Contents

0.0: REVISIONS NOTICES

2023-12-13: Correction of the spare part list 8.1: PR-95126 is now PR-95126-8MM.

2023-11-13: adaptation of the KLR.950 manual for the KLR.950-S variant.

1.0: SAFETY PRECAUTIONS

CAUTION

- The equipment described in this manual is covered with fix panel (only opened with a tool) that provide protection from electrical components and most of mechanical motions. However, there is four (4) belts that can be exposed to the user. ALWAYS turn OFF the machine before approaching hands from every motion part to remove a jam, service or clean the machine. Go against this notice can result in a severe injury or death;

- Special attention made to ensure that the operation of the machine is safe and convenient without compromising the efficiency. Keeps hands away from the mechanism that break the clips apart. Keeps hands and clothes away from the working area of the machine;

- Keep hands away from the working machine. Do not force through remaining gaps;

- If the system is linked to another machine or install onto another machine. Lock the electrical box of the other machines before performing any maintenance on this equipment. Please refer to the local regulations and laws on locking out machinery. Go against this notice can result in a severe injury or death;

- When working on the electrical components. Disconnect the equipment at the source and use a lockout device to avoid any risk of danger. Make sure you also have the space required to complete the work to avoid any risk of danger.

- Any modifications with any aspect of the mechanical, safety, electrical design, design, or any parts connected with the equipment will void the warranty and liability of KLR Systems. If a change is required, contact KLR Systems for approval. All technical handling must be done by a qualified technician or by KLR Systems;

- KLR is not responsible for any abuse, mishandling, misuse, improper maintenance and repair by owners and users;

- Equipment must be supervised when operating;

Continue the next page…

⚠ CAUTION

- Safety switches: DO NOT bypass any safety components for any reason. Violation will void all warranties and responsibility from KLR Systems. If a safety component is broken, it must be replaced before starting the machine;

- Safety panel (fix panel) or safety doors: As a safety, component does not try to remove or unscrew them unless it is necessary for a maintenance operation. If it is the only option, use a lockout device during this procedure and reassemble every single piece as it was when finished;

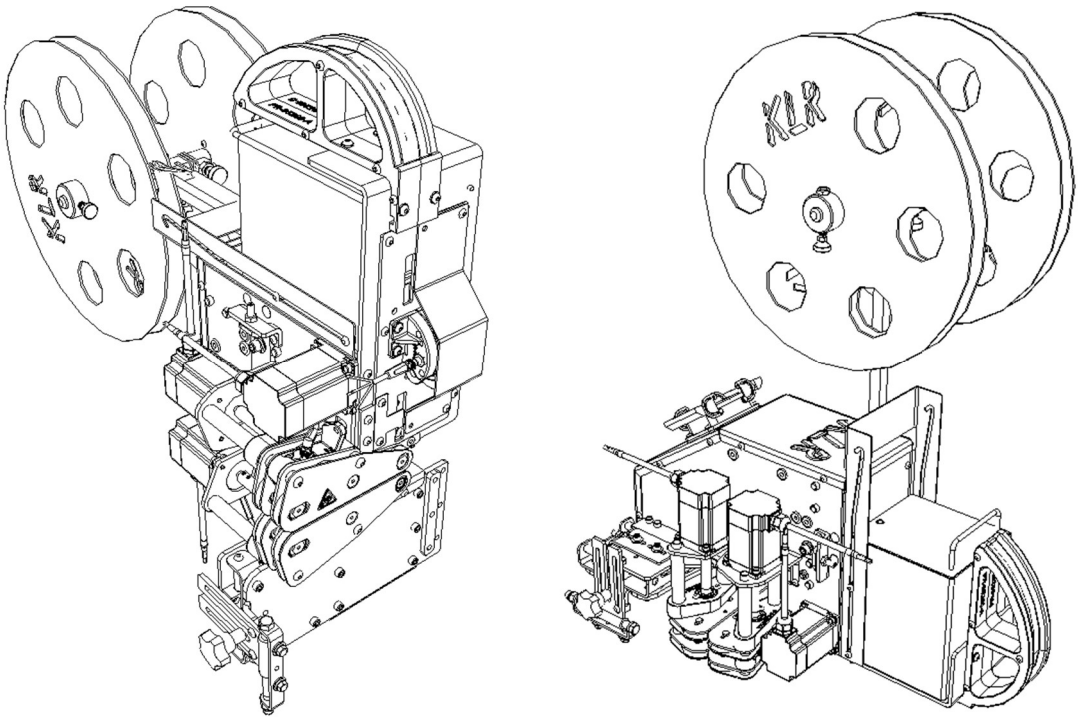
- When the machine is set to interlock mod, that means the KLR.950 run command and speed is controlled by another equipment. Careful when handling the equipment because it may start when you do not expect it. ALWAYS keep hand away from belts and mechanisms even when the machine is stopped.

