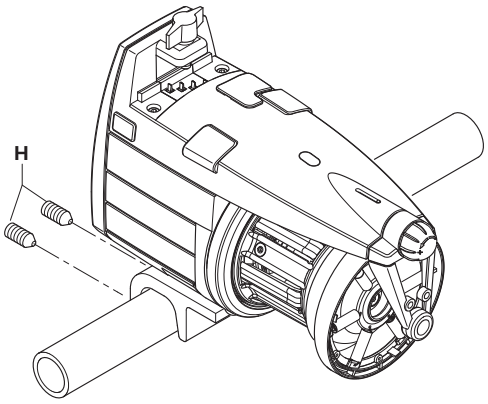
HORIZONTAL SET-UP VERSION

For the installation of the feeder onto the machine, proceed as follows:

- using screw (**G**) fix clamp (**F**) underneath the feeder; fix the clamp onto the machine tube using the grub screws (**H**) located in the clamp, and position the yarn feeder so that it is set into the exact angle required for operation.

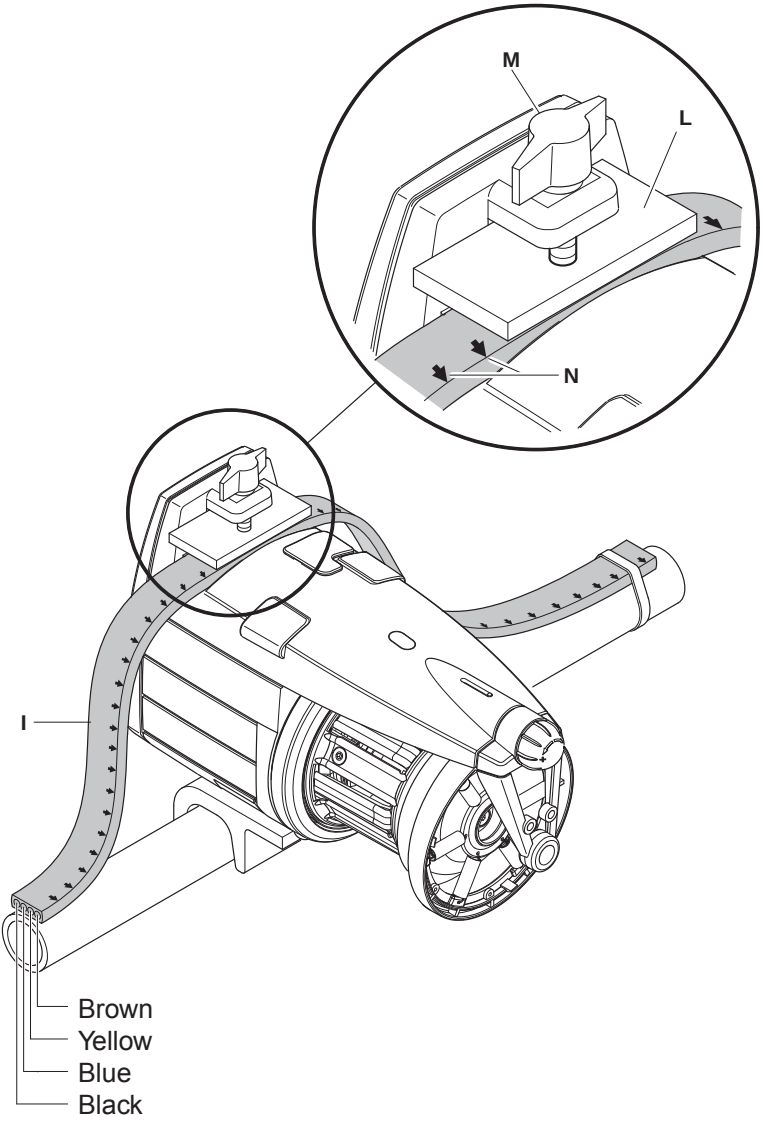






- Connect up the feeders to the flat power cable (**I**) by means of the appropriate locking plate (L) then tighten it in with screw (**M**) located on the housing.

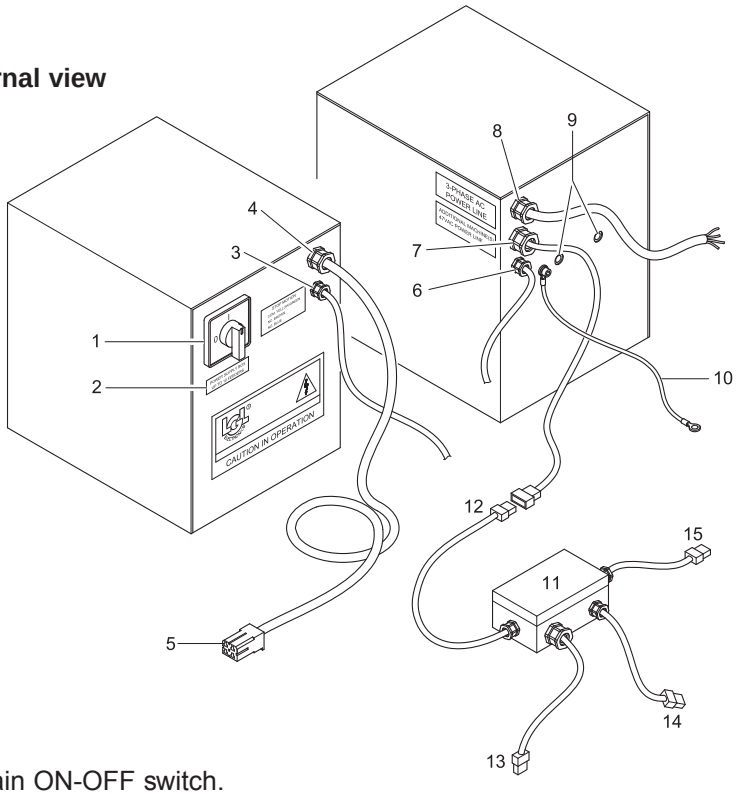
***CAUTION**: when connecting the flat power cable, keep to the printed reference marks showing the exact fixing position (the arrows (**N**) must point towards the front end of the feeder).*



2.2 POWER SUPPLY BOX

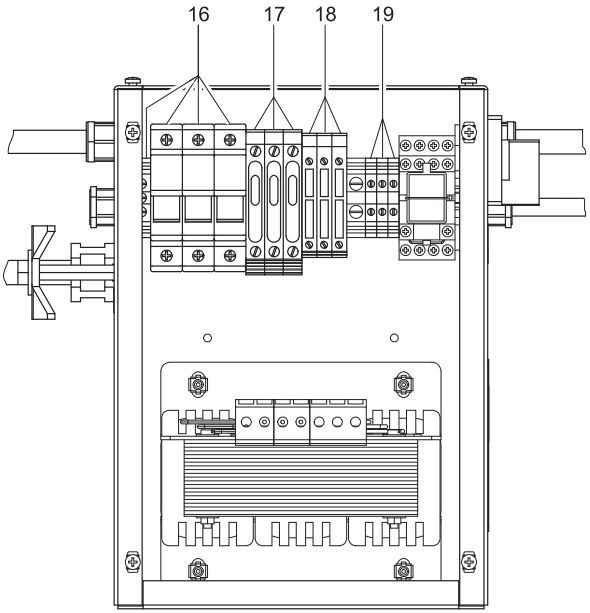
(Available for machines that are not originally equipped with yarn feeders)

External view



1. Main ON-OFF switch.
2. Label that specifies the maximum number of feeders supported.
3. Machine STOP function, spool end or broken yarn cable (**1**).
4. Machine flat power supply strip connection cable (**1**).
5. Flat power supply strip connector.
6. AUX (additional input/output)
7. Additional machine connection cable, through cable branch boxes.
8. Mains power supply cable. *Machine-fed power supply.*
9. Fix-on holes.
10. Earthing cables. *They must strictly be connected up to the machine.*
11. Cable branch boxes for additional machines.
12. Previous machine power supply box or cable branch box connection cable.
13. Power supply cable for working machine's strip cable.
14. Machine STOP function, spool end or broken yarn cable.
15. Next in-line machine (where present) connection cable.

Internal view



16. Power supply input.
17. Delayed protection fuses 48 V AC.
18. Delayed protection fuses 48 V AC main machine power line.
19. Machine stop cable connection clamps
yellow/green wire: common
- brown wire: contact normally closed
- grey wire: contact normally open

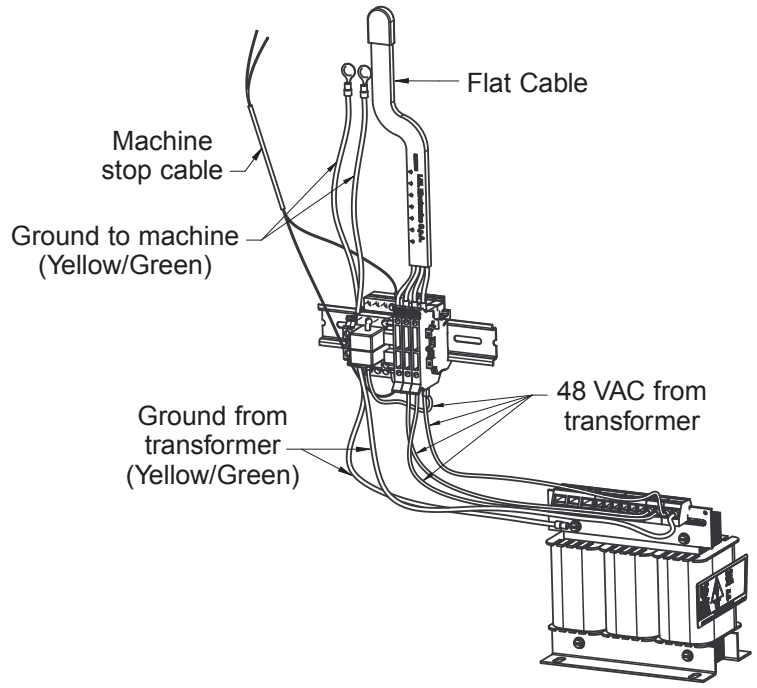
N.B. The spare fuses are located inside the relative fuse carriers (17-18)

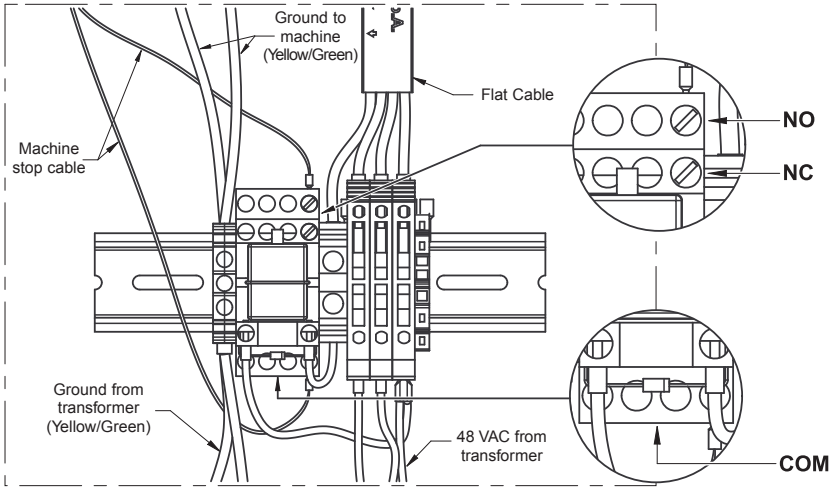
Always replace fuses with new fuses having the same value.

Check to see that the transformer inlet connection complies with the power supply voltage.

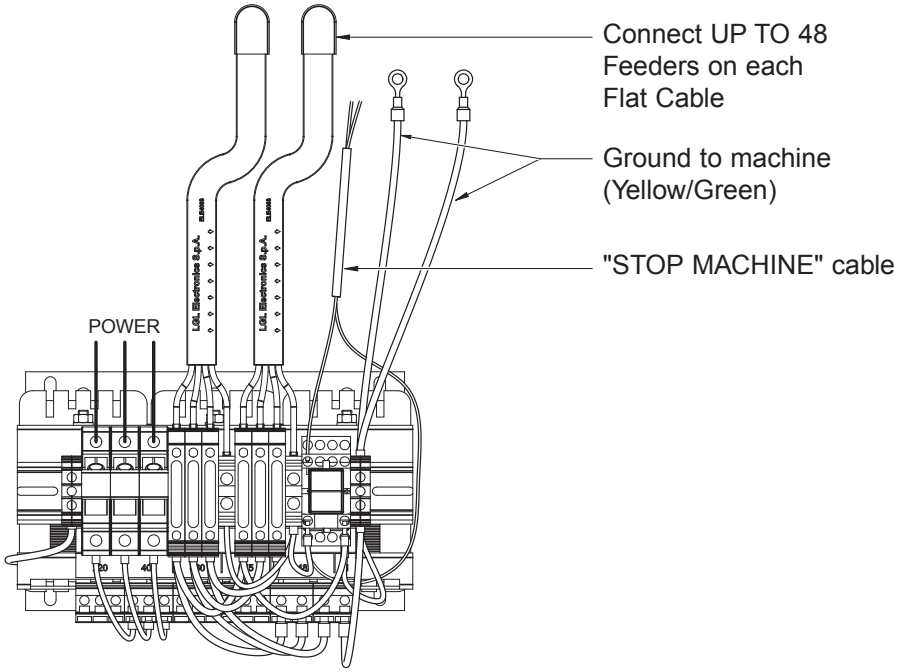
2.3 TRANSFORMER KIT

Up to 10 Feeders

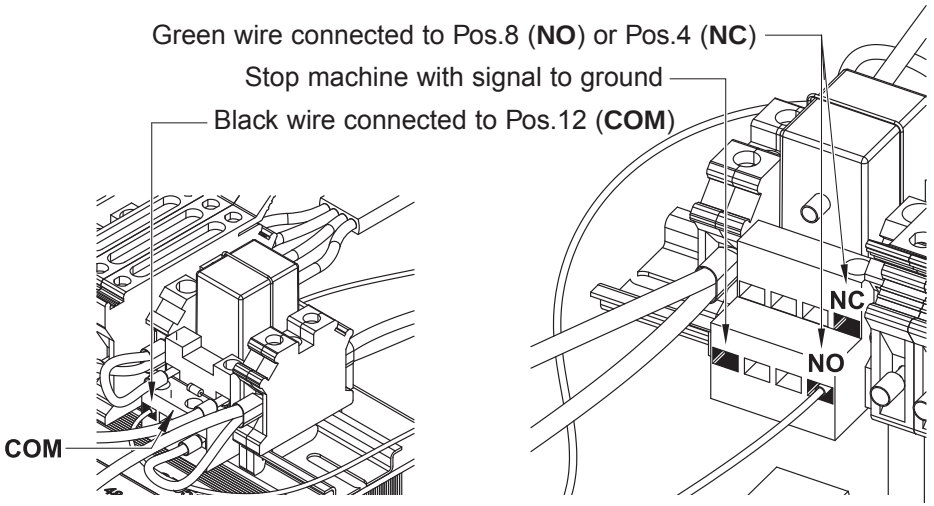




Up to 96 Feeders

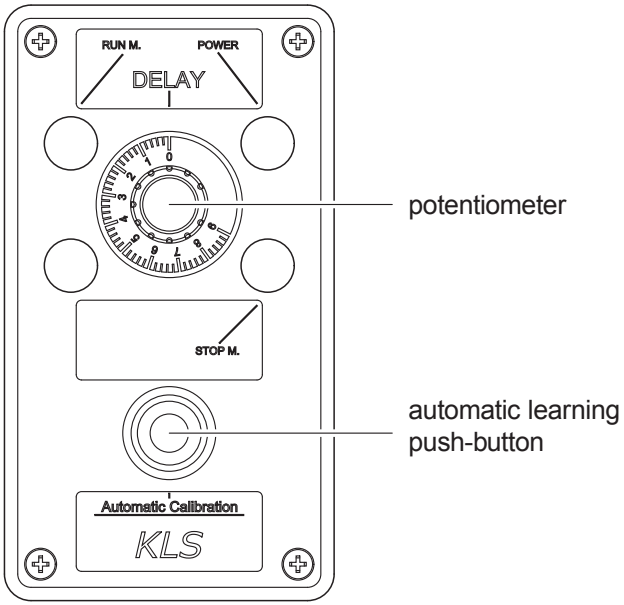


"STOP MACHINE" cable



2.4 DETECTION OF YARN BREAKAGE ON FEEDER OUTLET: KLS KIT

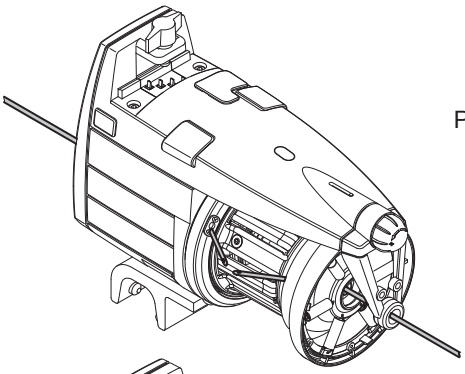
This kit allows any irregular use of yarn by the machine to be detected without using any mechanical sensors.
These sensors bring about undesired changes in yarn tension that are likely to negatively affect the overall efficiency of the equipment.
The KLS KIT allows these sensors to be completely removed with no need to replace them, as it only makes use of the sensors already found in the feeder.
This Kit, unlike mechanical sensors, does not simply detects breakages, but also other events, e.g. cases when the yarn, though in tension, moves out of the needles and is not properly fed any longer.



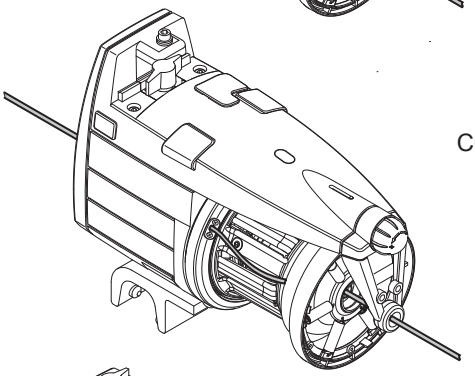
Potentiometer: time set by the machine to reach the working speed from the idle state. **Set this value to 3 seconds.**
Automatic learning push-button: each feeder learns the characteristic speed of the item being processed.
Procedure (to be carried out at every item change):
1. Press the PUSH-BUTTON. The feeders' lights will switch off.
2. Start the machine, produce a complete item then stop the machine.
   During production, the outlet detection system does not operate.
3. When the machine stops, the feeders will store the speed value.
4. Upon restarting the machine, the system will be active and operating.

3.1 THREADING YARN FEEDER WITH THE TWM TENSION MODULATOR

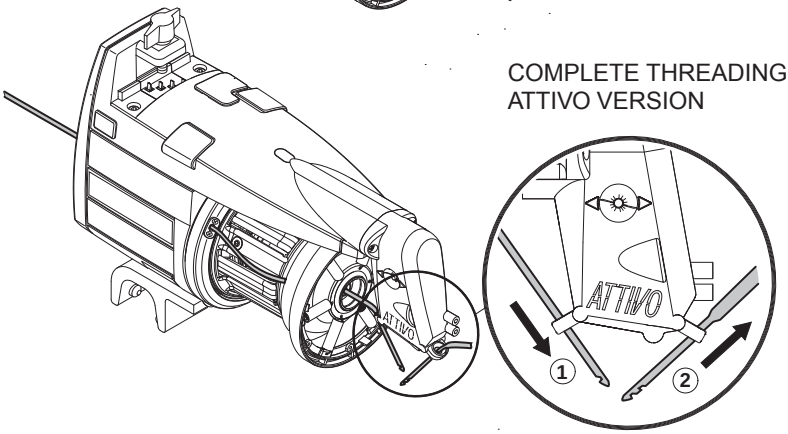
Yarn feeder threading must be carried out when the device is OFF and as illustrated below:



PARTIAL THREADING



COMPLETE THREADING



COMPLETE THREADING
ATTIVO VERSION

To avoid damaging the TWM we recommend use of threaders that are in good condition with no yarn accumulation around the threader-ends. Use of iron needles for threading must absolutely be avoided as they are liable to damage the TWM.

3.2 SPEED ADJUSTMENT

The VECTOR yarn feeder is provided with a microprocessor and an output sensor that enable **automatic speed adjustment** that conforms to machine feeder speed.