2.0: IDENTIFICATION

2.1: The product brand and type designation

KLR.950-S

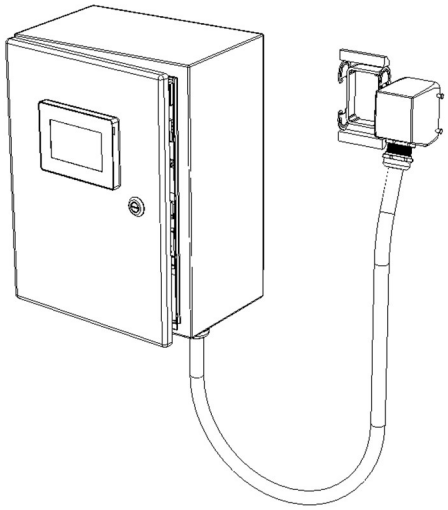
Bag closer



*The machine in the picture is a left version

PC-950-S

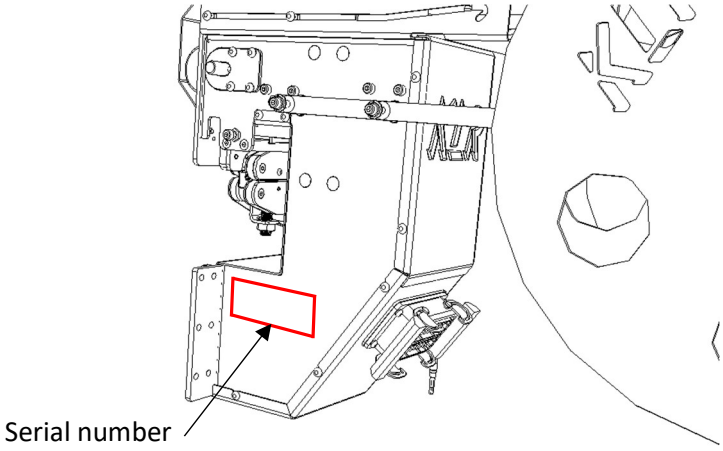
Control panel for the KLR.950-S



2.2: Version of product

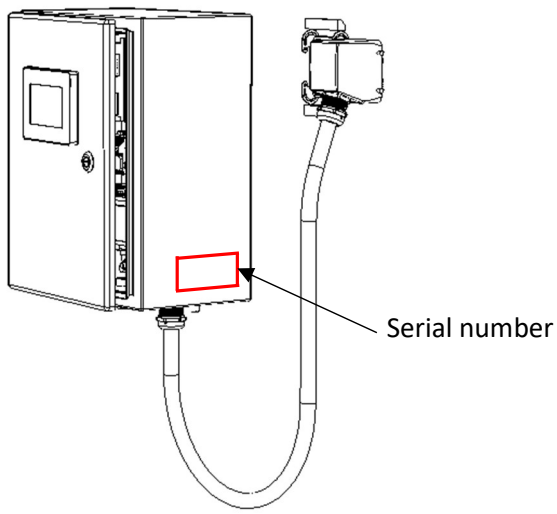
2.2.1: Serial number on KLR.950-S

Serial number: located on side panel near the plug.



2.2.2: Serial number on the PC-950-S

Serial number: located on the side of the panel.



2.3: Manufacturer contact

KLR SYSTEMS INC. Packaging equipment manufacturer

Address: 944 rue des Hérons,

City, province, country: Saint-Pie, Québec, Canada

Zip code: J0H 1W0

Phone number: 450-388-0404

Web site: http://klrsystems.com/

General questions: info@klrsystems.com

Part order and shipping: order@klrsystems.com

Technical questions: support@klrsystems.com

3.0: PRODUCT SPECIFICATION

3.1: Range of applications intended use and general functions

The bag closer KLR.950 is designed to close bag tail with clip. The machine tells the user whenever clip is running out. These following values are in the prototype version and are subject to change:

- Stainless steel construction. Wash-down variant of the KLR.950
- The control panel is completely sealed, separated from the mechanical unit and ambidextrous. That feature allows the panel to be sold separately and having multiple mechanical spare units per panel.
- Automated Unload and Load function (1 button on touchscreen) allows for easy clip changeovers. Home sensor loads the strip to the right location automatically.
- Load function automatically feeds clips through to ensure the clip in ready position has the latest print information.
- Breaker delay is computer controlled and easily user adjusted for optimal setting for your production needs. Thus, ensuring tight bags without marking or tearing the bag.
- The belt mechanism features four synchronous drive belts. The bag tail is fed evenly without slippage through the clip without marking or stretching the bag.
- Lower belts mounted on suspension track for jam prevention should anything other than a bag tail go through the belts.
- Bag detection by sensor for cycle start for less mechanical parts.
- Clip breaker in shear for minimal impact to machine drive train through end of cycle.
- Clips are fed linearly through the strip track allowing simple integration of multiple printing options without the need for an external encoder.

3.2: Dimensions (for transport)

The clips holder can be disassembled from the body of the machine to save space.

KLR.950-S: Height: 24 inches; Length: 16 inches; Width: 15 inches

PC-950-S: Height: 22 inches; Length: 10 inches; Width: 13 inches

3.3: Specification for electricity

This machine is intended to use these 4 possible specifications:

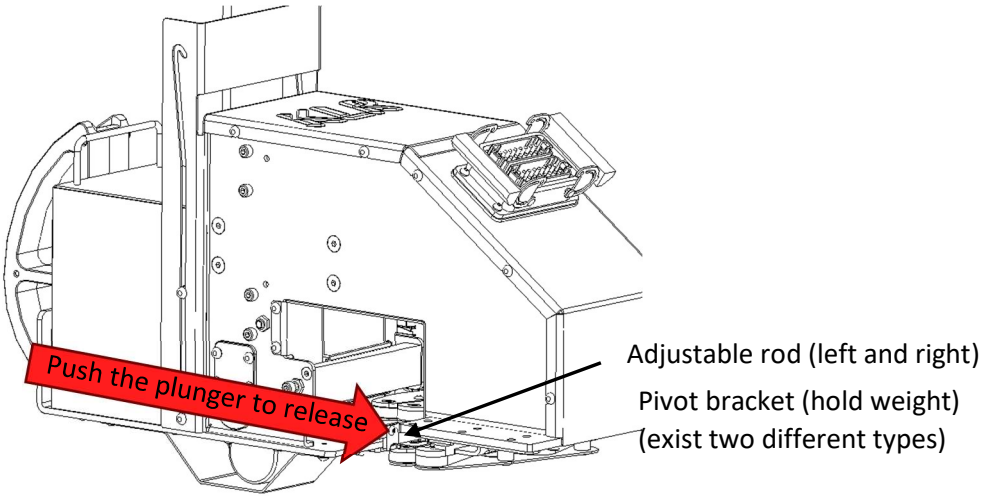
Electrical need: Access within 5 feet from the machine

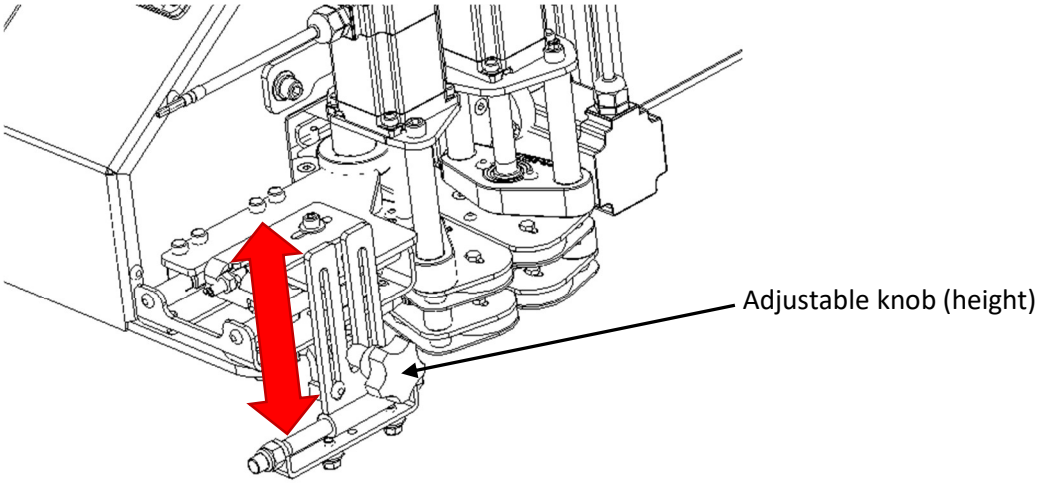
120 Volts – 3.5 Amps – 1 Phase – 60 Hertz