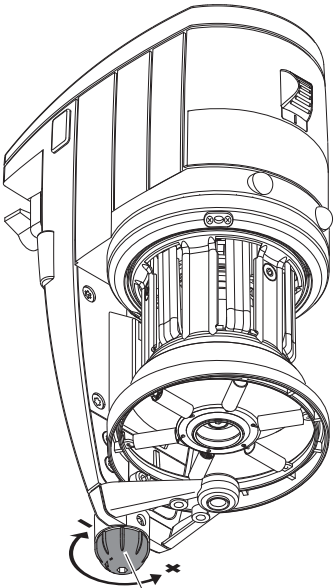
No speed adjustment is therefore required by the operator.

For applications that may require special operational conditions, please consult subsequent paragraph 4 herein.

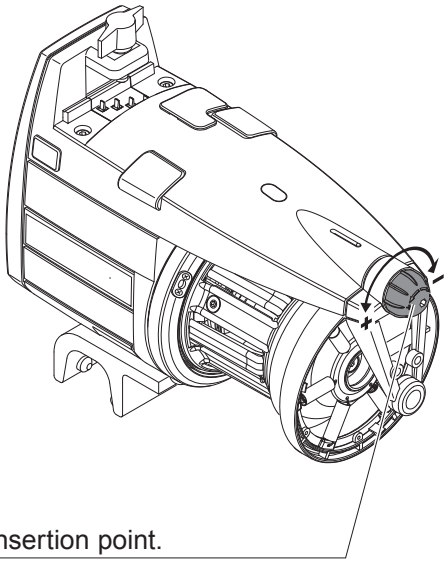
3.3 TENSIONING ADJUSTMENT

Adjust tensioning until required yarn tension is reached by acting on the outbound tension modulator (TWM) that is fitted onto the feeder.
Use the adjusting twist-knob to do so.
However, tensioning adjustment is completely automatic in yarn feeders that are equipped with the ATTIVO electronic tensioner.

VERTICAL SET-UP VERSION



HORIZONTAL SET-UP VERSION



Torx key insertion point.

4.1 DIP-SWITCH SETTINGS

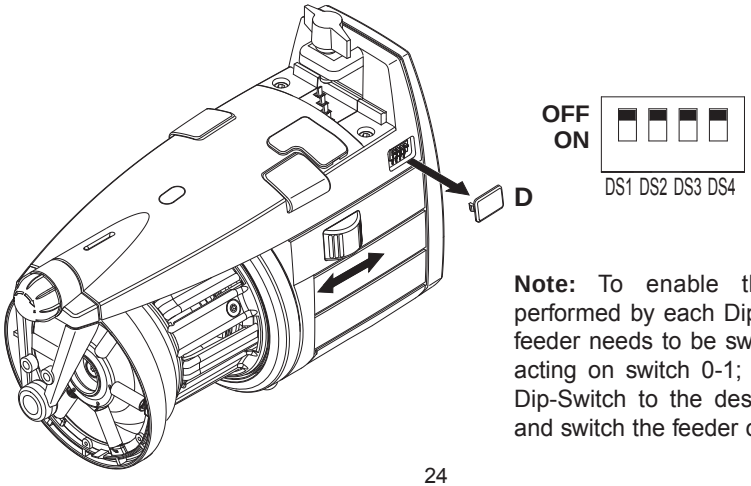
Access to the DIP-SWITCH is enabled by snapping off side cap (**D**) located on the feeder housing.

DS1	SETTING MEANING (Default Position = OFF)
OFF	Z Rotation
ON	S Rotation

DS2	SETTING MEANING (Default Position = OFF)
OFF	Standard optical sensor sensitivity.
ON	Increased optical sensor sensitivity, set when operating with yarn counts thinner than 40 den.

DS3	SETTING MEANING (Default Position = OFF)
OFF	Work position (standard)
ON	Self-calibration of magnetic sensors. The recommended procedure is stated below: - Set switch 0-1 to 0. Set DS3 to ON. - Remove the yarn reserve from the spool body, keeping the feeder threaded. - Set switch 0-1 to 1. The feeder winds the reserve laying down a fixed number of turns on the spool body - If the procedure has been correctly performed, the feeder will put the indicator lamps on for one second to indicate that calibration has been correctly performed.

DS4	SETTING MEANING (Default Position = OFF)
OFF	Bus termination off.
ON	Bus termination on *(see paragraph 4.2).*



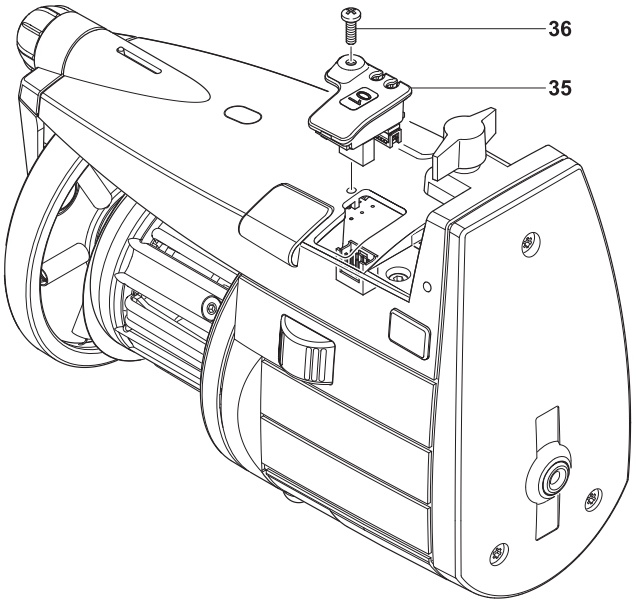
Note: To enable the function performed by each Dip-Switch, the feeder needs to be switched off by acting on switch 0-1; then set the Dip-Switch to the desired position and switch the feeder on again.

4.2 INSTALLATION OF THE YARN CONSUMPTION KIT ON THE "VECTOR XL" MODEL

This kit enables display in the relative page on the machine screen, of the simultaneous yarn consumption for all the feeds put together, expressed in centimetres per machine rows.
The kit comprises a set of numbered **T-connectors** with the relative connection cables. If the machine is not equipped to display yarn consumption, LGL provides a small yarn consumption display kit (POCKET), with an appropriate adapter cable. The kit displays a read-off of the actual yarn consumption in centimetres (or inch) per no. of machine rows if the machine provides a synchronisation signal. Alternatively it also displays the cm (or inch) / sec value, to be set through the Pocket.

Installation:
Plug the **T-connector** into the serial communication port and carefully check to see that the number on the connector corresponds with the machine-feed number.
Using its appropriate screw (**36**) fix the connector (**35**) to the outer feeder housing. If not already connected, connect up the relative cables as shown in figure 2. below. Connect the cable leading from the first feeder up to the machine.

FIGURE 1



On the first and on the last feeders that are fitted on the machine, DS4 shall be set to ON (Bus termination).

Practical example: A yarn consumption kit has been installed onto the machine and a further number of feeders must now be added on. Proceed as follows:

❶ On the kit's last feeder, change the DS4 setting from ON to OFF;

❷ Connect up the new set of feeders in-line subsequent to the kit's last feeder, making sure that the number of the T connectors is progressive and follows the number of the kit already installed.

N.B. : for these cases it is important that LGL is informed accordingly, so that the T connectors are appropriately supplied with a correct progressive numbering.

❸ The feeder that becomes the last in the new kit shall have DS4 set to ON (Bus Termination).

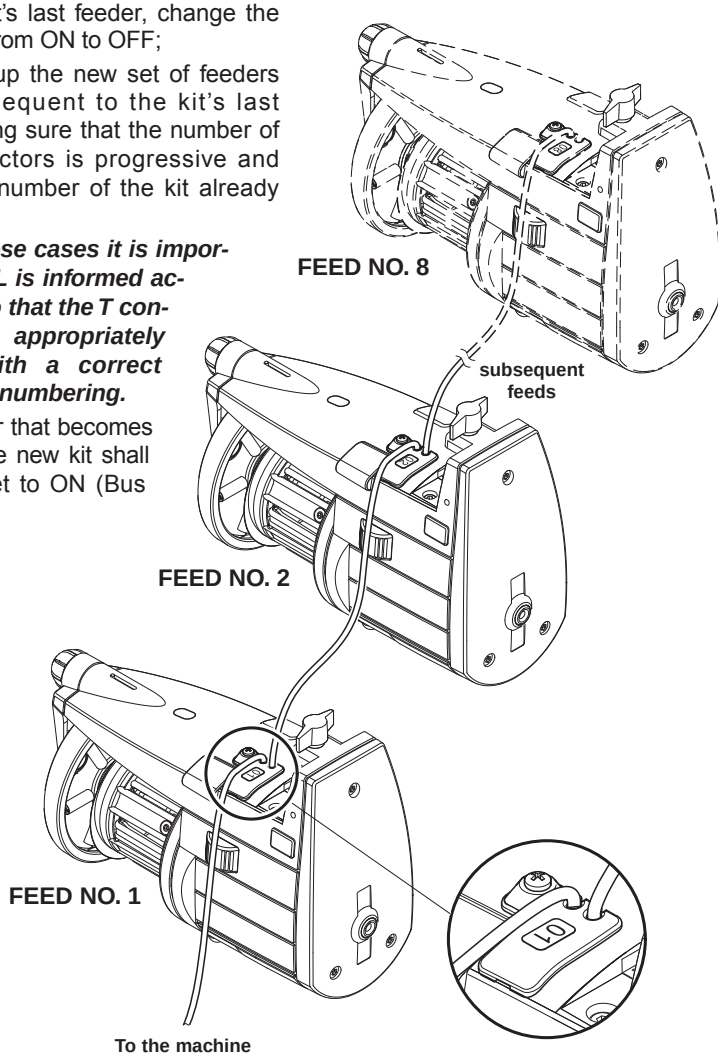


FIGURE 2

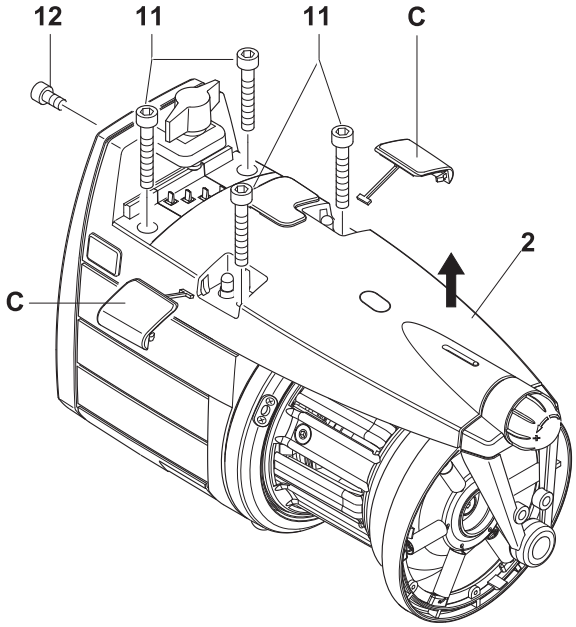
5.1 REMOVAL OF THE YARN SPOOL BODY

Proceed as follows to remove the yarn spool body:

1) Switch the machine OFF and unplug power mains.

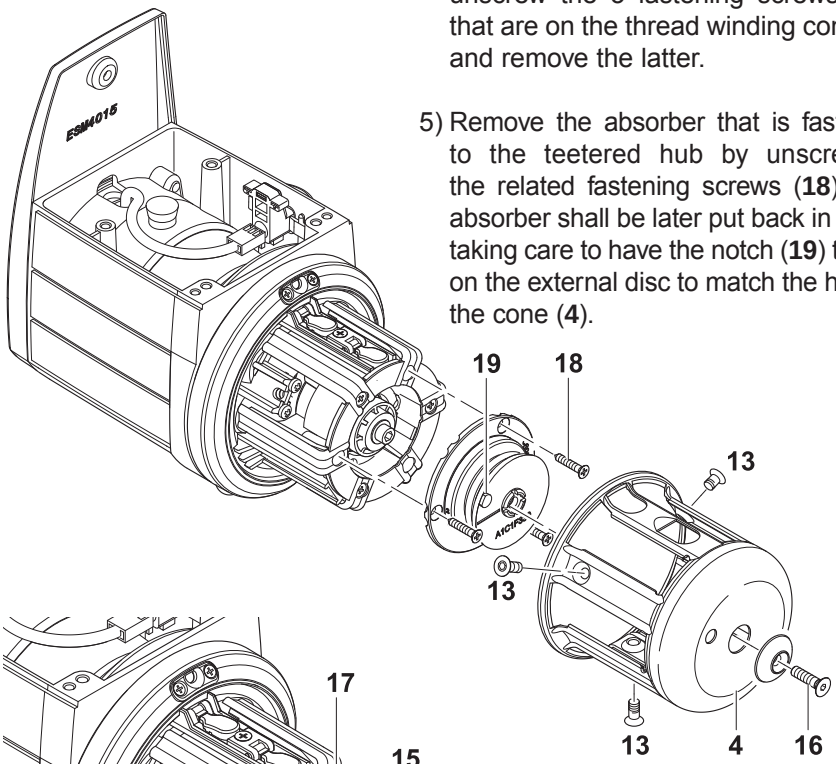
2) Disconnect the flat strip power cable and disassemble the feeder. Lift it off the machine.

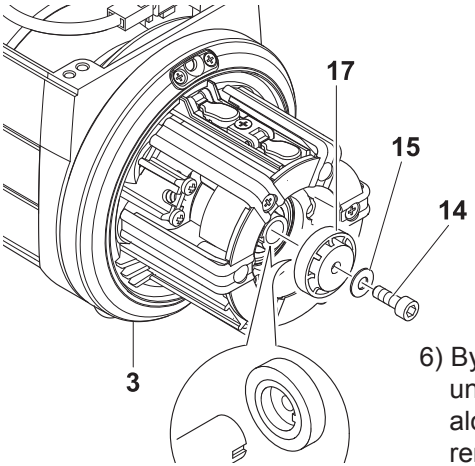
3) Remove the 4 screws (**11**) belonging to the housing panel (**2**) (two of them are located under the signal lamp (**C**) cover lids), and remove the screw (**12**) from the housing cover. Remove housing.



4) Unscrew the screw (**16**) that fastens the plug and remove both items; unscrew the 3 fastening screws (**13**) that are on the thread winding cone (**4**) and remove the latter.

5) Remove the absorber that is fastened to the teetered hub by unscrewing the related fastening screws (**18**). The absorber shall be later put back in place taking care to have the notch (**19**) that is on the external disc to match the hole in the cone (**4**).

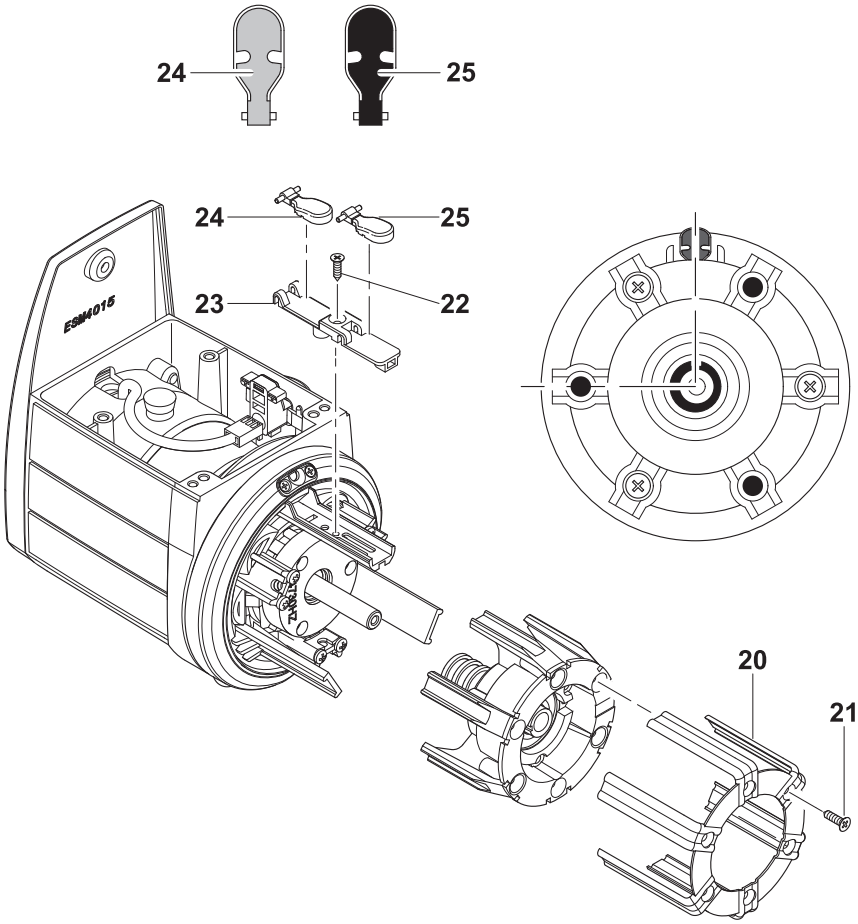




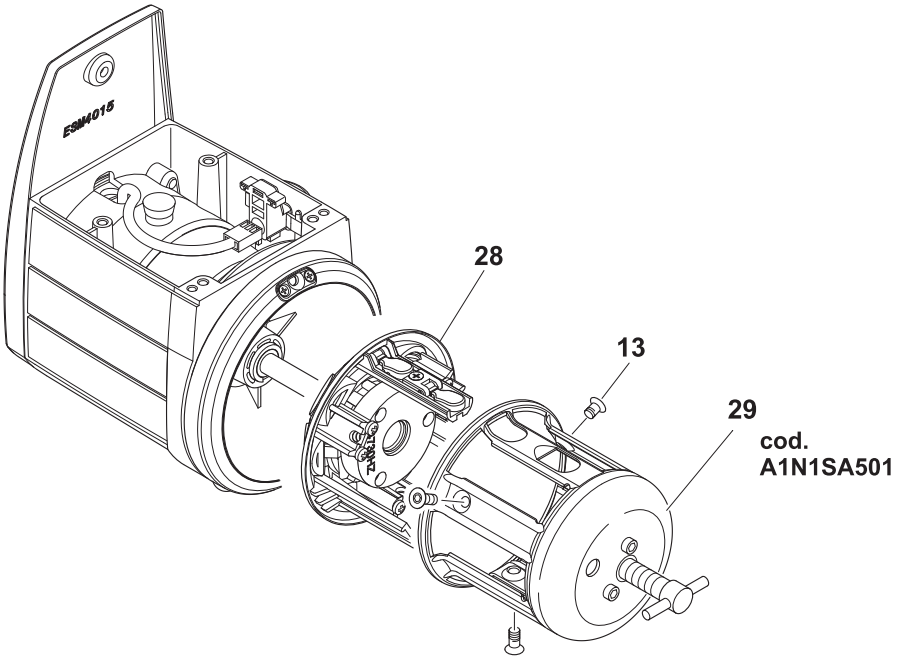
6) By holding the flywheel (**3**) steady (**3**), unscrew the screw (**14**) and remove it along with the Belleville spring (**15**); remove the protection (**17**) from its location on the bush. The latter shall be fit back in place in the same position, i.e. with the protection reference notch into the bush hollow.

7) Remove the winding assembly by taking it out of the shaft; the thin protection sheet (**20**) can be replaced (**20**) by unscrewing the 3 fastening screws (**21**). The assembly shall be later fit back in place by matching the hole where the thin sheet is not fastened, as shown in the figure.

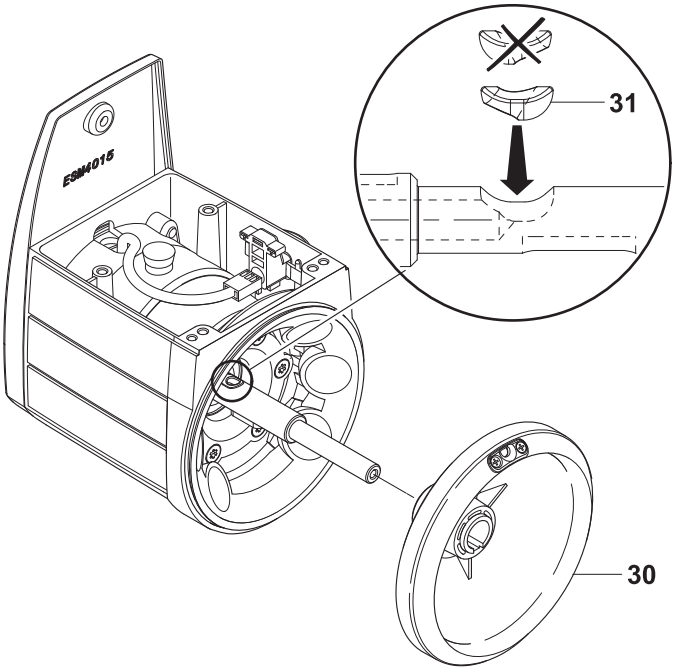
8) At this point, if necessary, you may unscrew the fastening screw (**22**) to pull out the feeler retainer (**23**) and replace the inlet sensor (**24**) (grey-coloured plastic) and the thread feeler (**25**) (black-coloured plastic).