4.0: INSTALLATION

4.1: Mounted directly on a conveyor

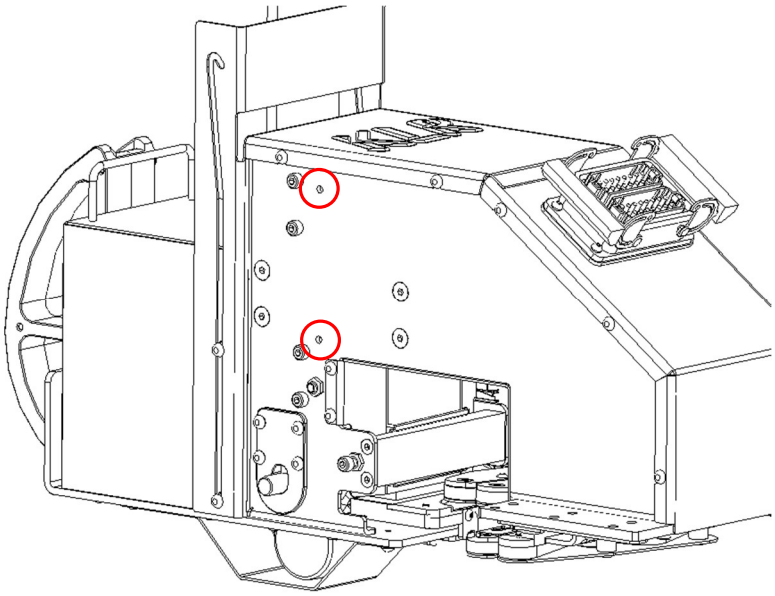
Of course, the KLR.950 is designed to be installed on KLR equipments, such as conveyors. The brackets are attached to the side frame of the conveyor and has a quick removal functionality. Take note this following machine is a left version:





4.3: Assembling the clips holder

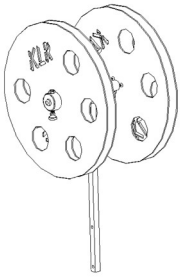
The clips holder is attached with these threaded 1/4-20 holes:



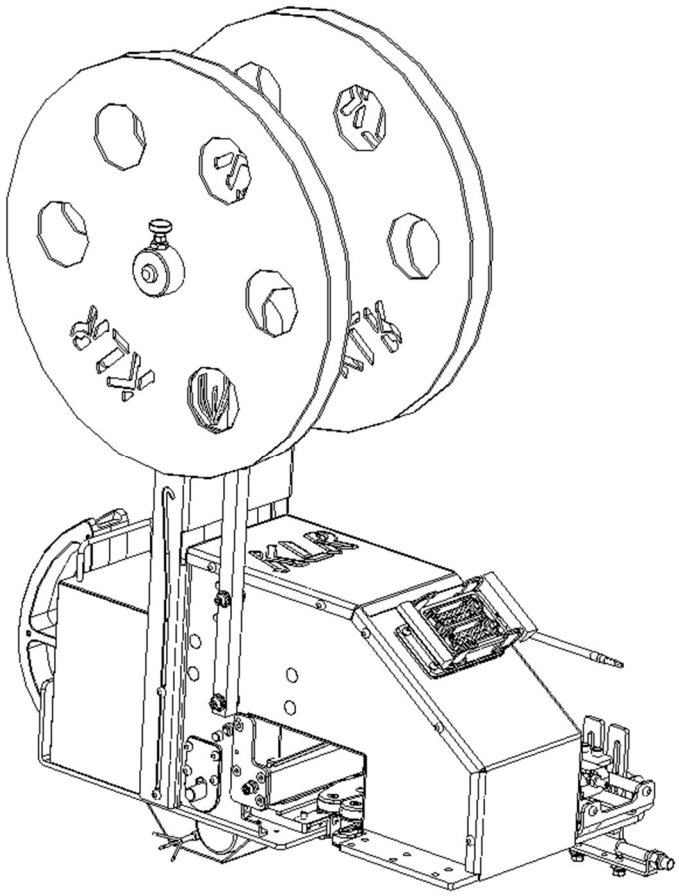
To install it, it is needed:

- Two (2) OW-002S;

- Two (2) 1/4-20 socket head 1 inch long;
- Two (2) 1/4 washer;
- Two (2) 1/4 lock washer;
- KLR.6250-S Clip holder



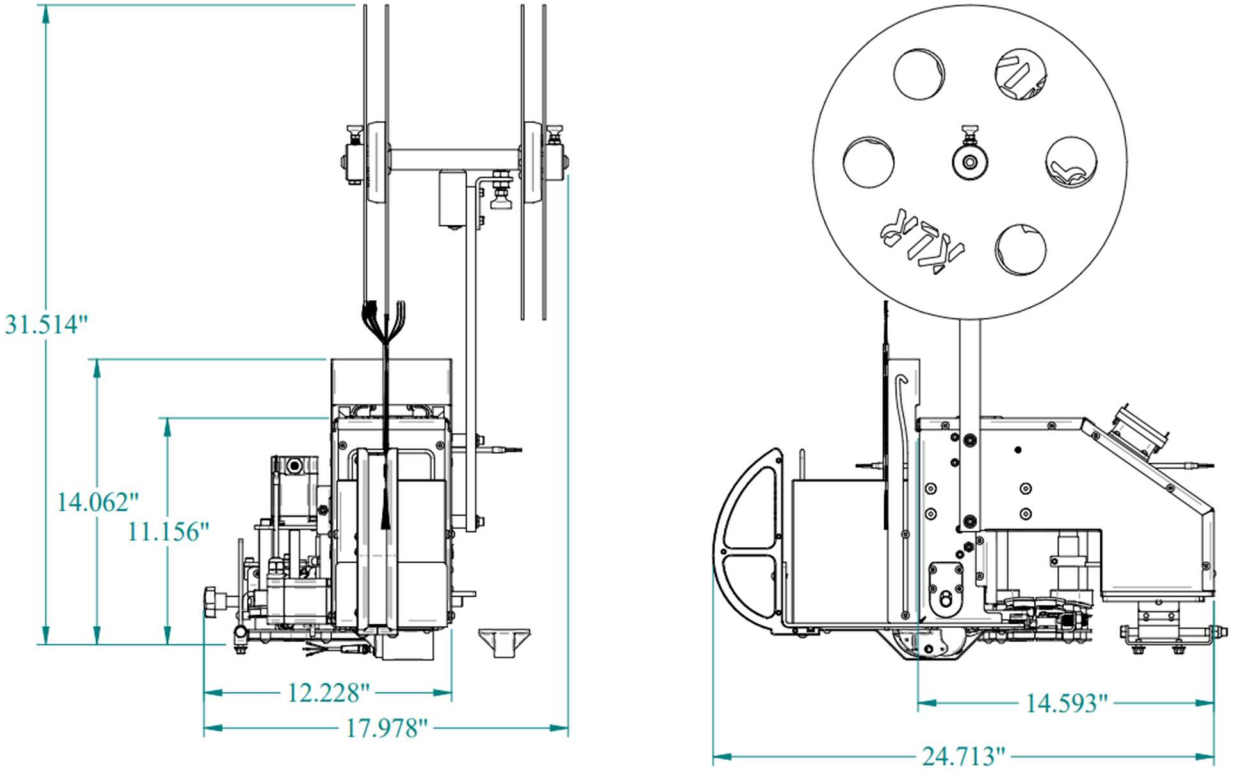
Final result:



4.4: Minimal space required

4.4.1: Stand alone

Minimal space required to install this equipment. Here are the overall dimensions of the KLR.950 alone:

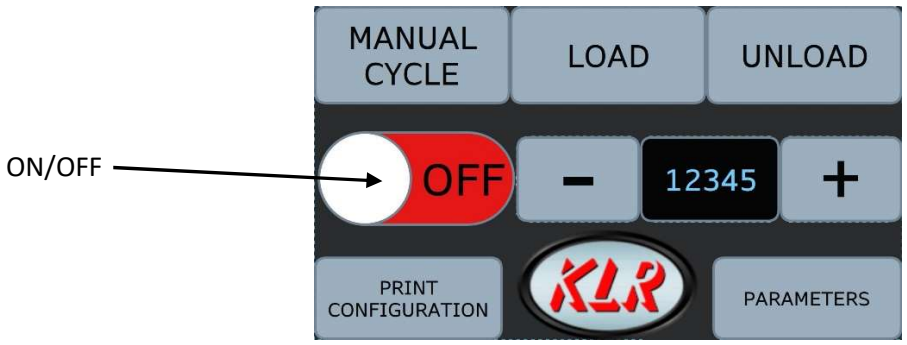


5.0: OPERATION

	➢ Before using the machine, it is important that every operator of the machine and maintenance personnel take part in a training session given by KLR systems technicians.
⚠ CAUTION	➢ ALWAYS turn OFF and UNPLUG the equipment before any maintenance procedures, cleaning, removing a jam or any other tasks that could hurt the user if the machine start promptly.

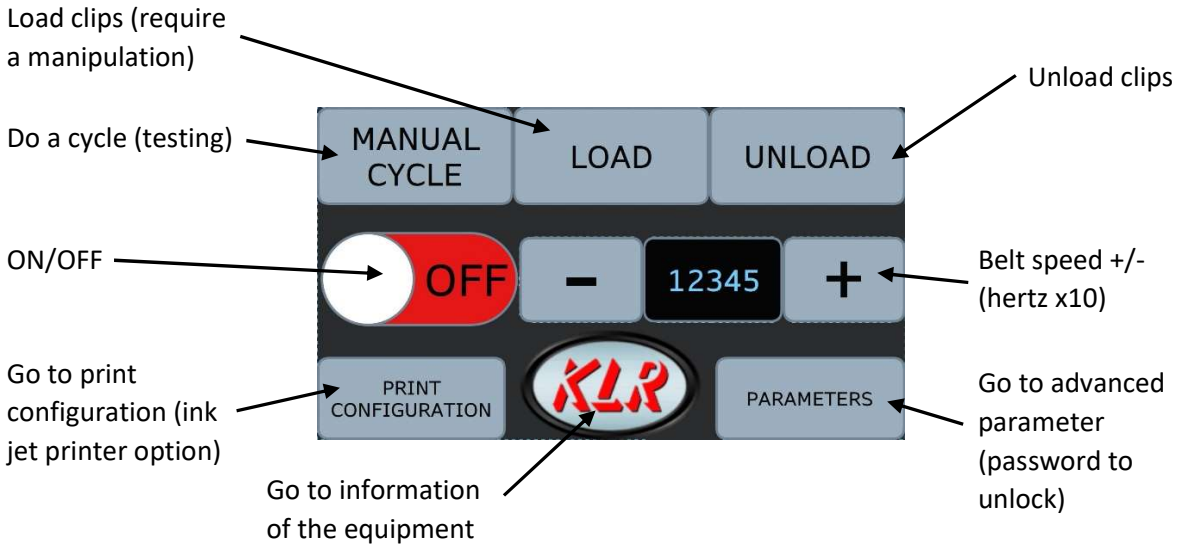
5.1: ON/OFF

Turn ON and OFF the machine is done on the display.



5.2: Main screen

This screen has most function the user would need on a daily tasks.

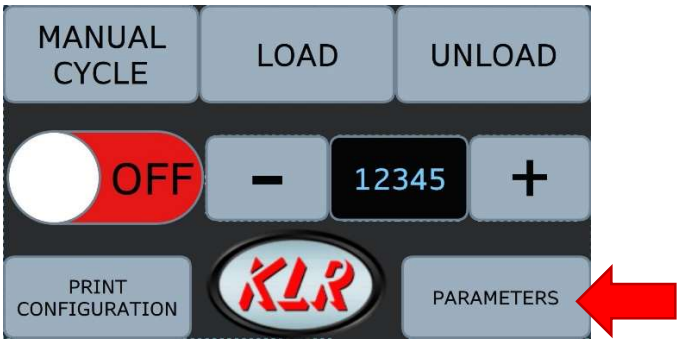


5.2.1: Unlock advanced parameters

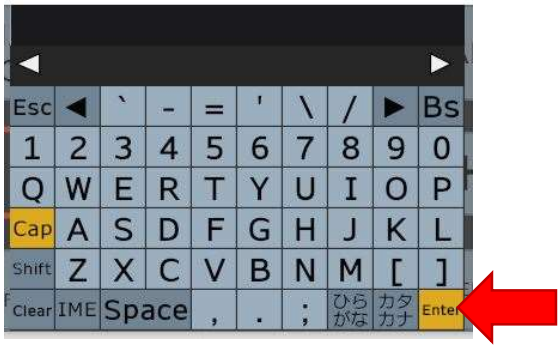
Advanced parameter is locked when turning ON the machine. "Parameters" button can be relock manually. Locked parameters is shown by a pad lock icon.

Follow these steps to reach the advanced parameters such as delays, speed, timing, etc. Unlocking the advanced parameters is also changing permission in the printer configuration to do major changes.

1. Press PARAMETERS.

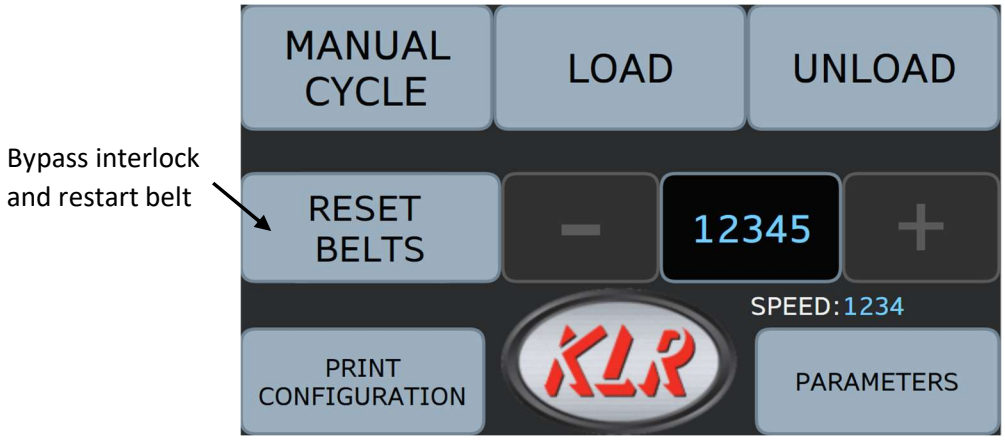


2. Enter "user name", "password" by pressing their blank space and press LOGIN.



5.2.2: Interlock mod

The interlock mod would be activated when the bag closer is slave of another piece of equipment. That means the bag closer receive from the other machine a signal when to run with at what speed. See "**Configure interlock**" for more info. In this mod, speed and ON/OFF button would not be active.

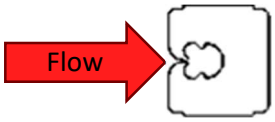


5.2.3: Information screen

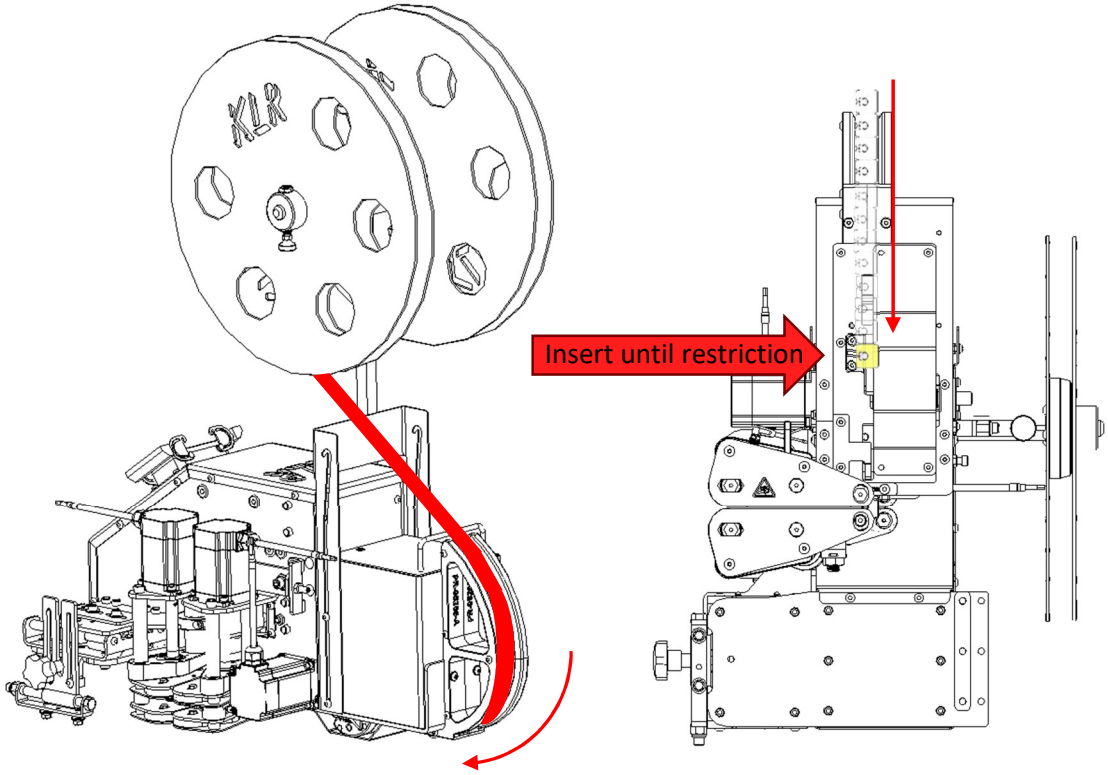
Here where more information is displayed. To Reach this page, press the KLR logo.

5.3: Load and unload clips

1. Turn ON the switch in the back of the equipment.
2. Add a clip roll onto the clip holder. Clips opening must be oriented toward the belt carriages. See installation procedures to know how to correctly position the clip holder according if it is a left or a right version.



3. Secure the clips with the back end inserting until it goes into the plunger clearance.
4. Remove the date sticker off the roll and keep the clip in the hand.
5. Make sure the first couple of clips are straight, then delicately insert the clip band into the rail until a restriction is felt. It should be free inside.



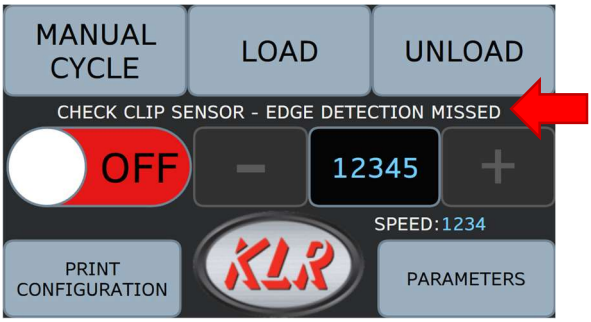
6. Press LOAD on the screen. It should automatically reach the receiving position.