9) Removal of the front magnet holder (**28**) must be carried out using the appropriate tool (**29**) that needs to be fixed onto the magnet holder being removed, using the three fixing screws (**13**) belonging to the yarn spool body. Once removed, detach it from the tool used for extraction.



10) At this point the flywheel (**30**) can be removed. It is now also easy to replace the ceramic bushing (**31**) located in the yarn feeder shaft.



5.2 REPLACEMENT OF THE MAIN ELECTRONIC CONTROL BOARD

The main electronic control board can only be replaced by a regularly authorised L.G.L. service and repair centre.

6.1 REPLACEMENT OF THE TWM TENSIONER

For removal of the TWM tension modulator proceed as follows:

1 Turn the knob until the tensioner (**33**) reaches the end of its run, at number 0 on the index scale (Figure A). In cases when the ATTIVO tensioner is provided, press the release pushbutton. The indicator lamps will start blinking fast. The TWM tensioner will open (Figure B). You are only allowed to act on the TWM unit when the blinking changes from fast to slow.

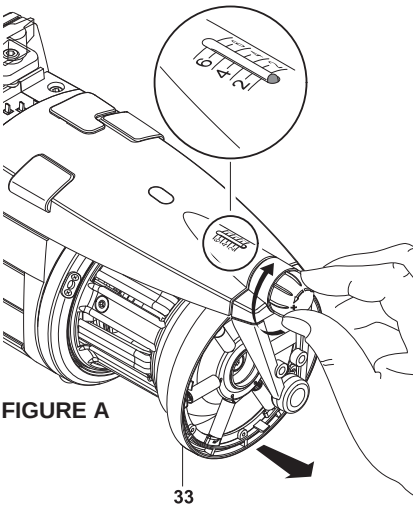


FIGURE A

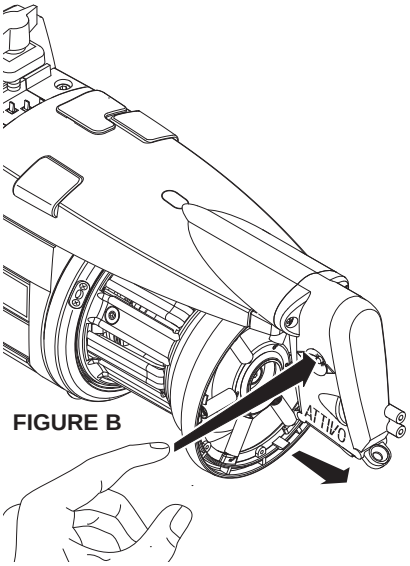
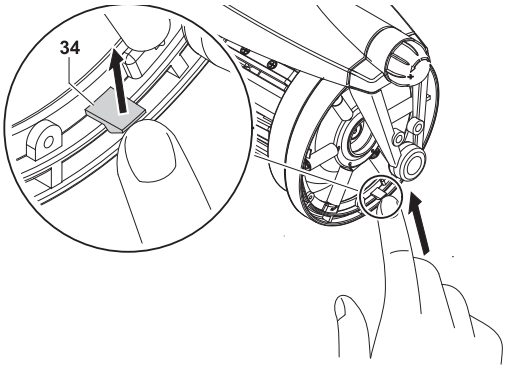


FIGURE B

2) Uncouple the TWM tensioner by pressing one of the ring tabs (**34**).



3) Remove the tensioner (**33**). Pay careful attention to the way in which the springs are attached to the TWM: the spring-hooks must be hooked into place so that they face outwards from the TWM. This to prevent them from coming into contact with the truncated cone and damaging it.

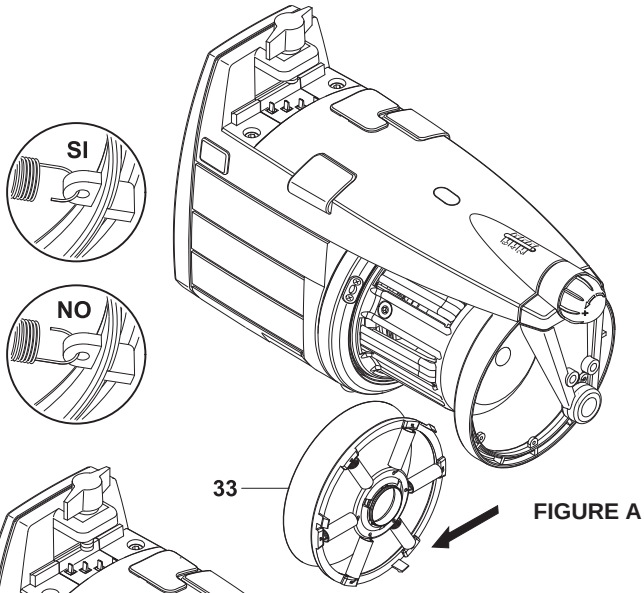


FIGURE A

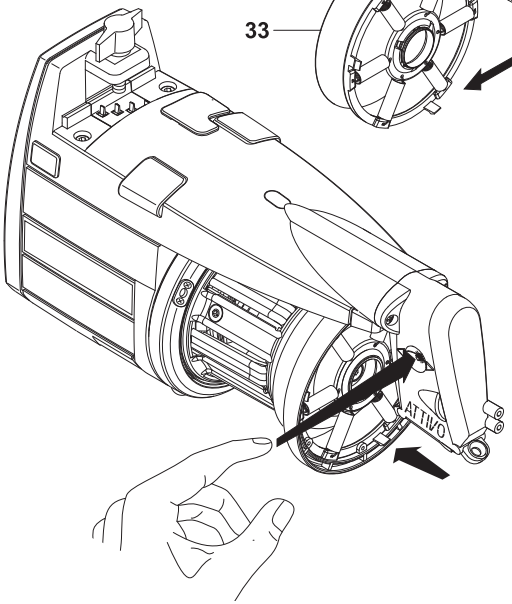


FIGURE B

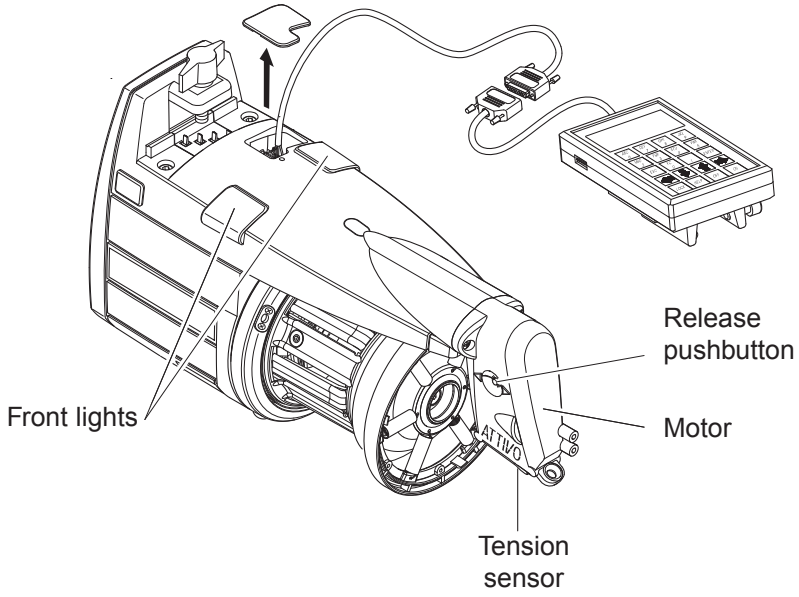
4) In cases when the Attivo tensioner is provided, when the new TWM unit has been installed, press the release pushbutton. The indicator lamps will change from slow to fast blinking. Then the tensioner will resume the previous work position.

7.1 ATTIVO ELECTRONIC TENSIONER

ATTIVO is an electronic system that has been purposely conceived to hold yarn tension constant and programmable. The output sensor provides a real-time measurement of the output tension and an electric motor uses this value to adjust the position of the TWM tensioner. Thus, all tension-related issues, e.g. yarns that change in features on the same bobbin, differences in yarn waxing, differences in yarn tension in full and empty bobbins and so on, can be solved.
The desired tension can be programmed via a pocket computer (chapter 8/9). The parameters are concerned:

- T des. dgr: to set the desired tension;
- T read dgr: to read the current tension (in order to understand whether the tension sensor is operating in a proper manner).

Note: if the desired tension cannot be obtained during normal operation, the front indicator lights will start blinking.

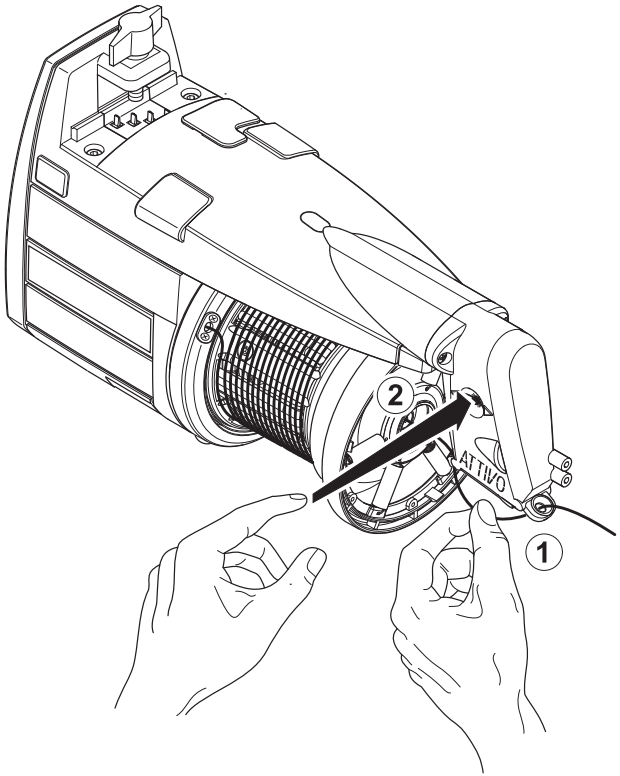


7.2 OFFSET

Upon first installation of this device, you need to enable the tension sensor to acquire the OFFSET function (mechanical error zero function).
Follow the procedure below:

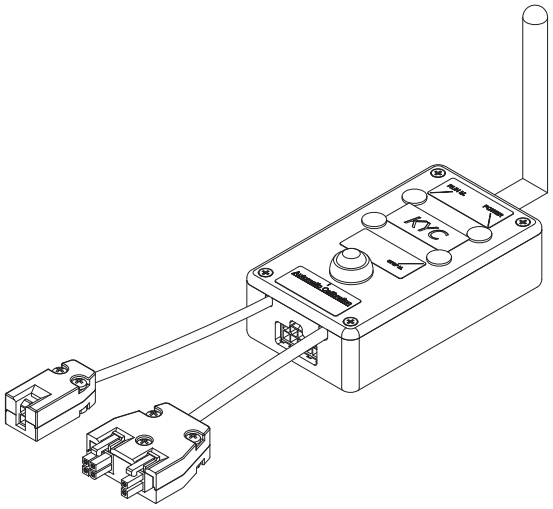
- Remove the yarn from the tension feeder.
- Switch off the feeder.
- Press the release button and hold it pressed until the device light turns on.
- Switch on the feeder.
- Light will turn off and OFFSET is obtained.

Note: The OFFSET procedure may have to be repeated even after the equipment has been inoperative for some time.



8 - CONNECT KYC LGL (RELEASE 4)

8.1 LGL CONNECT KYC



What is it?
It is an interface between feeders and lap top.
It is connected to feeders through a serial cable. It has a wireless connection with lap top.
It consists of a small black box with antenna.
It takes power supply (24VAC – 35VDC) from LGL power box.

What characteristics must the lap top have?
1. Internet explorer.
2. Wireless connection.
3. JAVA (free download from JAVA web site).

How to establish a connection between CONNECT KYC and lap top
If the netbook is provided by LGL, click on “LGL Connect” icon, located on the desktop. The machine and the KYC box must be switched on.

If the netbook/Laptop is not provided by LGL, follow the procedure below:
Open “net connections”
Click on the button “**refresh network list**”
The lap top will search for available nets.
After a little while, one of the found nets will be “LGL KYC00XX”
Press the CONNECT button
After some seconds the writing “connected” will appear.
On the lap top open internet explorer.

Digit address http://169.254.0.1/
Java application will start automatically.

Fig.2

CONNECT KYC main screen (Fig.2)

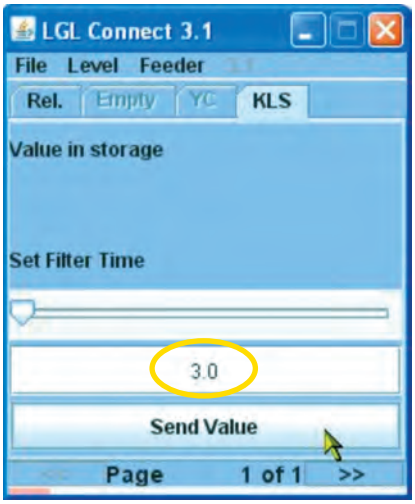
Feeder > Get Feeder
A window will appear(Fig.3).
On the screen, by selecting “rel”, the feeders with the software release will appear.
On the picture we have 8 feeders connected with software release VXL0013.

Fig.3

8.2 KLS: AUTOMATIC OUTPUT STOP MOTION SYSTEM

KLS system allows the feeder to stop the machine without using a sensor, in case of an output yarn break occurs. If the yarn gets broken between the feeder and the machine, the feeder will be able to detect the event and stop the machine.

Note: if the yarn gets broken before the feeder (between the bobbin and the feeder), this system is not involved. There is another sensor on the feeder itself detecting this case.
Select “KLS” TAB



Filter time: Write 3 seconds in the shown tab and press Send Value

Fig.4

The filter time is related to the machine acceleration phase. Select the filter time according to the duration of the machine acceleration ramp. Usually number 3 is OK (It means 3 seconds).

8.2.1 Button for the learning procedure on the connect KYC

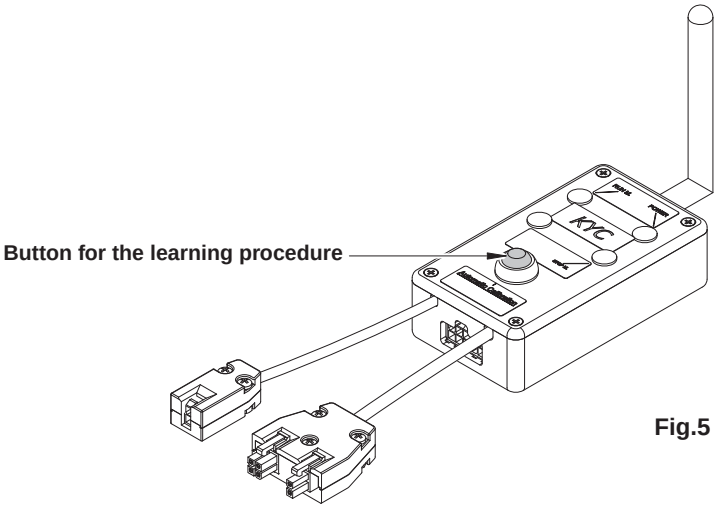


Fig.5

Once the installation is finished and the machine is ready to start, perform the following learning procedure:

- Press the button for the learning procedure until all feeders lights turn on (approximately 1s). Feeders will keep their lights on while the machine stands.
- Start up the machine with working speed. All lights turn off.
- Run the machine until the end of the pattern.
- At the end of the pattern stop the machine.
- When the machine stops, the feeders store the timing in their memory. Now the feeders are ready to check yarn breaks between feeder and machine.

Note 1: The machine has to run for at least 10 seconds. If for any reason the machine stops earlier than 10 seconds, re start the machine. If the machine runs for more than 10 seconds, but it stops before the end of the pattern, feeders will be ready to check output yarn breaks. In any case if you get false stops, repeat the procedure being sure that the machine completes one full pattern.

Note 2: during the procedure, feeders are not able to detect output yarn breaks.

Note 3: by pressing the button for the learning procedure, all feeders lights turn on. If at this moment the button is pressed a second time, all feeders lights turn off and the system is no more active.

8.3 YCM FEATURE: YARN CONSUMPTION

Feeder > YCM > Enable YCM
It is possible to select Cm or Inches (Fig. 6).

Fig.6

Select “YCM” TAB and this screen will appear:

Fig.7

On the bottom right in the empty tab set the amount of revolution.
In this example 2 revolution have been chosen.
Select the feeders by related mark on top left of each tab
Press LOAD - Press START.

The KYC will start counting the number of revolution.
At the end of the pattern (2 revolution) the yarn consumption from each of the selected feeder in cm for 2 revolution will be displayed and YCM finish.

Note: If during the counting the machine stop, the yarn consumption will be lost.

It is possible to save the yarn consumption information at the end of the pattern and store it in a file (excel or openoffice for example).

8.4 ATTIVO ELECTRONIC BRAKE (WHEN INSTALLED): SETTING DESIRED TENSION ON ALL FEEDERS

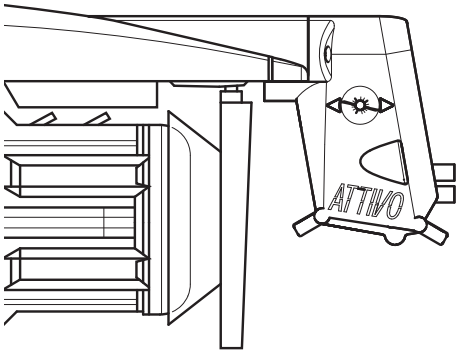


Fig.8

By selecting “Empty”, the list of the feeders parameters will appear (Fig.9).

Note: The list may change according to different applications.

Fig.9

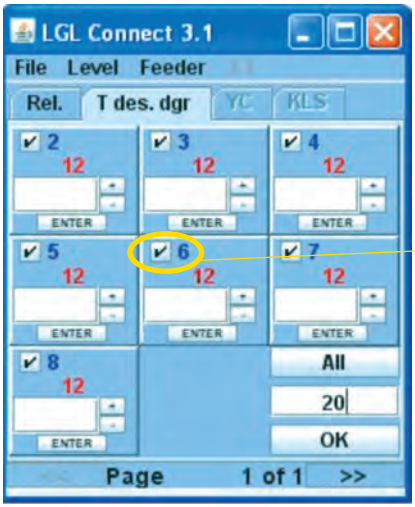
Select parameter “T des dgr”. Picture 10 appears.
Feeder number 1 has “Tdes dgr=50”. This is the read value.

Fig.10

Upgrade of the parameter for feeder number 6.
Write 20 into the tab - Press ENTER - “T des. Dgr” goes from 12 to 20 (Fig.11).

Fig.11

Upgrade of the parameter for all feeders connected.
Write 20 into the bottom right tab - Press OK button.



It is possible to select/deselect one feeder by clicking on the related mark (Fig. 12)

Fig.12

Note: by pressing ALL BUTTON, the user can select no feeder, all feeders, odd or even feeders (Fig.13).

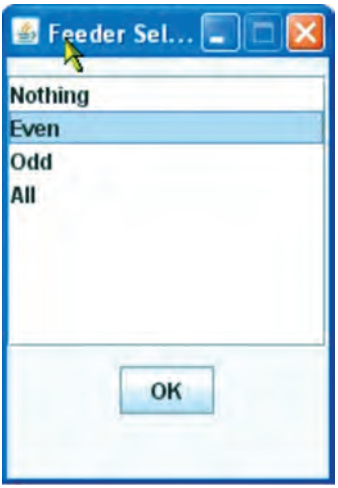


Fig.13

8.5 PARAMETERS SAVING

It is possible to save a desired parameter in file and load it in the software later.
Save parameter Tdes dgr. FILE > Save file >(Fig.14)

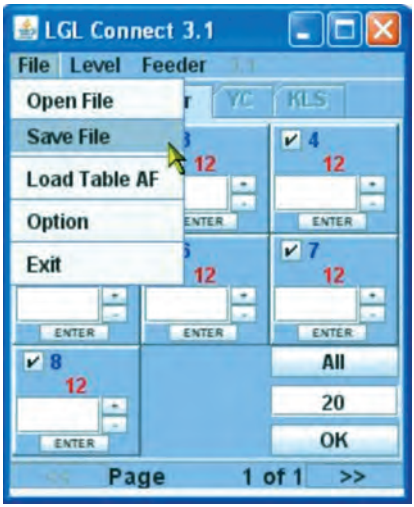


Fig.14

Select the desired folder and the desired name for the file.
The file must have .ldb extension(Fig.15).

Note: This feature is made for read/write parameters.

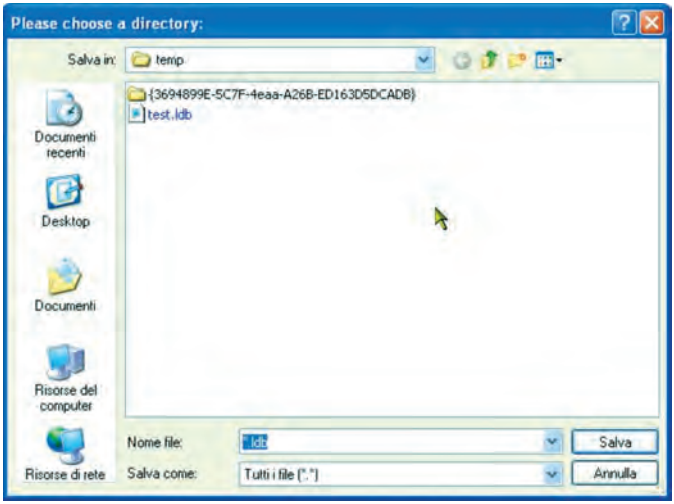


Fig.15

8.5.1 Recall a saved parameter

File > Open file(Fig.16)

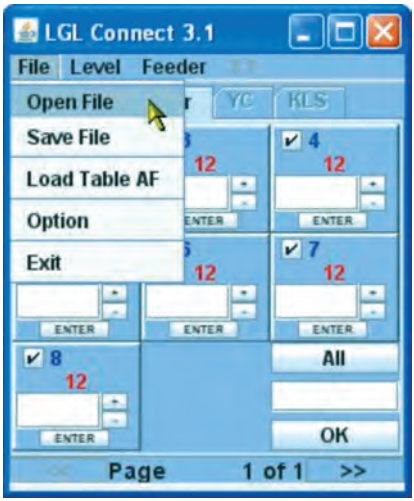


Fig.16

Select the .ldb file containing the desired parameter and open it (Fig.17).

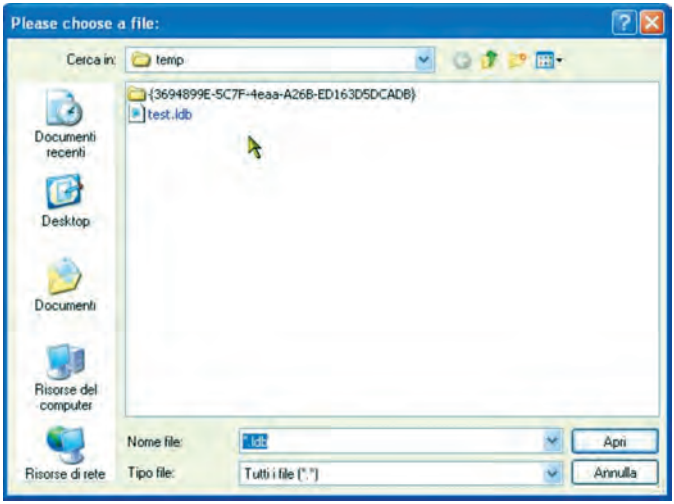


Fig.17

The value of the parameter appears.
In this case “Tdes dgr=12” has been loaded (Fig.18).

Fig.18

8.6 FEEDERS GROUPS

8.6.1 Creation of feeders groups

Purpose of this function is to make programming operations on the feeders easier.
For example if 2 grams tension must be set on one every four feeders, it is possible to create a specific group of feeders made by feeder number 1, number 5, number 9 and work separately only on this group.

From FILE Menu choose CONFIGURATION and click on SEARCH-CREATE NEW CONFIGURATION (Fig. 19).

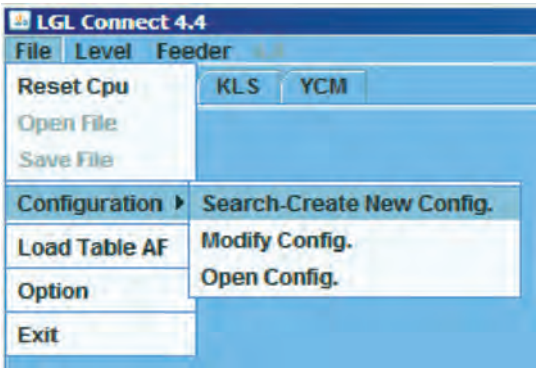


Fig.19

The KYC will look for available feeders and at the end the following picture will appear:

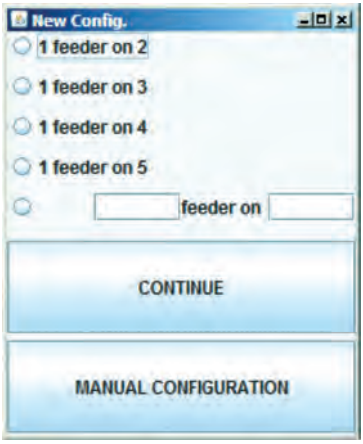


Fig.20

On the picture, different options are possible:

- 1 out of every 2 feeders. The KYC will create two groups of feeders:
  First Group: feeder 1, feeder 3, feeder5…
  Second Group: feeder2, feeder4, feeder6…

- 1 out of every 3 feeders. The KYC will create three groups of feeders:
  First Group: feeder 1, feeder 4, feeder7…
  Second Group: feeder2, feeder5, feeder8…
  Third Group: feeder3, feeder6, feeder9…
- 1 out of every 4 feeders. The KYC will create four groups of feeders:
  First Group: feeder 1, feeder 5, feeder9, feeder13…
  Second Group: feeder2, feeder6, feeder10, feeder14…
  Third group: feeder3, feeder7, feeeder11…
  Fourth Group: feeder4, feeder8, feeder12…
- 1 out of every 5 feeders. The KYC will create five groups of feeders:
  First Group: feeder 1, feeder 6, feeder11…
  Second Group: feeder2, feeder7, feeder12…
  Third Group: feeder3, feeder8, feeder13, feeder18…
  Fourth Group: feeder4, feeder9, feeder14, feeder19…
  Fifth Group: feeder5, feeder10, feeder15…
- For example 3 out of every 5 feeders.
  The KYC will create two groups of feeders:
  First Group: feeder 1, feeder 2, feeder3, feeder6, feeder7, feeder8…
  Second Group: feeder4, feeder5, feeder9,feeder10, feeder14…
- Manual configuration: the operator creates his personalized groups

For all options except manual configuration (which will be described later):
Choose the desired option and press CONTINUE.
The Following screen will appear:

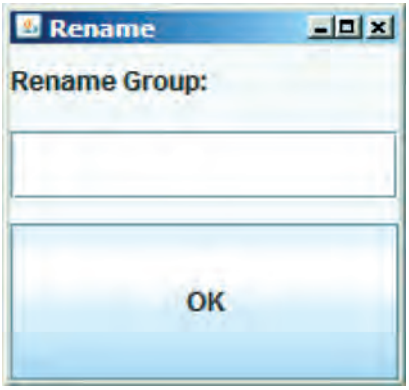


Fig.21

Type the desired first group name and press OK.

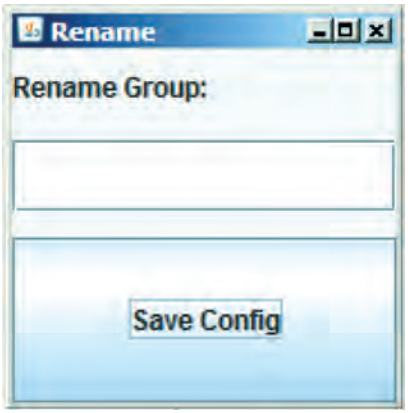


Fig.22

Type the desired second group name and press SAVE CONFIG.
Save the file on the lap top with the desired name and position.
If Manual configuration option has been chosen, the following screen will appear:

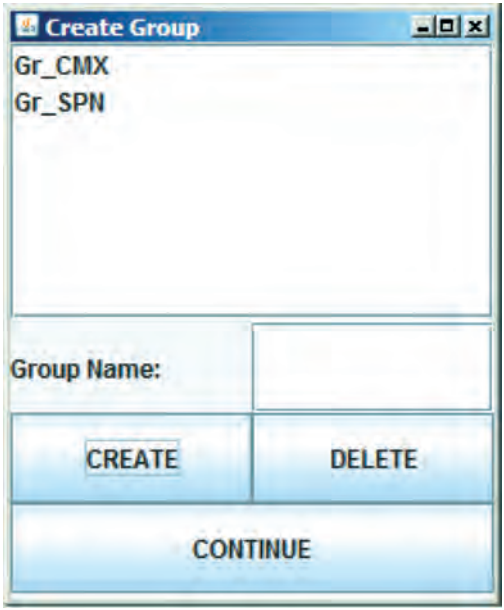
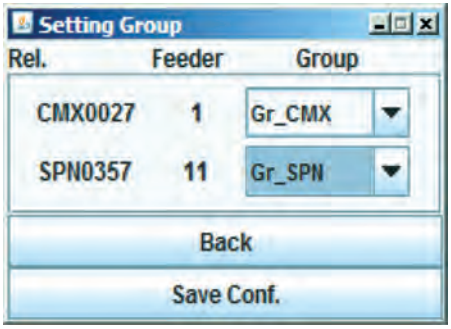


Fig.23

This screen allows to choose the groups names. Type the group name that you want to use and press CREATE. Repeat the operation for all groups you want to have. Once the groups names have been created, press CONTINUE.

Fig.24



In Fig.24, all connected feeders with their software release will be shown. For each feeder it is possible to choose the desired group by means of the drop down menu located on the right side of the screen. In the drop down menu all groups previously created are included.
When all feeders have been associated to the groups, press SAVE CONF and save the configuration file on the laptop.

If something goes wrong during the association, Fig. 25 will appear:

Fig.25

Press EXIT and repeat the procedure.

8.6.2 Modification of an existing configuration

From FILE menu choose CONFIGURATION.

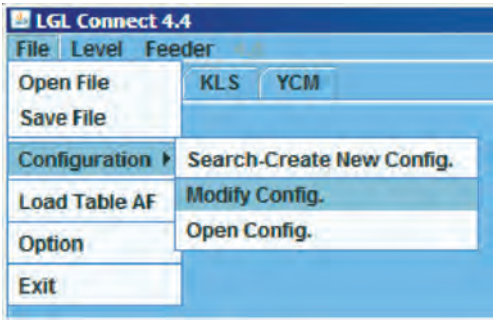


Fig.26

Click on MODIFY CONFIG.

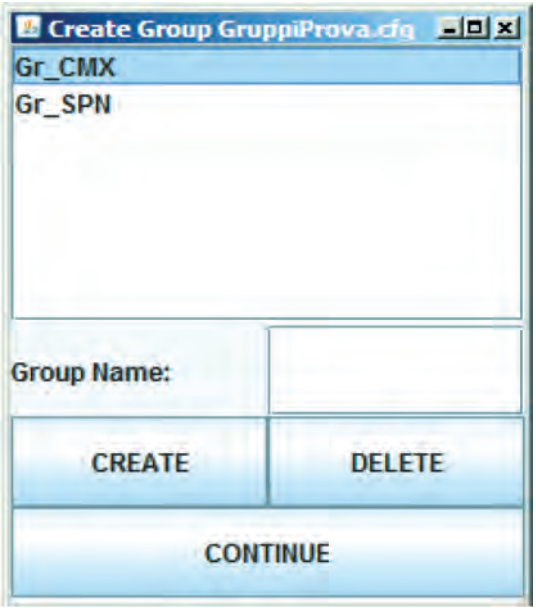


Fig.27

On this screen it is possible to modify, delete or create a group. To delete a group simply select the desired group and press DELETE. To create a new group, type a group name and press CREATE. To modify a group, press CONTINUE.

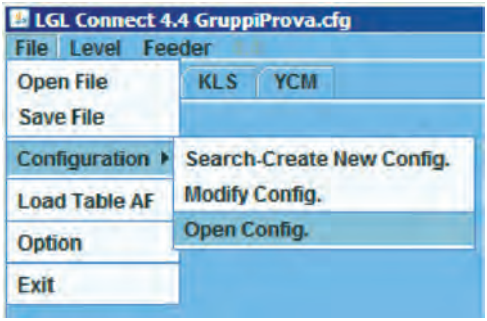
Fig.28

Modify groups and save the new configuration by pressing SAVE CONFIG.

8.6.3 Opening an existing configuration

From FILE menu choose CONFIGURATION and OPEN CONFIG.

Fig.29



Select the configuration to be opened and press OPEN.

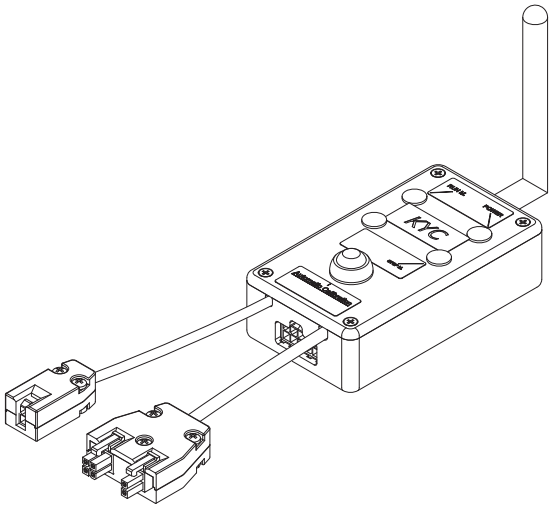
On top of the LGL CONNECT screen the name of the configuration will appear. Double click on REL tab. The following screen will appear:

Fig.30

Select the desired group from the drop down menu and proceed with any desired operation.

9 - CONNECT KYC LGL (RELEASE 5)

9.1 CONNECT KYC LGL

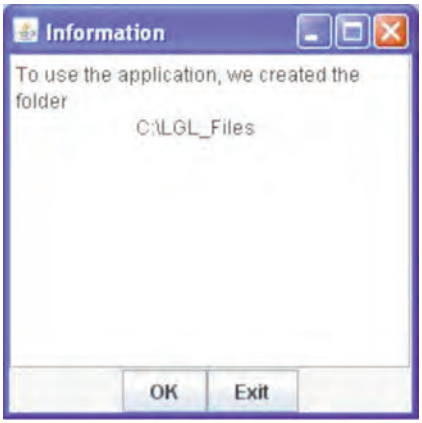


What is it?
It is an interface between feeders and lap top.
It is connected to feeders through a serial cable. It has a wireless connection with lap top.
It consists of a small black box with antenna.
It takes power supply (24VAC – 35VDC) from LGL power box.

What characteristics must the lap top have?
1. Internet explorer.
2. Wireless connection.
3. JAVA (free download from JAVA web site).

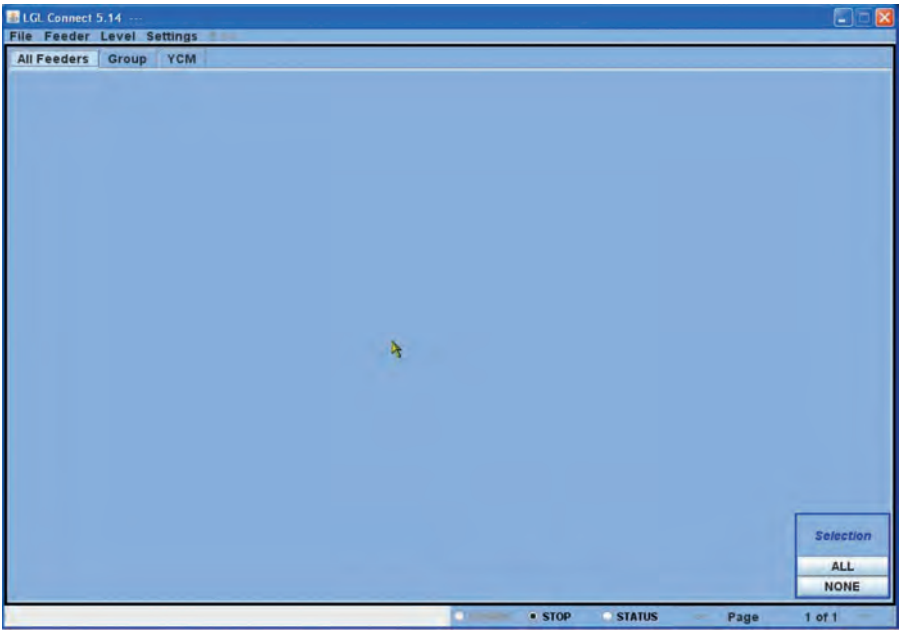
How to establish a connection between CONNECT KYC and lap top.
If the netbook is provided by LGL, click on “LGL Connect” icon, located on the desktop. The machine and the KYC box must be switched on.
If the netbook/Laptop is not provided by LGL, follow the procedure below: Open “net connections” Click on the button “refresh network list” The lap top will search for available nets.
After a little while, one of the found nets will be “LGL KYC00XX”.
Press the CONNECT button.
After some seconds the writing “connected” will appear.
On the lap top open internet explorer.

Digit Adress **http://169.254.0.1/**
Java application will start automatically. If it is the very first use, the following screen appears:

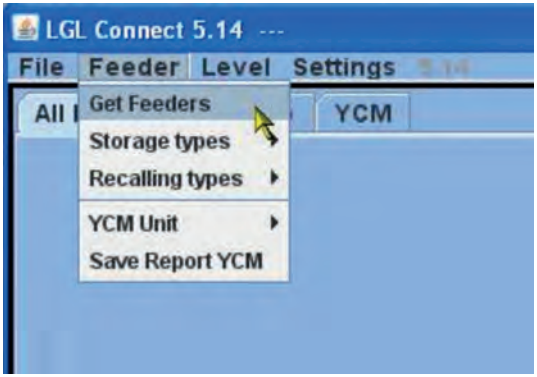


C:\LGL_files is the default folder where all files related to the KYC application will be saved.
The latest configuration will be automatically saved in this folder and it will be possible to open it again at the next use. If a different computer will be used, it is also possible to copy the file to the new PC.
Press OK.

Main screen

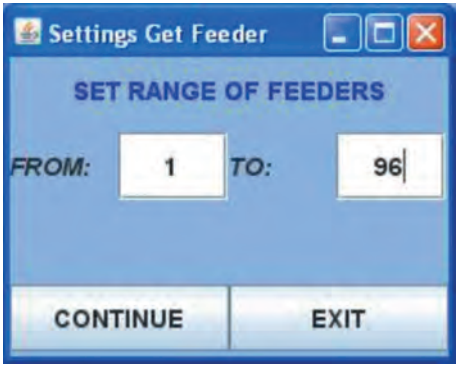


Feeder > get feeders

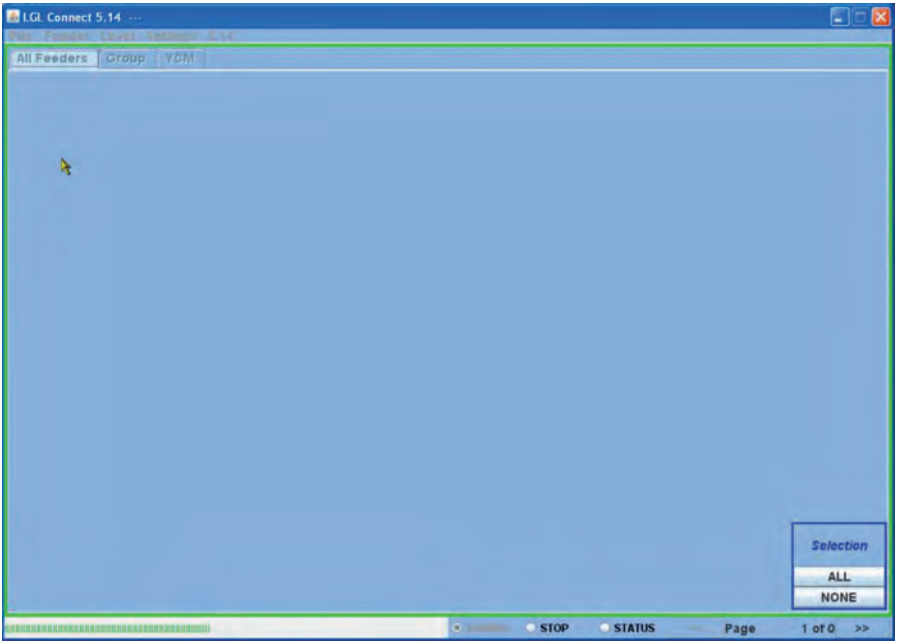


The following message appears. Insert the total amount of feeders connected to the KYC (feeders mounted on the machine, insert minimum and maximum address, do not worry if some addresses in the middle are missing).