7. If needed, test few cycles by pressing MANUAL CYCLE.

8. If needed, remove the clip by pressing UNLOAD.

5.3.1: Clips run out

In case the bag closer run out of clips, a pop-up message will show up saying "**Edge detection missed**". If the machine is in the interlock mod, it will send a signal to the bagger a stop request.



5.4: Ink jet printer configuration

Note: This section is only for the machine that has the KLR.937 "ink jet printer" option (**see KLR.937 manual**).

Press PRINT CONFIGURATION button.

5.4: Turn ON the machine

- Turn power ON;
- Change the speed of the belts according to the speed of the conveyor;
- Press ON/OFF button;
- **Important**: Stay close by and inspect the first couple products.

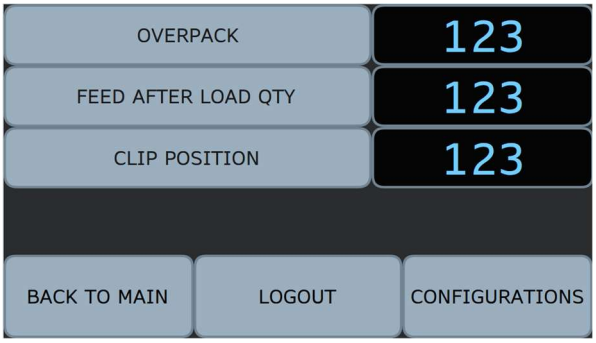
5.4.1: Adjustment

During running, you may notice some irregularity or unproper closing, here is what to do to fix these problems quickly:

1. Clip is too close to the product: unscrew the angle bracket and rotate the machine slightly away from the conveyor.

5.5: Advanced parameters

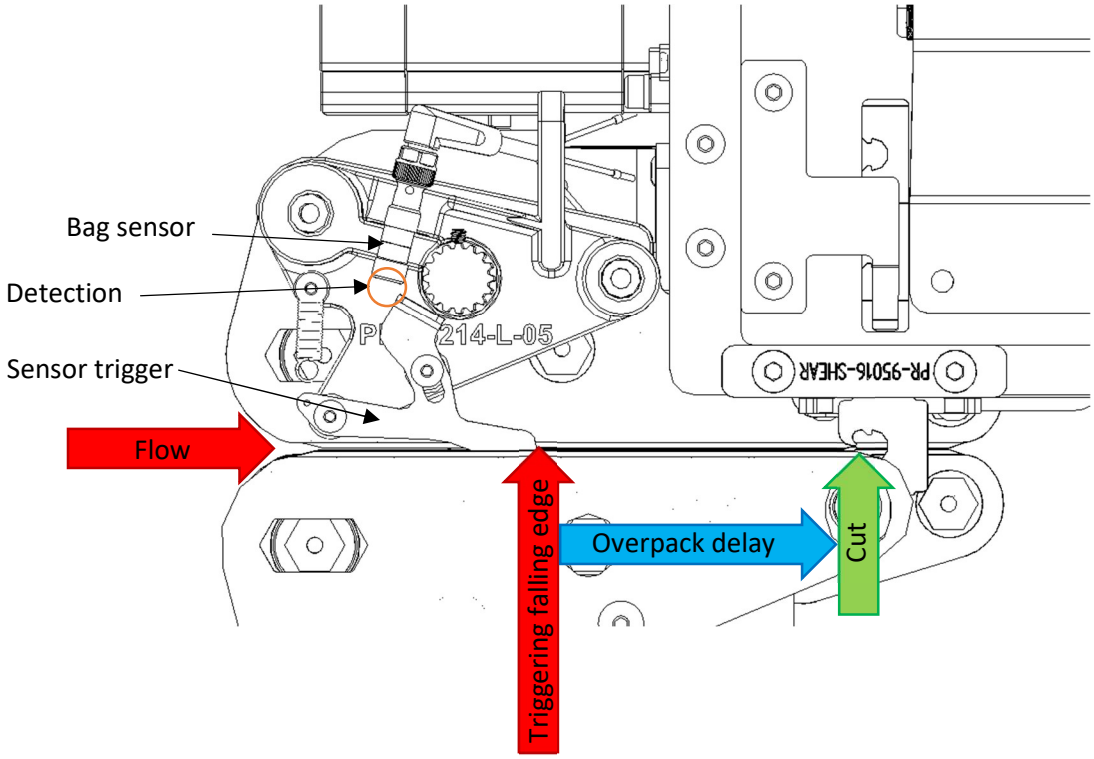
See "**Unlock advanced parameters**" to know how to reach this section. There is some configuration available on the first page. To change one of them, press the number itself. When finished, press LOGOUT to relock the parameters.