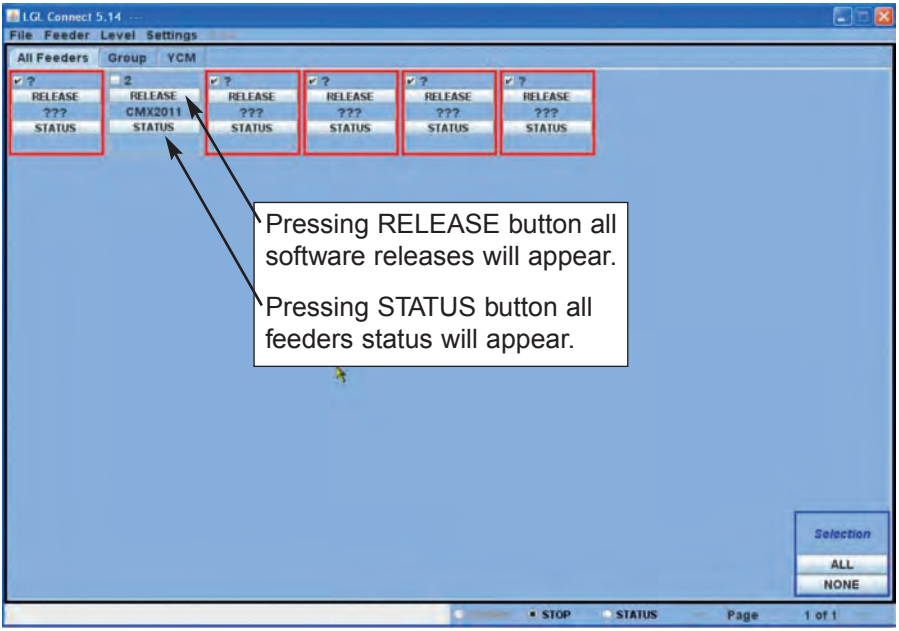
Note: especially if the number of connected feeders is not high, it is advisable to insert the number. In fact the KYC will search only for the connected amount of feeders and it will save time.



The edge of the screen will get green and a bar (running) will appear at the bottom.



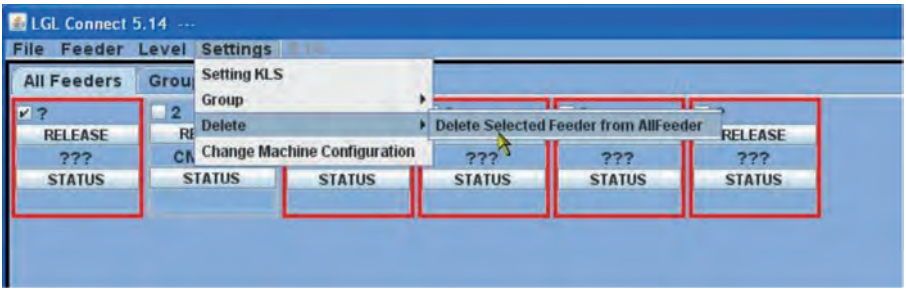
If there are feeders in the address interval previously selected, after a little while feeders will appear on the screen.
For example the following picture:



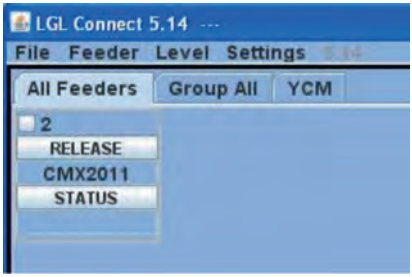
Each square corresponds to one feeder. If the square has a red edge, it means that the feeder is not connected or it has not answered.
In this example only feeder number 2 has answered.
The software release (CMX2011) is displayed.
It is possible to erase the disconnected feeders form the screen.

9.1.1 Erase undesired feeders from visualization.

Select feeders that do not have to be shown, then press SETTINGS > DELETE > DELETE SELECTED FEEDER FROM ALL FEEDER.
For example in the picture all feeders in the red squares have been selected.

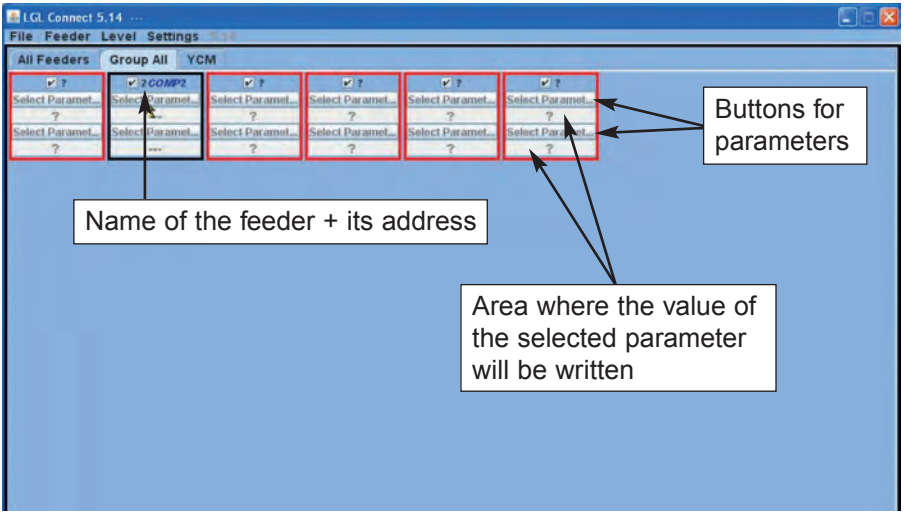


What will remain is the following:



9.2 FEEDERS PARAMETERS

Press GROUP ALL.



Click on one of the two “SELECT PARAMET…” buttons.
A parameter list will appear:

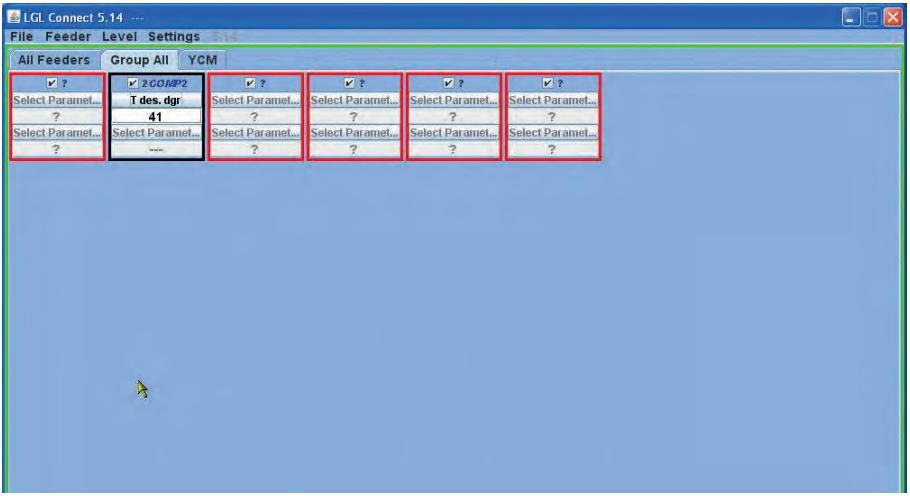
Note: the list will be displayed only if there are some feeders which are selected

Feeder not selected

Feeder selected

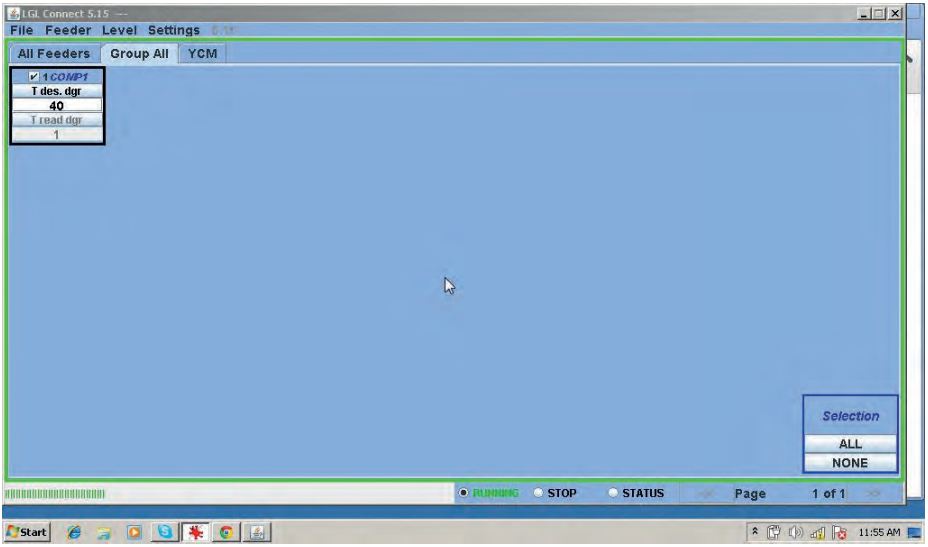
Click on the parameter which you would like to see and click on “view parameter” (in the picture Tdes. Dgr).
Note: there is the option to select “single” or “all same feeder”.
“single”: the desired parameter will be shown only for one feeder.
“all same feeder” means that the desired parameter will be shown for all connected feeders (if all connected feeders are of the same model).

In the example, the parameter will be shown as in the following picture:



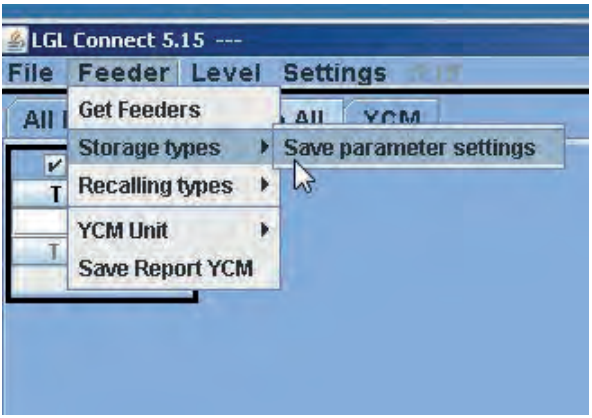
The parameter has been displayed and the value is 41 (which means 4.1 grams).
Since there are parameters that may change in time (for example T read dgr tells the present tension on the load cell.
This tension may change), the system keeps reading the parameter in real time until the operator does not click on STOP.

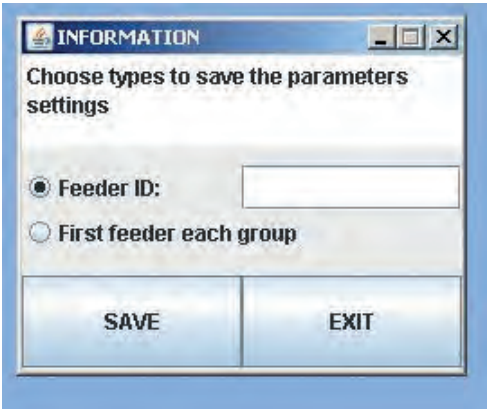
Then the operator can choose another parameter to be displayed together with the previous one, and by clicking on RUNNING, the parameters are read in real time.
In the next picture Tdes dgr and Tread dgr are displayed together.
Tdes.dgr = 40 which means 4grams
Tread dgr = 1 which means 0.1grams. This situation is typical when the machine is standing and there is no yarn on the load cell.
T des. dgr is a read/write parameter, and it is written in white. Read/write means that it is possible to read the parameter value but also to set a desired value.
T read dgr is a ready only parameter, and it is written in grey. Read only means that it is only possible to read the actual value of the parameter.
In order to set a Tdes.dgr desired value, the new value must be typed into the white tab (where now 41 is written) and press ENTER.
The new value will be sent to all selected feeders of the same model.
If the operator wants to set a new value only for one specific feeder, he has to de select all the other feeders of the same model (clicking on NONE bottom right).



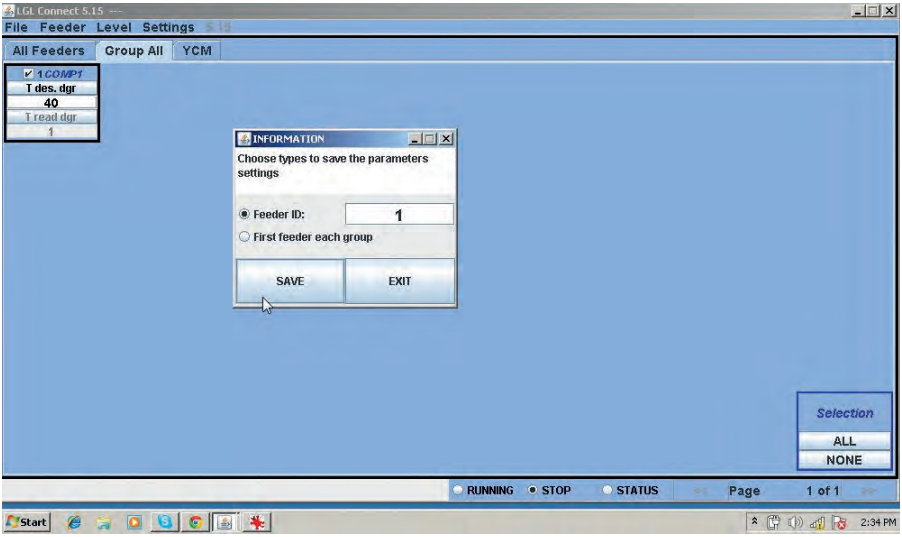
9.2.1 Parameters values saving

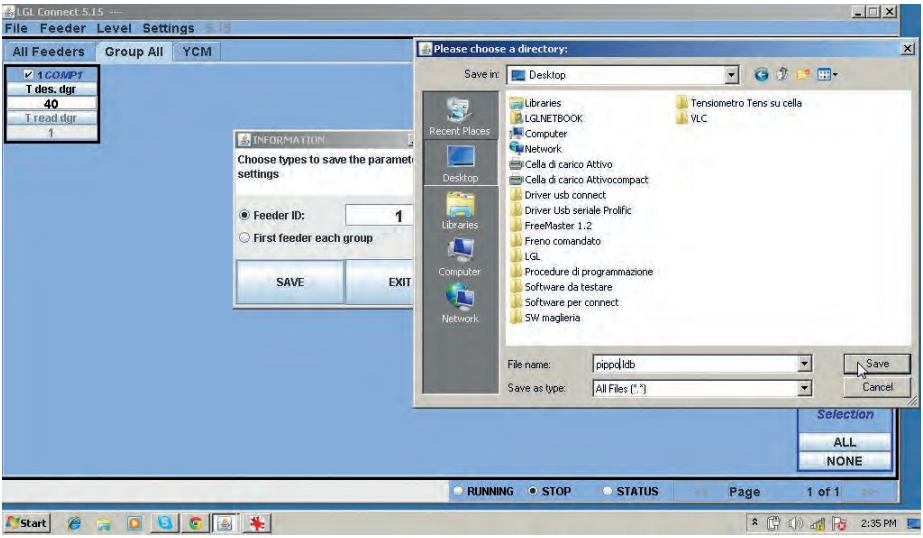
Once the read/write parameters have been set, it Is possible to save them as one file that can be stored in the computer and loaded again when required. It is possible to send this file to the selected feeders.
Choose Feeder > Storage types > save parameter settings





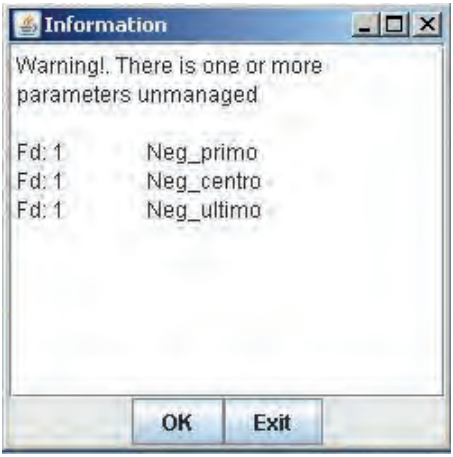
There is the possibility to choose feeder ID, as in the next picture, where the address of feeder number 1 has been inserted and then press SAVE.





The file will be saved in the desired folder as a .ldb file (here pippo.ldb).

Note: it could be possible to see on the screen a warning like the following:



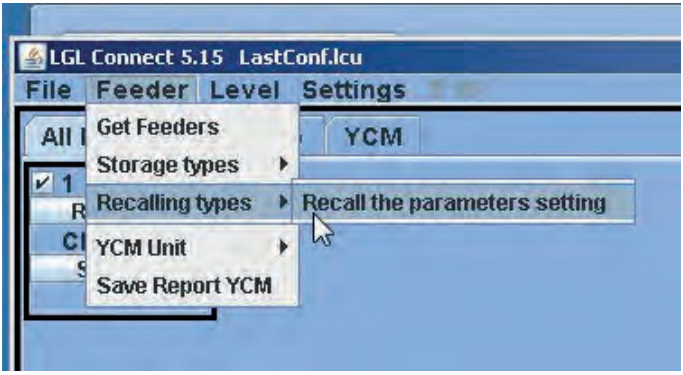
This warning shows feeder with address 1 (Fd:1) and three parameters of this feeder: Neg_primo, Neg_centro, Neg_ultimo. The windows tells that feeder number 1 is not handling these parameters. The reason could be in the model of the feeder or in the software release.
In any case this is a simple warning and does not create any problem.
Press OK and continue:

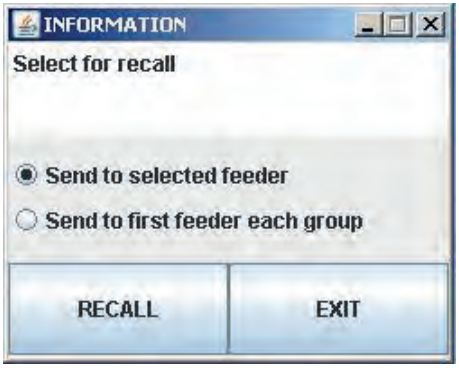
The file containing all parameters of feeder number 1 has been successfully created.

Note: There is the option to select FIRST FEEDER EACH GROUP. In this case the system will still create a file but in this file not only feeder number 1 parameters will be saved but also parameters of each first feeder of each group. About that, see chapter 7.2.

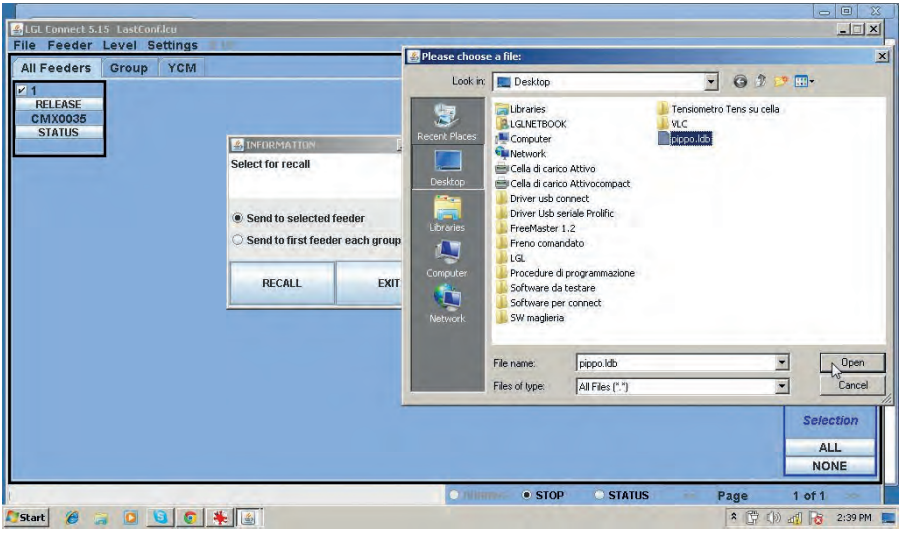
9.2.2 Loading saved parameters values

Feeder > Recalling types > Recall the parameters setting



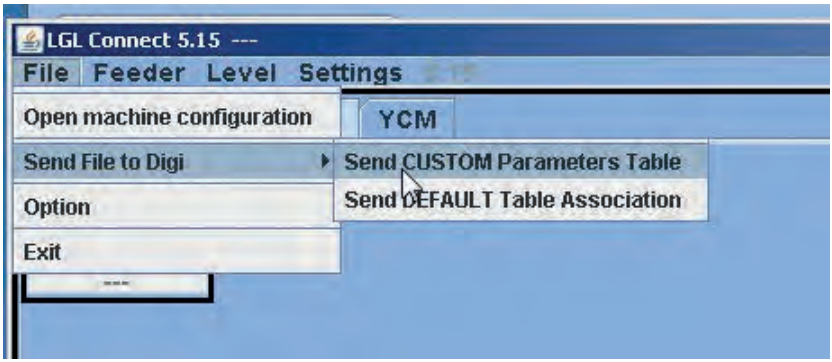


The file can be sent to one specific feeder or to the first feeder of each group. Once RECALL has been pressed, the system will ask for the parameters file to be sent (which must be in the memory of the lap top). See also chapter 7.2.