5.5.1: Overpack

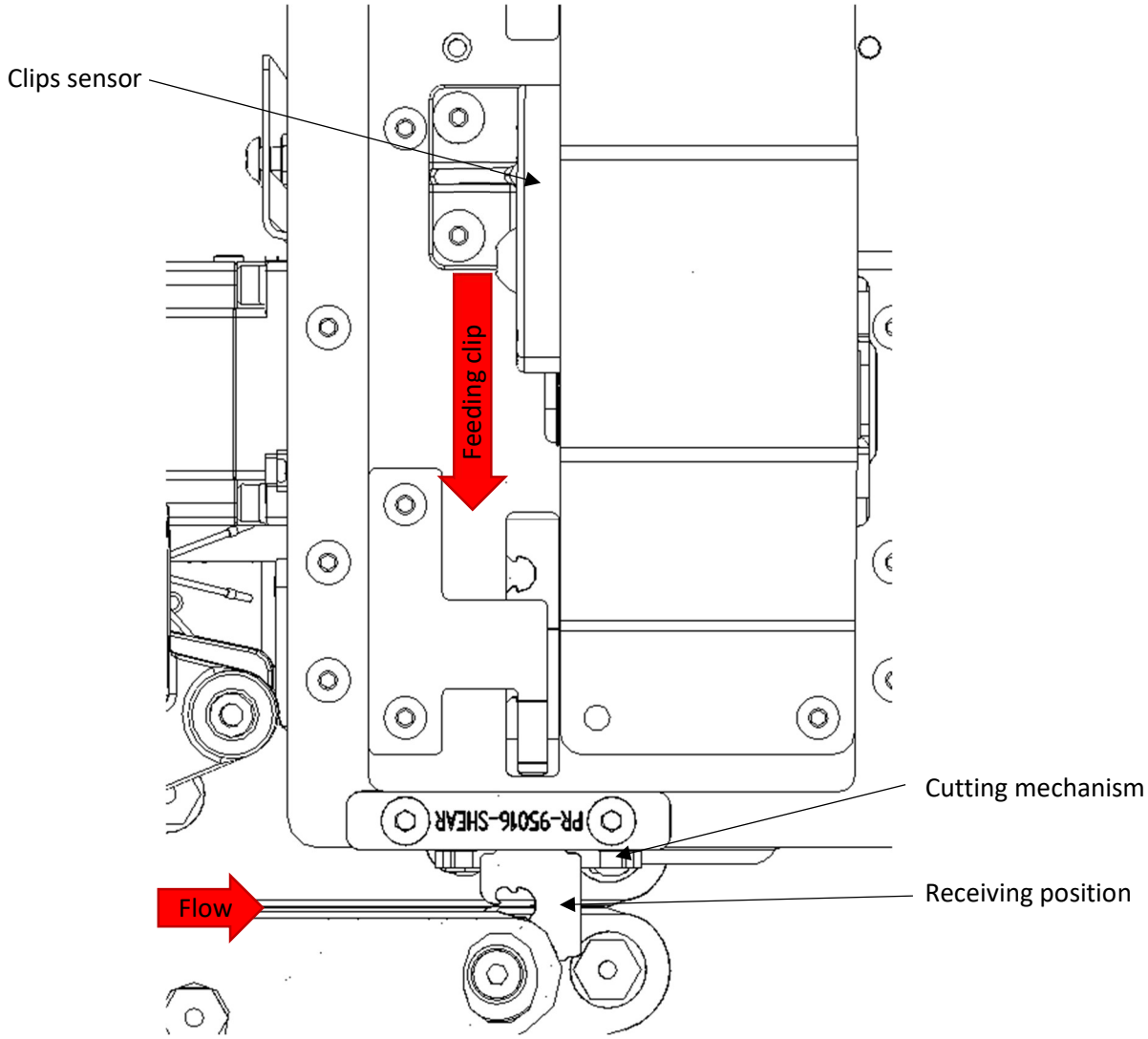
Time the machine is waiting before cutting the clip after the bag sensor as been triggered. However, the machine is only starting this delay when the sensor is triggered back off (Falling edge triggering). When the bag is lifting the sensor finger, the sensor is sending the signal. A too short value will result in a bag not completely fitted in the clip. On the other hand, a too long value will retain the product and leave it sideways.

Note: *Front belt assembly has been removed for clarification*



5.5.2: Feed after lead qty

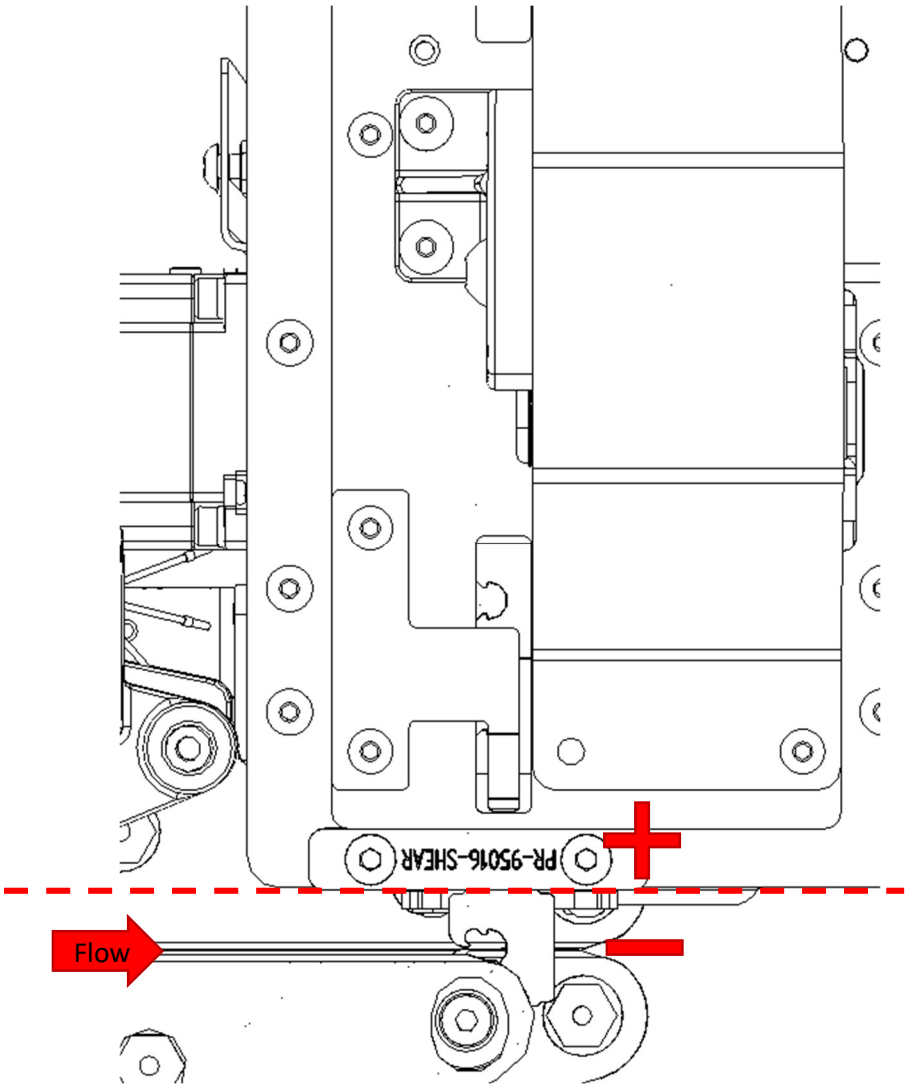
When the user is loading clips into the machine ("load" button), it will count this number to present one clip in the receiving position. 4 is the factory setting. If the machine is equipped with a printer (ink jet or air printer), the value will affect how many clips it needs to print as well.