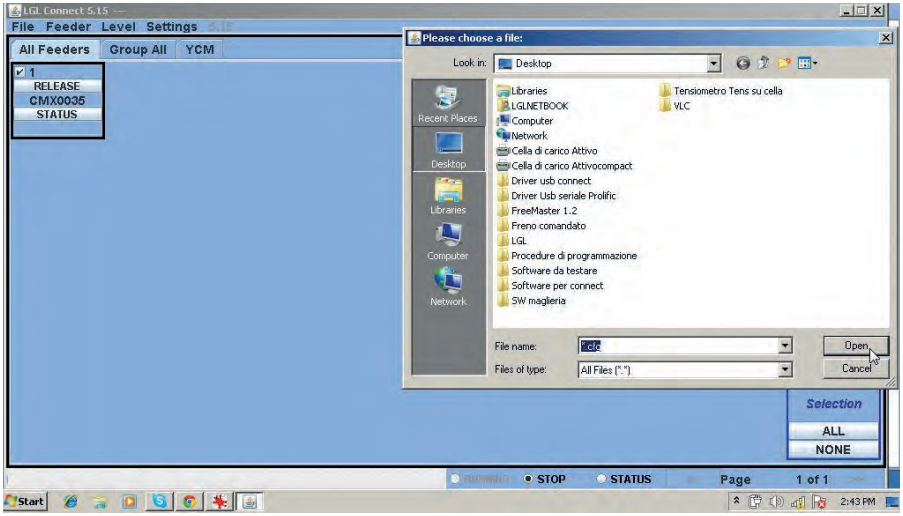


9.2.3 Modification of the parameters list

In specific cases it is possible to load an upgraded parameter list. For example when a new functionality that requires a new parameter creation is added.
File > Send File to DIGI > Send CUSTOM Parameters Table



The system will ask for the file to load. The file is a .cfg.
Once the file has been selected, press OPEN.



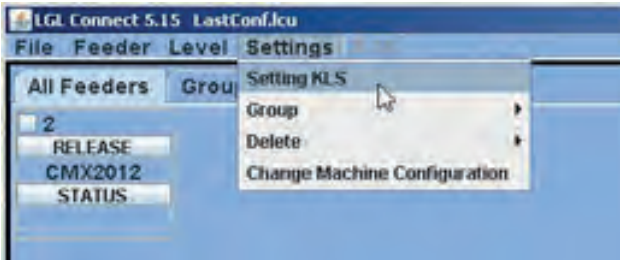
The new parameters list will be written in the memory of the system.
In the end press FEEDER > GET FEEDER, so that the new list will start to be used.

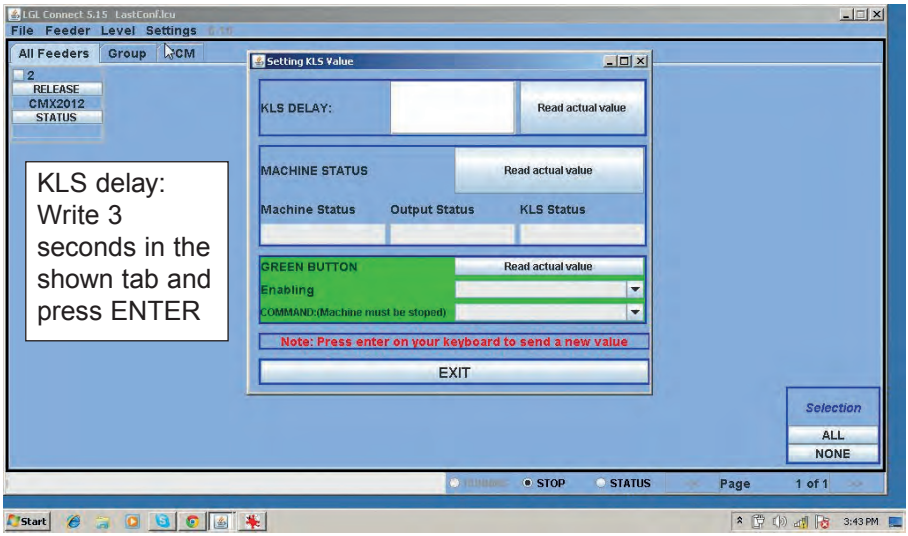
Note: in figure…there is the option SEND THE DEFAULT TABLE ASSOCIATION.
The system will ask for a file to be loaded.
The necessary file is a .atd type, and it is available only for internal use. Consequently this option is not to be used.

9.3 KLS: AUTOMATIC OUTPUT STOP MOTION SYSTEM

KLS system allows the feeder to stop the machine without using a sensor, in case of an output yarn break event. If the yarn gets broken between the feeder and the machine, the feeder will be able to detect the event and stop the machine.

Note: if the yarn gets broken before the feeder (between the bobbin and the feeder), this system is not involved. There is another sensor on the feeder itself detecting this case. Select settings > setting KLS.

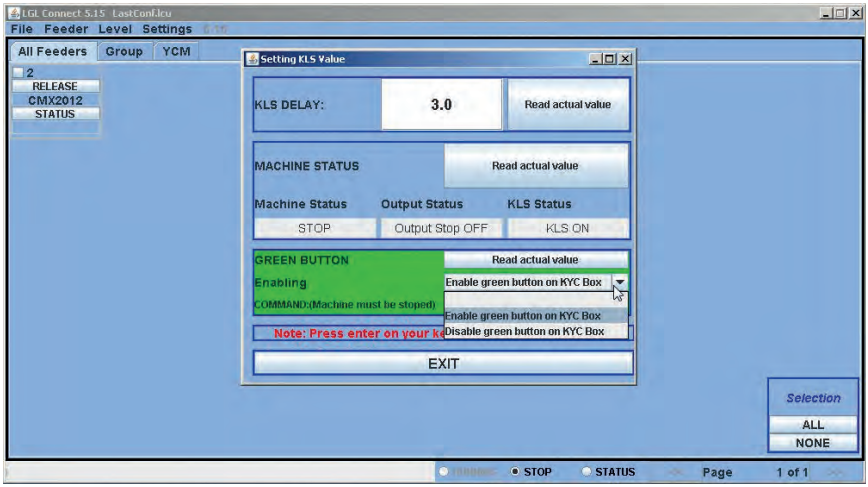




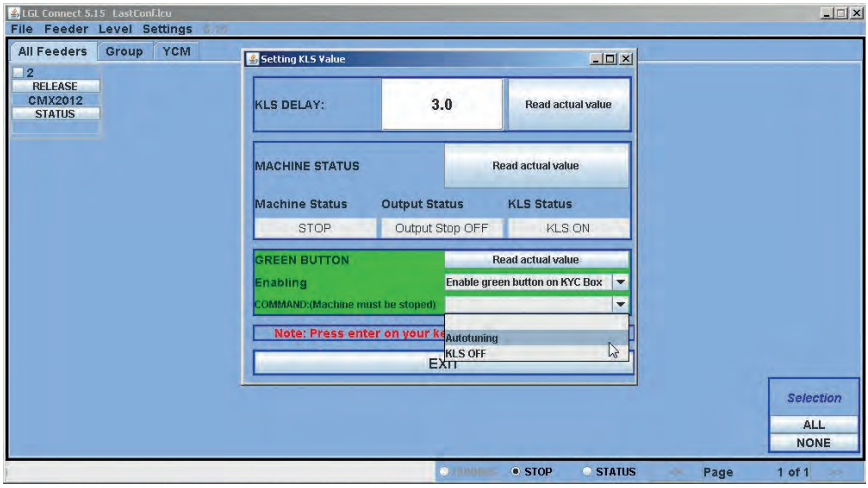
SETTING KLS: looking at the new folder, there are three areas:

1. KLS DELAY: it is possible to read the present value with “read actual value” button and it is possible to write the desired value in the white space. The suggested value is 3. Write 3 and press ENTER.

2. MACHINE STATUS: (read only) by pressing READ ACTUAL VALUE button the information about the machine is shown. In the following picture the machine is standing still and the KLS system is active.

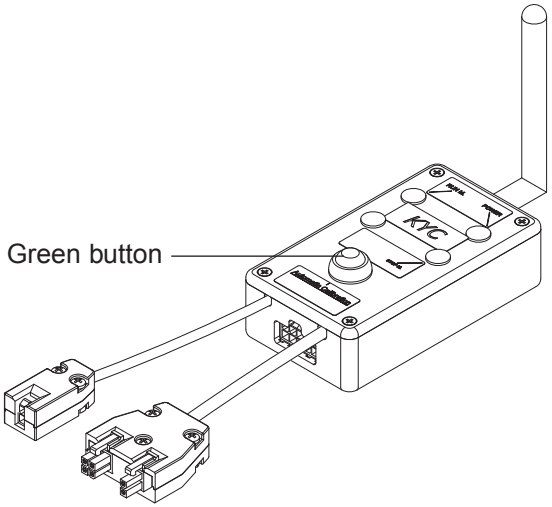


3. GREEN BUTTON. ENABLING: there is the possibility to enable or disable the green button that is located on the KYC box (look at the previous picture). If the green button on the KYC box is disabled, the operator can press it as much as he wants, but nothing will happen.
   COMMAND (machine must be stopped): it is possible to disable KLS function or to send feeders in auto tuning procedure. This is the learning procedure described in paragraph 9.2.1.



The filter time is related to the machine acceleration phase. Select the filter time according to the duration of the machine acceleration ramp. Usually number 3 is OK (It means 3 seconds)

9.3.1 Button for the learning procedure located on the KYC box



Once the installation is finished and the machine is ready to start, perform the following learning procedure:

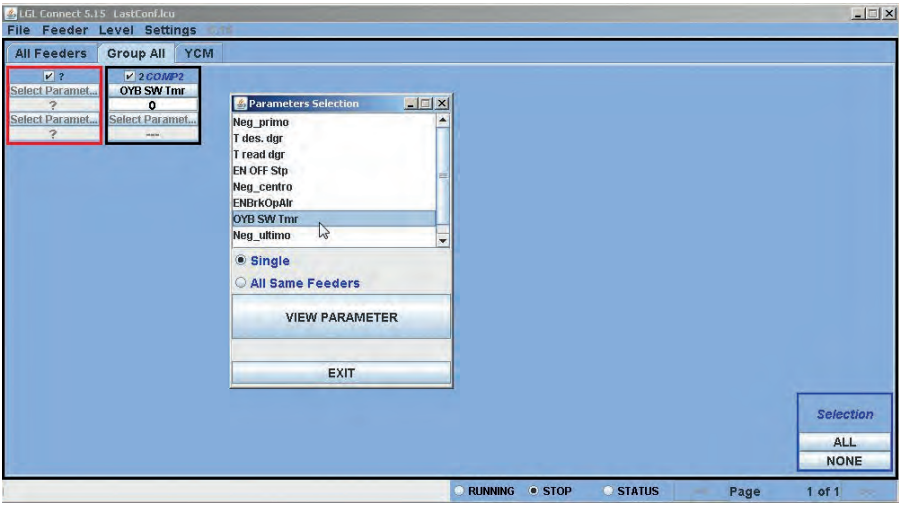
1. Press the button for the learning procedure until all feeders lights turn on (approximately 1s). Feeders will keep their lights on while the machine stands.
2. Start up the machine with working speed. All lights turn off.
3. Run the machine until the end of the pattern.
4. At the end of the pattern stop the machine.

When the machine stops, the feeders store the timing in their memory. Now the feeders are ready to check yarn breaks between feeder and machine.

Note1: The machine has to run for at least 8 seconds. If for any reason the machine stops earlier than 8 seconds, re start the machine. If the machine runs for more than 8 seconds, but it stops before the end of the pattern, feeders will be ready to check output yarn breaks. In any case if you get false stops, repeat the procedure being sure that the machine completes one full pattern.

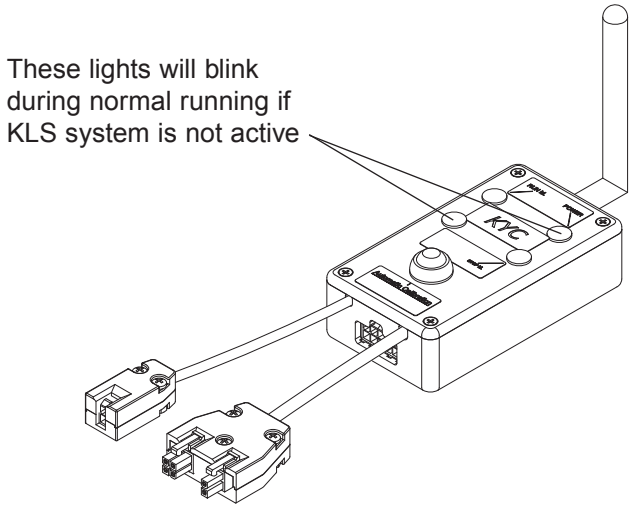
Note 2: during the procedure, feeders are not able to detect output yarn breaks.
Note 3: by pressing the button for the learning procedure, all feeders lights turn on. If at this moment the button is pressed a second time, all feeders lights turn off and the system is no more active.

9.3.2 OYB SW Tmr



This parameter can be intended as a test parameter for KLS system.
During running, if the operator increases machine speed, the value of this parameter should decrease. If the operator decreases the machine speed, its value should increase.

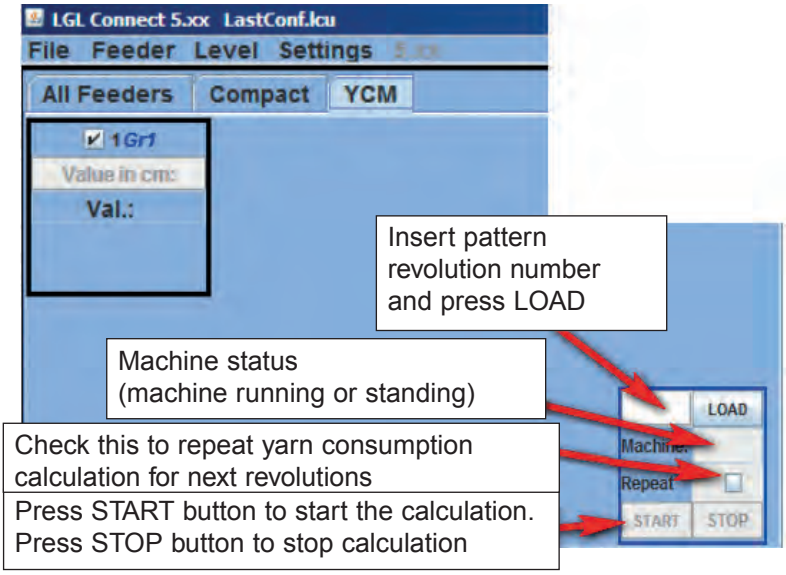
If OYB SW Tmr=0, then the output stop motion system is not active and feeders won't stop the machine if the yarn gets broken after the feeder.
In this case two LED on the KYC box will blink once per second.



Press the green button for learning procedure as it is described in paragraph 9.2.1.

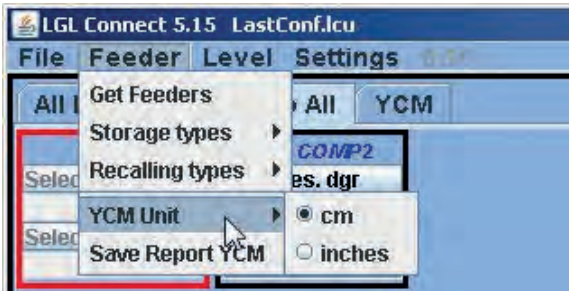
9.4 YCM FEATURE: YARN CONSUMPTION

Press YCM tab. The following picture will appear:

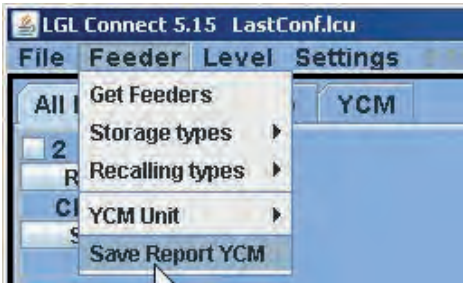


1. On the screen, select the feeders from which the yarn consumption information is required.
2. In the bottom right tab, insert the number of machine revolutions and press LOAD.
3. To begin the reading press START.
4. Run the machine.

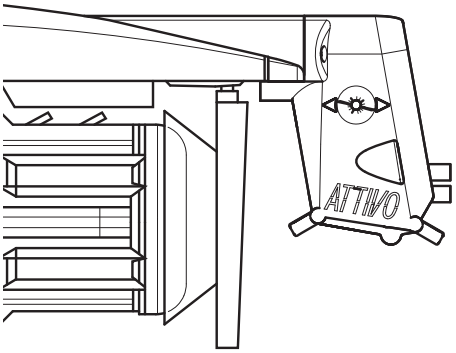
During running, in the LOAD tab the machine revolutions number will increment until it will match the preprogrammed one (set in previous point2). At this moment the calculation is over and the writing “NO ERROR” will appear in the LOAD tab. In the meantime the yarn consumption will be displayed on the screen for each selected feeder. The information is given in cm per machine revolutions. It is possible to set inch per machine revolutions by clicking Feeder > YCMunit



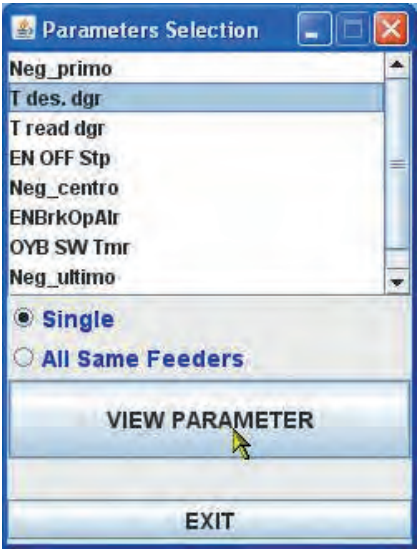
Note: if the continuous calculation mode is required, the operator must check the REPEAT tab. This function allows an automatic repeat of the calculation for the next revolutions, until the check is removed or the STOP button is pressed. In the MACHINE tab there is the information of the machine status (RUN or STOP). It is possible to save the yarn consumption information on a file, and then convert this file in a Microsoft excel file or Open office one.
Once the yarn consumption information have been collected, press FEEDER > SAVE REPORT YCM TAB.



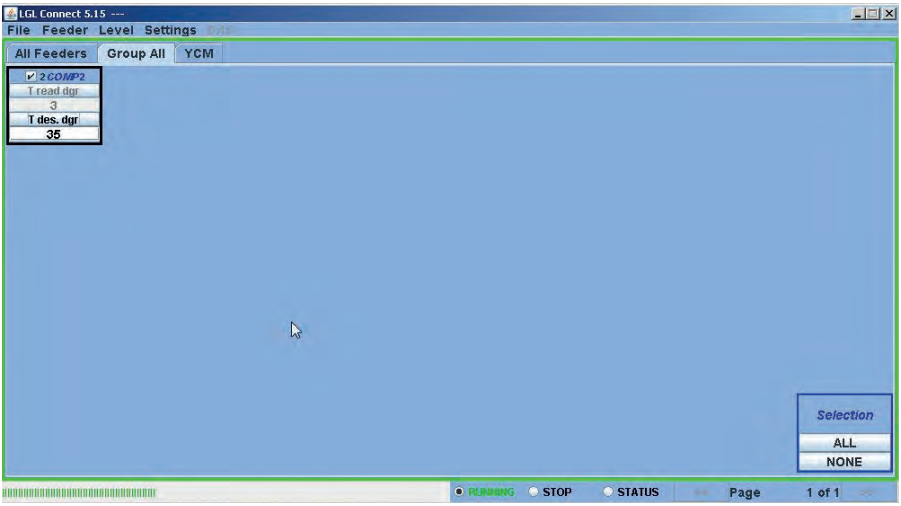
9.5. ATTIVO ELECTRONIC BRAKE SETTINGS: Tdes. dgr AND Tread dgr



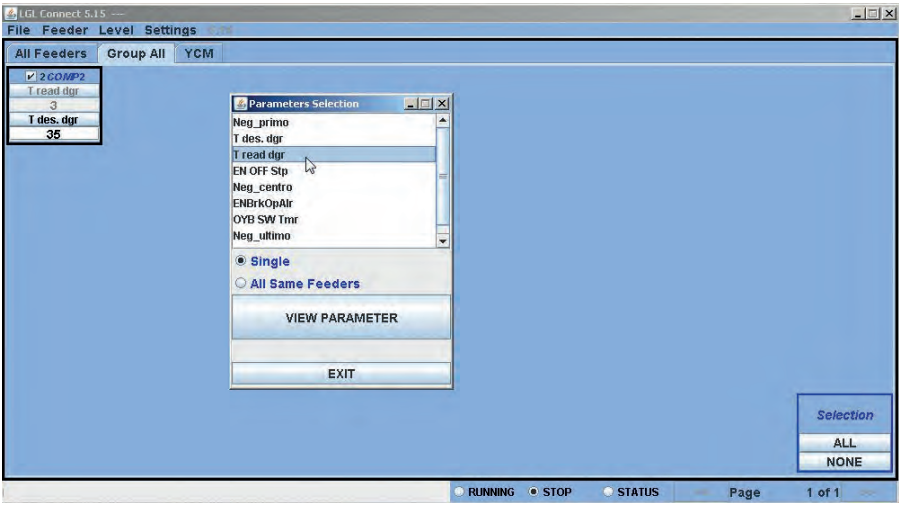
It is possible to read actual yarn tension and to program the desired tension on each feeder.



For example in the following picture the KYC is reading Tread dgr and Tdes dgr. These parameters are written in the feeder square because they have been selected form the list (shown in the previous picture). The system is in continuous reading mode (green bar running at the bottom and green line surrounding the screen). The value of the parameters may change.



The continuous reading mode can be stopped any time by pressing STOP. See following picture.

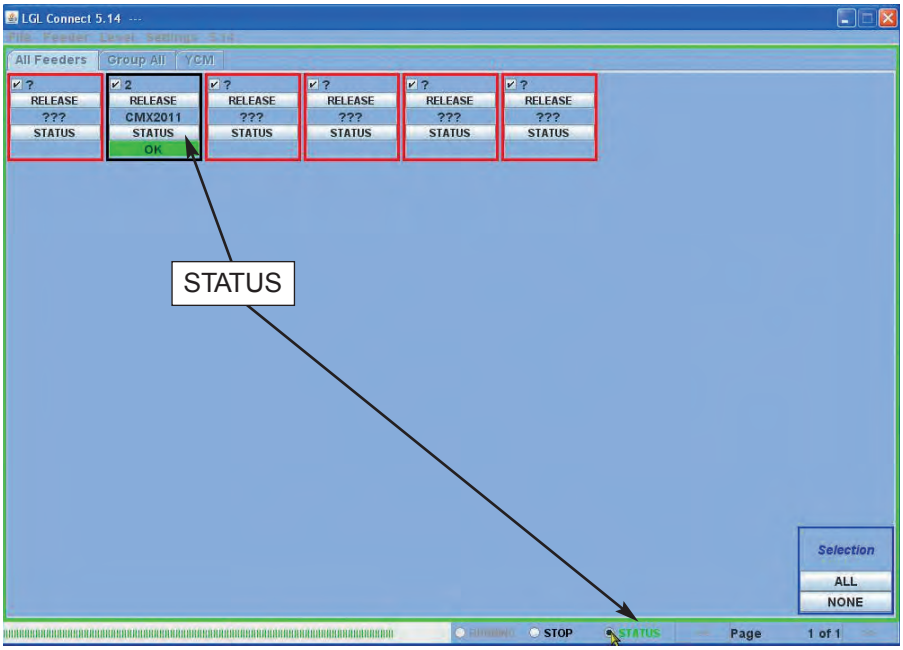


In this picture the system is standing and the screen shows the last read numbers.
Tdes.dgr is written in white (read/write parameter) and it is 3.5grams
T read dgr is written in grey (read only parameter) and it is 0.3grams.

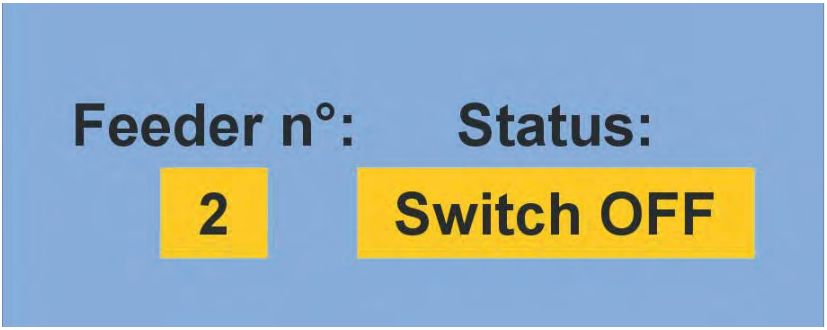
In addition to the two parameters related to tension, there are other parameters that can be important:
ENBrkOPAlr: if it is =1, when the ATTIVO brake is completely open (open with the pertinent button on located on the ATTIVO support) the feeder send an alarm and the machine cannot start. If it is =0, when the ATTIVO brake is completely open the feeder does not send any alarm and the machine starts.
TensTmOut: default setting 40seconds. If the ATTIVO electronic brake does not reach preset tension within this time, the feeder will stop the machine. The action of the brake is normally slow, so do not set a time shorter than 20seconds.
EN OFF Stp: if it is =1, when one feeder is switched off, it sends an alarm to the machine and the machine cannot start. If it is =0, no alarm is sent and the machine will start.

9.6 FEEDERS ALARMS

By clicking on the STATUS button located on each feeder it is possible to ask feeders about their status. If a feeder has its lights ON or blinking, it means the feeder is in alarm condition. At the same time the feeder is sending an information about the alarm. By clicking on the STATUS button it is possible to display the alarm reason.



In this example feeder number 2 is OK.
STATUS TAB located at the bottom of the screen: alarm monitoring in continuous mode. This feature is necessary if the computer is far from the machine, in order to be able to have information on possible alarms without being at the machine.
In case an alarm takes place while the machine is running and the STATUS tab is selected, the feeder will stop the machine and a big writing will come out on the display as in the following picture:



In case feeders are OK, nothing will be shown on the display.
Here below a list of the possible alarms:

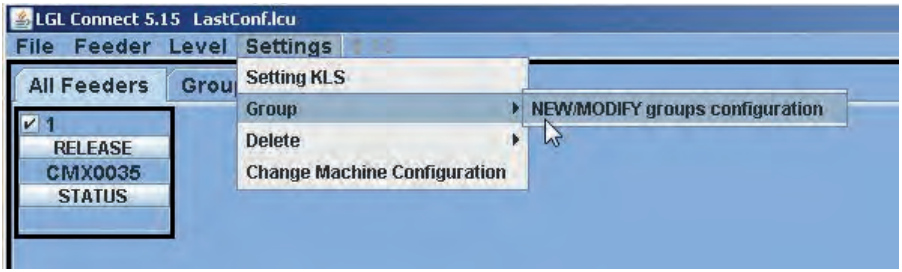
ALARM	MEANING	ACTIONS
AC PWRFAIL	phase number 2 (blue) and /or phase number 3 (yellow) are missing	Check input voltage and feeder connection on the flat cable
YARN BREAK	Yarn broken before the feeder	Repair the yarn
MOTOR LOCK	Yarn entangled somewhere between the bobbin and the feeder	Check yarn passage between bobbin and feeder
HIGH TEMPERATURE	Too high temperature on the feeder electronic	1. Reduce input tension on the yarn 2. Check that the flywheel turn freely. In case disassemble spool body and remove dust and/or yarn residual.
TIME ERROR	the feeder takes too much time to wind up the yarn on the spool body at the start up.	Stop the yarn on the spool body with one finger to help yarn reserve filling procedure.

ALARM	MEANING	ACTIONS
VB MOT FAIL	DC voltage on the motor too low.	Check connections on the power transformer primary voltage winding.
AC1PWRFAIL	phase number 1 (black) is missing.	Check input voltage and feeder connection on the flat cable
SWITCH OFF	ON OFF switch in position OFF	Switch ON the feeder (see also EN OFF STP parameter page 77)
TENSMTRERR	The feeder can't reach the preset tension value within a preset time (see also TensTMOut parameter page 77).	Check the following: 1. The yarn is passing on the load cell, 2. The TWM brake and springs are suitable to reach the desired tension 3. OFFSET of the load cell
OYB ERROR	yarn broken after the feeder (or yarn consumption too low)	Repair the yarn
ELBRK OPEN	brake open (ATTIVO).	Close it by pressing the related button located on the ATTIVO blck support
PREWINDERR	Only during winding up phase of the spool body, during the start up or after a yarn break	It tells that during spool body filling up, the machine cannot run.
I2T ERROR	I2T protection	3. Reduce input tension on the yarn 4. Check that the flywheel turn freely. In case disassemble spool body and remove dust and/or yarn residual.

9.7 MACHINE CONFIGURATION

It is possible to create different feeders groups and work on each group separately.
For example if the operator has to set 2grams tension on feeder number 1, number 5, number 9 and so on, it may be easier to create one group with feeder 1, feeder4, feeder9 …
The system allows to have on the screen only this specific group and set parameters which are valid only for this group.

FEEDER > GET FEEDER
SETTINGS > GROUPS > NEW/MODIFY GROUPS CONFIGURATION

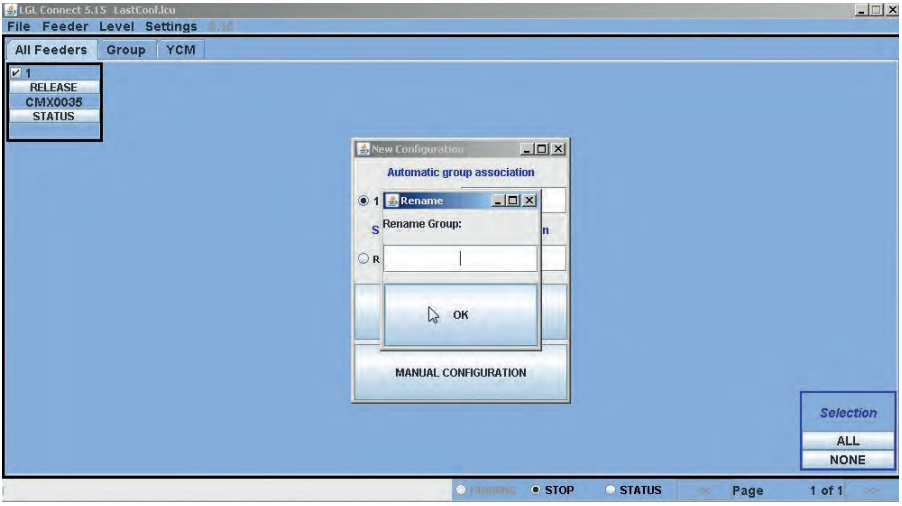


There are two automatic options and one manual configuration.

1. AUTOMATIC GROUP ASSOCIATION – 1 feeder to …
   In the related tab the amount of desired groups must be typed.
   For example there are 30 feeders and 5 is chosen: 1 feeder to 5. Five groups will be created:
   Group1: feeder 1, 6, 11, 16, 21, 26
   Group2: feeder 2, 7, 12, 17, 22, 27
   Group3: feeder 3, 8, 13, 18, 23, 28
   Group4: feeder 4, 9, 14, 19, 24, 29
   Group5: feeder5, 10, 15,20, 25,30

2. SEMI AUTOMATIC GROUP ASSOCIATION - range n°group
   Range tells every how many feeders the pattern association repeats itself
   N°group tells the amount of groups
   For example there are 60 feeders and the requirement is 4 groups
   Group1: feeder 1, feeder2
   Group2: feeder3, feeder4, feeder5
   Group3: feeder6, feeder9, feeder10
   Group4: feeder7, feeder8
   After feeder 10 the group association repeats (so feeder11 and 12 go into group1, feeder13,14 and 15 go into group2 and so on)
   In this case RANGE=10 and n°group=4

By choosing AUTOMATIC GROUP ASSOSCIATION or SEMI-AUTOMATIC GROUP ASSOCIATION, after filling pertinent tabs the following screen will appear:

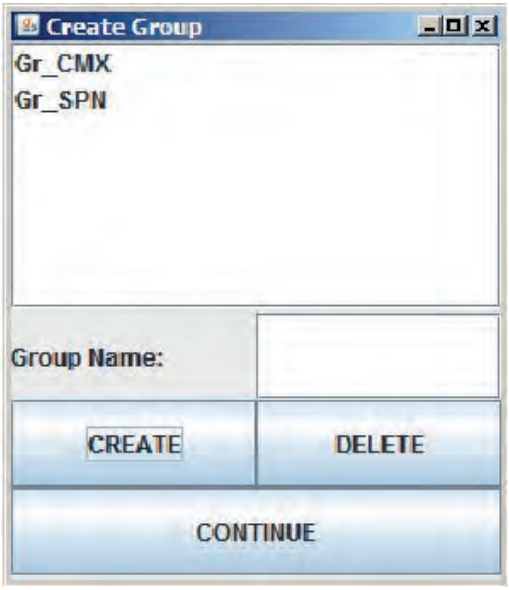


Here the name of each of the created groups must be given. After the first group name has been inserted, Press OK. Another window on the same type and look will appear for group number2 and so on, until each group has its own name.
In the end, with the name of the last group, the tab SAVE MACHINE will appear.

Insert the name of the last group and then press SAVE MACHINE. Continue on page 86.

3. MANUAL CONFIGURATION: by choosing manual configuration button, the following screen will appear:

Insert first group name and press CREATE. Then insert second group name and press CREATE. This must be repeated for the total required groups number. In the following picture two groups have been created, Gr_CMX and Gr_SPN.

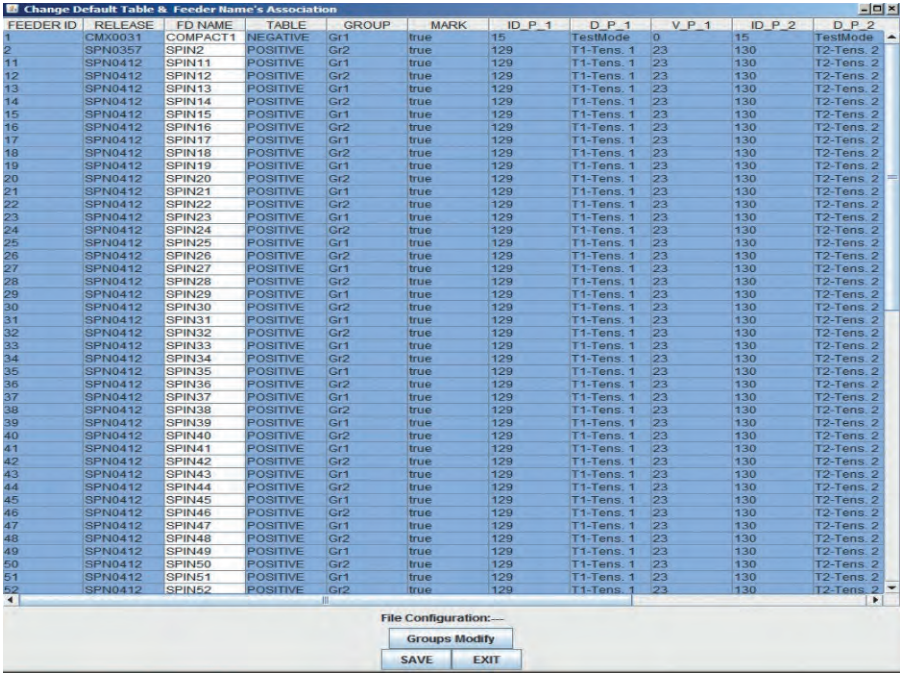


At the end press CONTINUE

On the left each selected feeder will be shown with its software release and its address. On the right a drop down menu shows all just created groups. In this example only two feeders are shown, number 1 and number11.
The operator has to associate each feeder to the desired group.

At the end press SAVE MACHINE.

In both AUTOMATIC GROUP ASSOCIATION, SEMI-AUTOMATIC GROUP ASSOCIATION AND MANUAL CONFIGURATION, the following picture shows an example of what the system will display. This is a summary table.

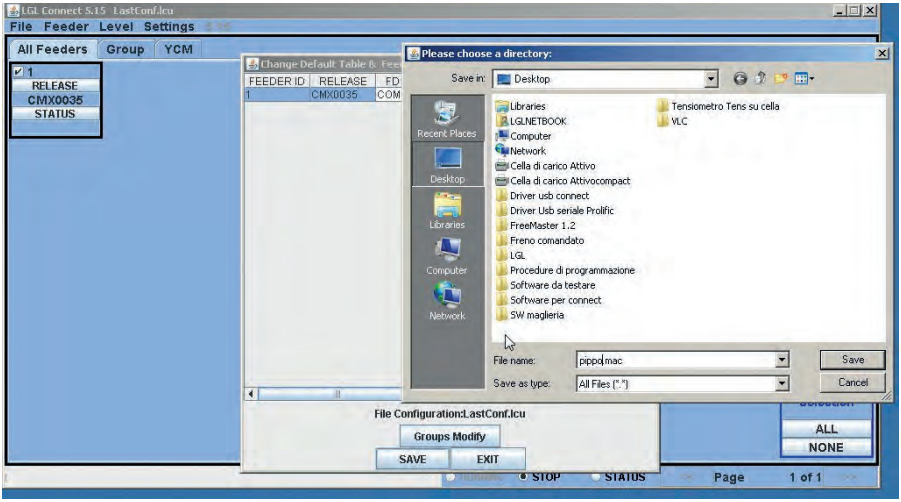


FEEDER ID	RELEASE	FD NAME	TABLE	GROUP	MARK	ID_P_1	D_P_1	V_P_1	ID_P_2	D_P_2
1	CMX0031	COMPACT1	NEGATIVE	Gr1	true	15	TestMode	0	15	TestMode
2	SPN0357	SPIN2	POSITIVE	Gr2	true	129	T1-Tens. 1	23	130	T2-Tens. 2
11	SPN0412	SPIN11	POSITIVE	Gr1	true	129	T1-Tens. 1	23	130	T2-Tens. 2
12	SPN0412	SPIN12	POSITIVE	Gr2	true	129	T1-Tens. 1	23	130	T2-Tens. 2
13	SPN0412	SPIN13	POSITIVE	Gr1	true	129	T1-Tens. 1	23	130	T2-Tens. 2
14	SPN0412	SPIN14	POSITIVE	Gr2	true	129	T1-Tens. 1	23	130	T2-Tens. 2
15	SPN0412	SPIN15	POSITIVE	Gr1	true	129	T1-Tens. 1	23	130	T2-Tens. 2
16	SPN0412	SPIN16	POSITIVE	Gr2	true	129	T1-Tens. 1	23	130	T2-Tens. 2
17	SPN0412	SPIN17	POSITIVE	Gr1	true	129	T1-Tens. 1	23	130	T2-Tens. 2
18	SPN0412	SPIN18	POSITIVE	Gr2	true	129	T1-Tens. 1	23	130	T2-Tens. 2
19	SPN0412	SPIN19	POSITIVE	Gr1	true	129	T1-Tens. 1	23	130	T2-Tens. 2
20	SPN0412	SPIN20	POSITIVE	Gr2	true	129	T1-Tens. 1	23	130	T2-Tens. 2
21	SPN0412	SPIN21	POSITIVE	Gr1	true	129	T1-Tens. 1	23	130	T2-Tens. 2
22	SPN0412	SPIN22	POSITIVE	Gr2	true	129	T1-Tens. 1	23	130	T2-Tens. 2
23	SPN0412	SPIN23	POSITIVE	Gr1	true	129	T1-Tens. 1	23	130	T2-Tens. 2
24	SPN0412	SPIN24	POSITIVE	Gr2	true	129	T1-Tens. 1	23	130	T2-Tens. 2
25	SPN0412	SPIN25	POSITIVE	Gr1	true	129	T1-Tens. 1	23	130	T2-Tens. 2
26	SPN0412	SPIN26	POSITIVE	Gr2	true	129	T1-Tens. 1	23	130	T2-Tens. 2
27	SPN0412	SPIN27	POSITIVE	Gr1	true	129	T1-Tens. 1	23	130	T2-Tens. 2
28	SPN0412	SPIN28	POSITIVE	Gr2	true	129	T1-Tens. 1	23	130	T2-Tens. 2
29	SPN0412	SPIN29	POSITIVE	Gr1	true	129	T1-Tens. 1	23	130	T2-Tens. 2
30	SPN0412	SPIN30	POSITIVE	Gr2	true	129	T1-Tens. 1	23	130	T2-Tens. 2
31	SPN0412	SPIN31	POSITIVE	Gr1	true	129	T1-Tens. 1	23	130	T2-Tens. 2
32	SPN0412	SPIN32	POSITIVE	Gr2	true	129	T1-Tens. 1	23	130	T2-Tens. 2
33	SPN0412	SPIN33	POSITIVE	Gr1	true	129	T1-Tens. 1	23	130	T2-Tens. 2
34	SPN0412	SPIN34	POSITIVE	Gr2	true	129	T1-Tens. 1	23	130	T2-Tens. 2
35	SPN0412	SPIN35	POSITIVE	Gr1	true	129	T1-Tens. 1	23	130	T2-Tens. 2
36	SPN0412	SPIN36	POSITIVE	Gr2	true	129	T1-Tens. 1	23	130	T2-Tens. 2
37	SPN0412	SPIN37	POSITIVE	Gr1	true	129	T1-Tens. 1	23	130	T2-Tens. 2
38	SPN0412	SPIN38	POSITIVE	Gr2	true	129	T1-Tens. 1	23	130	T2-Tens. 2
39	SPN0412	SPIN39	POSITIVE	Gr1	true	129	T1-Tens. 1	23	130	T2-Tens. 2
40	SPN0412	SPIN40	POSITIVE	Gr2	true	129	T1-Tens. 1	23	130	T2-Tens. 2
41	SPN0412	SPIN41	POSITIVE	Gr1	true	129	T1-Tens. 1	23	130	T2-Tens. 2
42	SPN0412	SPIN42	POSITIVE	Gr2	true	129	T1-Tens. 1	23	130	T2-Tens. 2
43	SPN0412	SPIN43	POSITIVE	Gr1	true	129	T1-Tens. 1	23	130	T2-Tens. 2
44	SPN0412	SPIN44	POSITIVE	Gr2	true	129	T1-Tens. 1	23	130	T2-Tens. 2
45	SPN0412	SPIN45	POSITIVE	Gr1	true	129	T1-Tens. 1	23	130	T2-Tens. 2
46	SPN0412	SPIN46	POSITIVE	Gr2	true	129	T1-Tens. 1	23	130	T2-Tens. 2
47	SPN0412	SPIN47	POSITIVE	Gr1	true	129	T1-Tens. 1	23	130	T2-Tens. 2
48	SPN0412	SPIN48	POSITIVE	Gr2	true	129	T1-Tens. 1	23	130	T2-Tens. 2
49	SPN0412	SPIN49	POSITIVE	Gr1	true	129	T1-Tens. 1	23	130	T2-Tens. 2
50	SPN0412	SPIN50	POSITIVE	Gr2	true	129	T1-Tens. 1	23	130	T2-Tens. 2
51	SPN0412	SPIN51	POSITIVE	Gr1	true	129	T1-Tens. 1	23	130	T2-Tens. 2
52	SPN0412	SPIN52	POSITIVE	Gr2	true	129	T1-Tens. 1	23	130	T2-Tens. 2

Al columns are READ ONLY except FD NAME.
FEEDER ID shows feeders address
RELEASE shows the software release of each feeder
FD NAME shows feeders name and it can be modified, so that it is possible to give each feeder the desired name.
GROUP shows which group is associated to each feeder
Other columns are related to service parameters that are not interested for the operator.

On the screen, it is possible to press GROUPS MODIFY in order to change something in the just created configuration.
If everything is correct and according to the requirements, press SAVE, give a name to the configuration file and save it on the lap top. The file is a .mac.

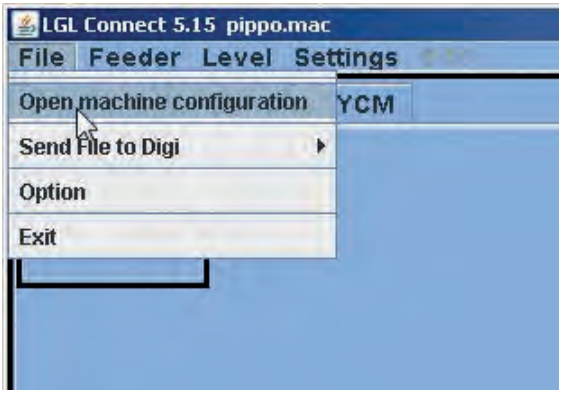
Please note that the .mac file can have maximum 9 characters. If it is longer, you won't be able to save it.



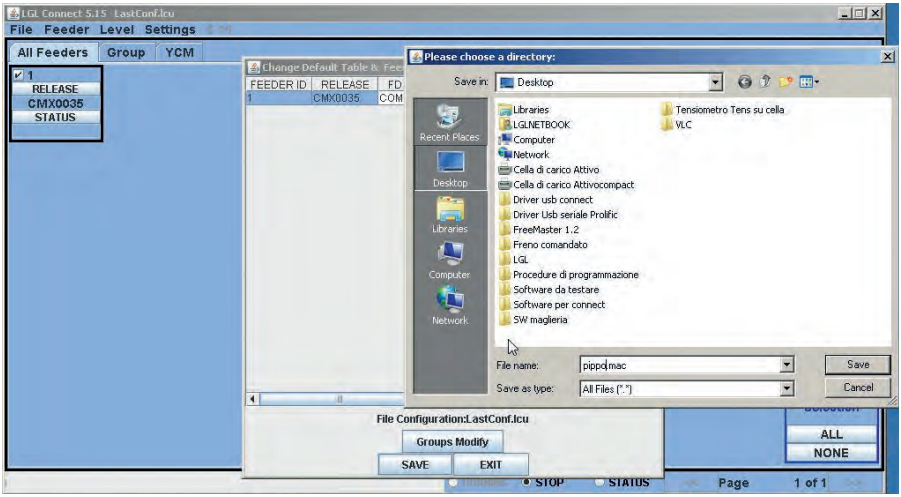
Please note that the name of the configuration (in this case pippo.mac) will appear top left of the screen, near the LGL connect release writing.

9.7.1 Opening of an existing configuration

Many different machine configurations and groups associations can be created depending upon different patterns and machines.
These configuration can be saved and re loaded anytime.
FILE > OPEN MACHINE CONFIGURATION



Choose the .mac desired file (here pippo.mac) and press OPEN.



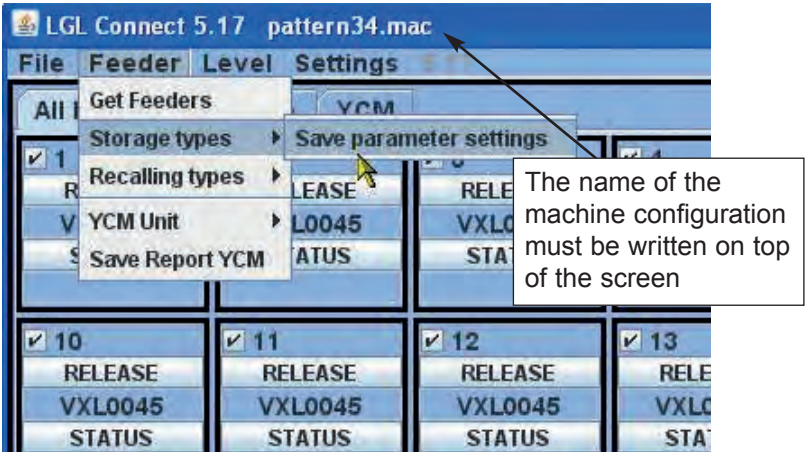
The configuration name pippo.mac will appear top left in the screen.

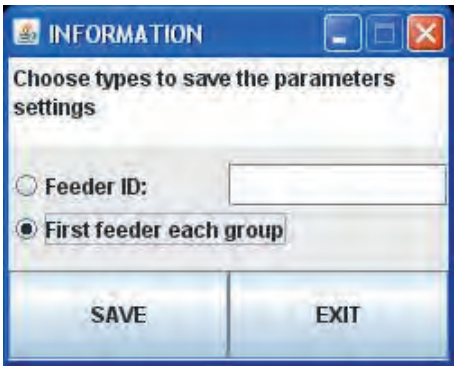
Double click on GROUP ALL. The following screen will appear:

A drop down menu shows the groups list. In the picture only one group is shown, and this group has name “1”. Choose the group to be displayed and press VIEW GROUP.
All feeders of the selected group will be displayed on the screen. Feeders belonging to other groups will not be displayed on the screen. In order to display other feeders, other groups must be selected. Only one group at a time will be displayed.

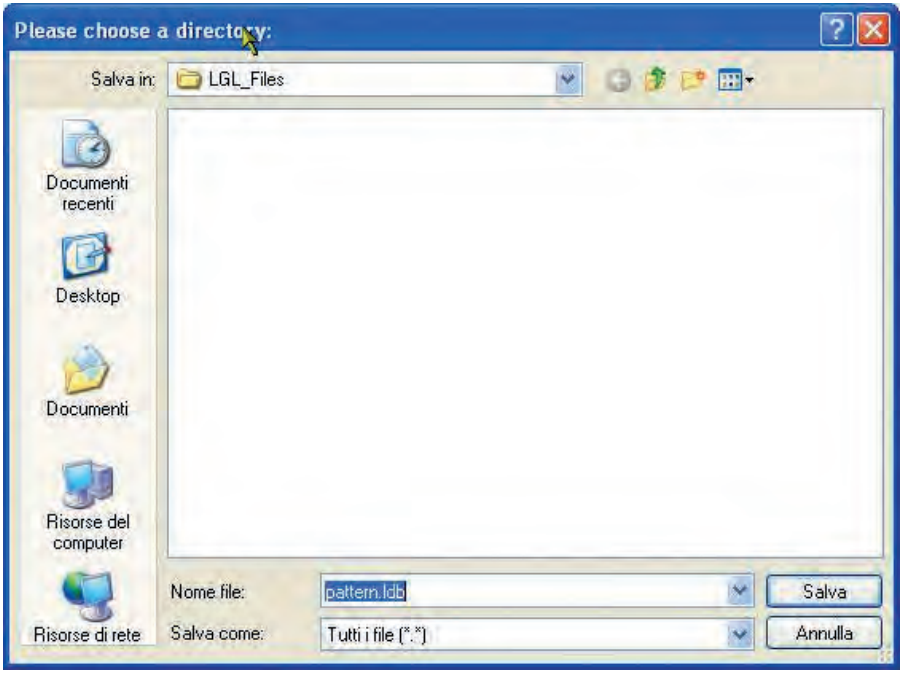
9.7.2 Save and recall feeders parameters

Once a machine configuration has been loaded or created on the machine, it is possible to save the parameters that have been set for this specific machine configuration, and recall them later on.

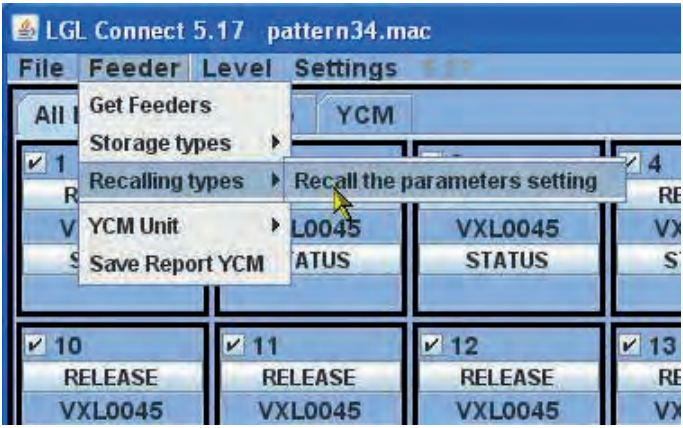




By pressing First feeder each group, it is possible to save a .ldb file which contains parameters of the first feeder of each group.
In this example the machine configuration has been called “pattern34.mac”, so the feeders parameters file can be called “pattern34.ldb”.



In order to recall feeders parameter, first you have to load the machine configuration on the lap top.
The machine configuration name will appear top of the screen (pattern34 in the example).



Then by clicking on “recall parameters setting” it is possible to load the parameters file, which will be “pattern34.ldb”.
Once this operation has been done, the feeders will have all the parameters loaded, and the system is ready to work.

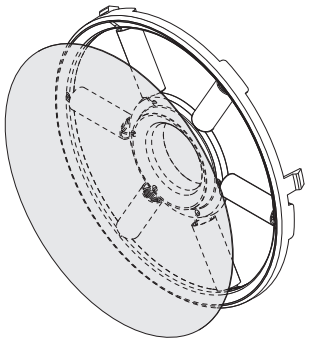
10 - APPLICATION RANGE

10.1 TWM TENSION MODULATOR APPLICATION RANGES

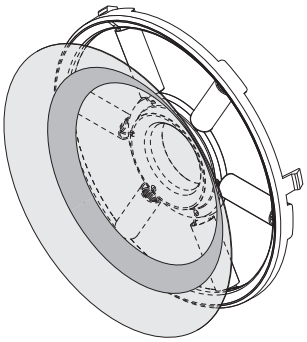
TWM TYPE K
(code no. A1N3S930-03-00 / A1N3S930-04-00)

TWM TYPE KL
(code no. A1N3S930-03-KL / A1N3S930-04-KL / A1N3S930-05-KL)

type of yarn	*springs*	*yarn range*
Cotton and viscose fibre yarns	0.4	From 120 Ne to 10 Ne
High-twist, crêpe and silk yarns	0.3	From 20 Den to 120 Den
High-twist, crêpe and silk yarns	0.4	From 100 Den to 250 Den
Viscose and synthetic fibre yarns	0.3	From 10 Den to 120 Den
Viscose and synthetic fibre yarns	0.4	From 100 Den to 250 Den



TWM TIPO K

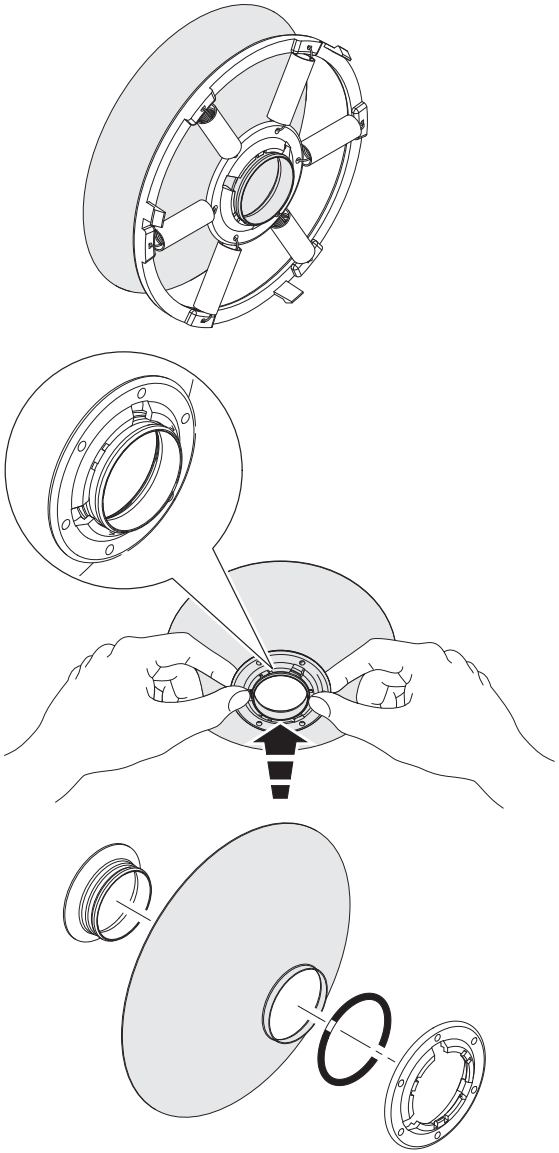


TWM TIPO KL

- For tensioning strength exceeding 10 grams, use of **TWM KL** is recommended.

10 - APPLICATION RANGE

With the new version of the chrome ring, it's possible replace the truncated cone of TWM, keeping the disk, the o-ring and chrome ring already on TWM. With the old version it's necessary replace the entire group.



11 - CONVERSION TABLE

11.1 CONVERSION TABLE FOR THE VARIOUS YARN COUNT SYSTEMS

Nm	Ne	tex	den	Dtex	Ne_L	Nm	Ne	tex	den	Dtex	Ne_L
18.000	10,63	56	**500**	550	29,76	**48.000**	28,35	**21**	187	208	79,37
18.140	10,71	56	496	551	**30**	48.380	28,57	**21**	186	206	**80**
19.350	11,43	52	465	516	**32**	**50.000**	29,53	**20**	**180**	200	82,68
20.000	11,81	**50**	**450**	**500**	33,07	50.800	**30**	**20**	177	197	84
20.320	**12**	**50**	443	492	33,60	54.190	**32**	**18**	166	184	89,6
21.170	12,50	48	425	472	**35**	54.430	32,14	**18**	165	183	**90**
22.500	13,29	44	**400**	440	37,20	**60.000**	35,43	17	**150**	**167**	99,21
23.710	**14**	**42**	380	420	39,20	60.480	35,71	17	149	166	**100**
24.190	14,29	42	372	413	**40**	60.960	**36**	**16**	147	165	100,8
25.710	15,19	38	**350**	390	42,52	64.350	38	**16**	140	156	106,4
27.090	**16**	**36**	332	369	44,80	67.730	**40**	**15**	132	147	112
27.210	16,07	**36**	331	367	**45**	**70.000**	41,34	14	129	143	115,7
30.000	17,72	34	**300**	**335**	49,61	74.510	**44**	**13**	121	134	123,2
30.240	17,86	34	297	330	**50**	75.000	44,29	**13**	**120**	**133**	124
30.480	**18**	**32**	295	328	50,40	**80.000**	47,24	**12,5**	112	125	132,3
32.000	18,90	**32**	280	310	52,91	81.280	**48**	**12,5**	110	122	134,4
33.260	19,64	**30**	270	300	**55**	84.670	**50**	**12**	106	118	**140**
33.870	**20**	**30**	266	295	56	**90.000**	53,15	11	**100**	**110**	148,8
34.000	20,08	**30**	265	294	56,22	101.600	**60**	**10**	88	97	168
36.000	21,26	28	**250**	**280**	59,53	118.500	**70**	**8,4**	76	**84**	196
36.290	21,43	28	248	275	**60**	**120.000**	70,86	**8,4**	**75**	**84**	198,4
39.310	23,21	**25**	229	254	**65**	135.500	**80**	**7,2**	66	73	224
40.000	23,62	**25**	225	**250**	66,14	**150.000**	88,58	6,8	**60**	**67**	248
40.640	**24**	**25**	221	246	67,20	152.400	**90**	**6,4**	59	64	252
42.330	25	24	212	235	**70**	169.300	**100**	**6**	53	58	**280**
44.030	**26**	**23**	204	227	72,80	186.300	**110**	**5,2**	**48**	53	-
45.000	26,57	22	**200**	**220**	74,41	203.200	**120**	**5**	**44**	49	-
47.410	**28**	**21**	189	210	78,40						

12 - TROUBLE SHOOTING

12.1 DURING INSTALLATION

- If the yarn feeder will not work once it has been fitted onto the machine, (i.e. the orange lights won't light up and the motor won't run), check to see that the flat strip power cable has been connected correctly (par. 2.1 refers). Try loosening and reconnecting the feeder back onto the power cable once again. If it doesn't start up, try moving the fixing point on the power cable 1 cm away to the side.

  If, after having tried the above options the feeder still doesn't start up, it must be replaced due to a probable failure of the main control board.

12.2 DURING OPERATION

- If after having functioned correctly, the feeder's orange signal lights won't light up when the machine stops, check to see whether the lights are still working correctly.
- If any failure by the feeder were not caused by incorrect installation or by connection errors, there probably is a failure in the main control board. In these cases the yarn feeder must be replaced and the repair operations must be carried out by regularly authorised L.G.L. personnel.

13. STRIPPING AND SCRAPPING

If stripping and scrapping of the machine is required, relative rating plates and all related documents must be destroyed or cancelled. If the machine is to be scrapped by third parties, only authorised centres are to be used for any waste recovery or disposal of the ensuing materials.

If the machine is to be scrapped directly by the user, it is important that the materials are split according to their category and then disposed of separately through specialised centres.

All metal parts, the electrical motor, rubber parts and all the parts made out of synthetic materials must be separated for recycling. Scrapping must at all times be carried out in full conformity with prevailing laws in the country of use wherefore any liability for non compliance with any local requirement lies solely with the last proprietor of the machine and/or any appointed nominee.

L.G.L. Electronics will not be held liable for any damage or injury whatsoever arising from reuse of any one of the machine components for operations or assemblies that do not in any way conform to the original use the machine was intended for.