Note: *Multiple pieces have been removed to clarify the image*

5.5.3: Clip position

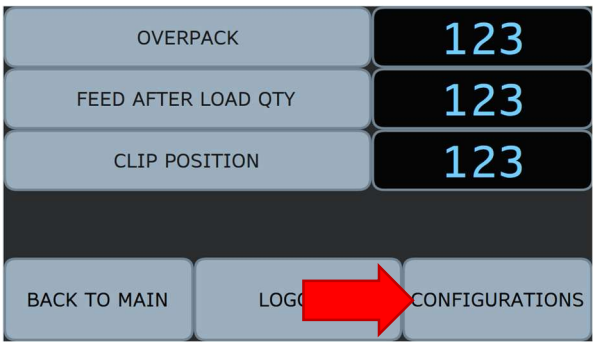
This parameter tells the height the receiving clip needs to be. Basically, the clip's opening needs to be aligned according to the cutter or breaking mechanism. This also affects the belt height adjustment.



Note: *Multiple pieces have been removed to clarify the image*

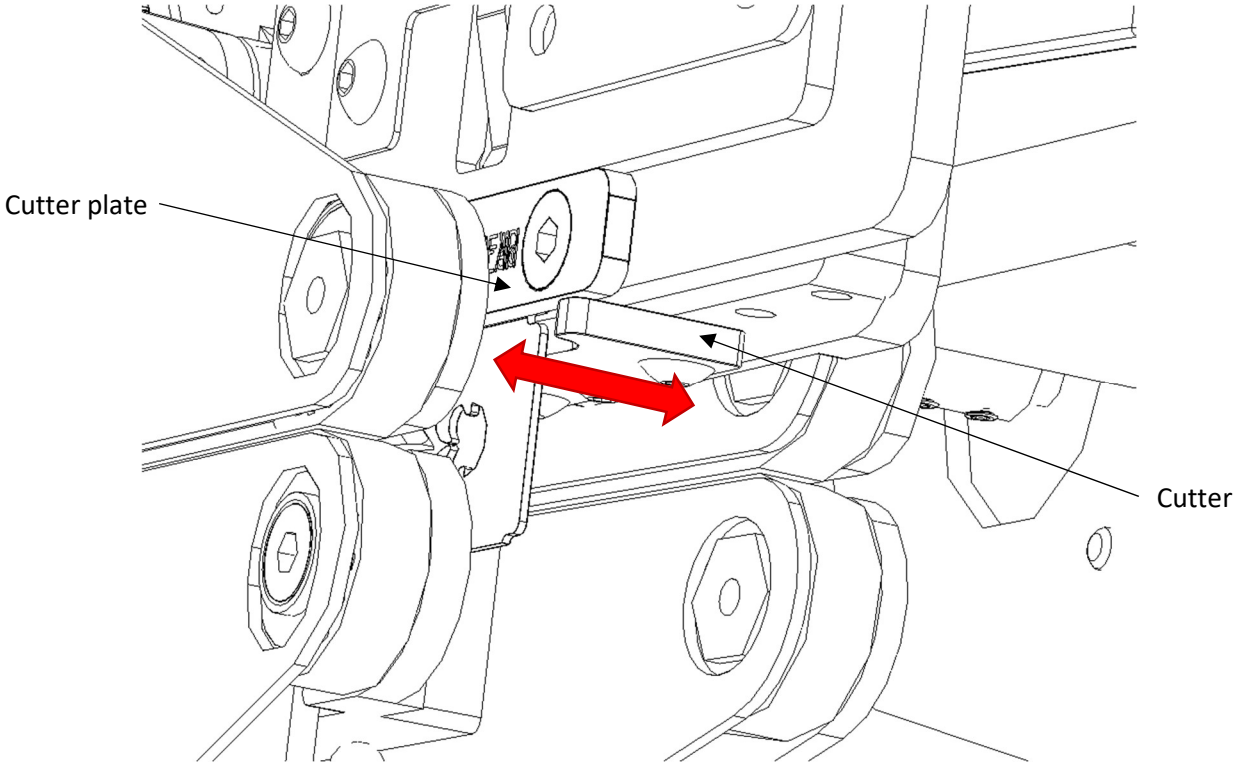
5.6 : Configurations

Press CONFIGURATIONS



5.6.1: Breaker stroke

A stepper motor is dedicated to the cutting mechanism. The motion not allow a full rotation. Therefore, the "breaker stroke" tells how far the breaker needs to go to cut the clip before going backward to complete the cycle.



5.6.2: Breaker delay return

How long in millisecond the cutter remains in full extension before going back to finish the cycle. This function is more used on a machine with break option.

5.6.3: Start feeder advance

At what position of the breaker on return the machine will start to feed the next clip. If 0, that means the machine will wait the whole cutting cycle before feeding the next clip.

5.6.4: Pause belt time

See "**pause belt option**" and check the box to allow the machine to use this function. When products are really close each other, it is the time the machine stop temporarily the belts until the machine is ready to receive the next product.

5.6.5: Bag sensor ON filter

Time in milliseconds the PLC acknowledge the bag sensor went ON.

5.6.6: Clip holding position

This parameter is only relevant on the machine set to **shear**. The machine set the cutter against the clip without cutting it prior to receive the bag. It will help to get a 90° cut.

5.6.7: Bag trigger jam timer

When a jam occurs in the belt, the sensor trigger will be ON for a certain amount of time. That parameter is how long before calling a fault on the screen. Also affect the interlock with other equipment.

5.6.8: Belt min speed

This parameter fixes a lower limit for the operator to not reach via the belt speed adjustment of the main screen.

5.6.9: Belt max speed

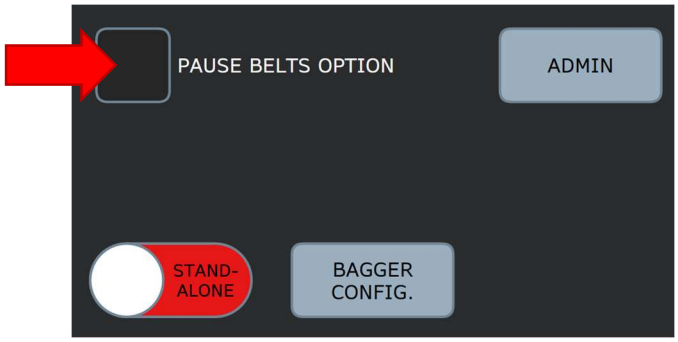
This parameter fixes a high limit for the operator to not reach via the belt speed adjustment of the main screen. See Image above.

5.6.10: Air printer time

This parameter is only relevant when an air printer is installed on the machine. This is how many time the machine close the relay of the printer for compensate the travel of the air piston.

5.6.11: Pause belt option

Check the pause belt option box to use the "**pause belt time**".



5.7: Interlock

When the bag closer is slave of a bagger related to speed and automatic start and stop.

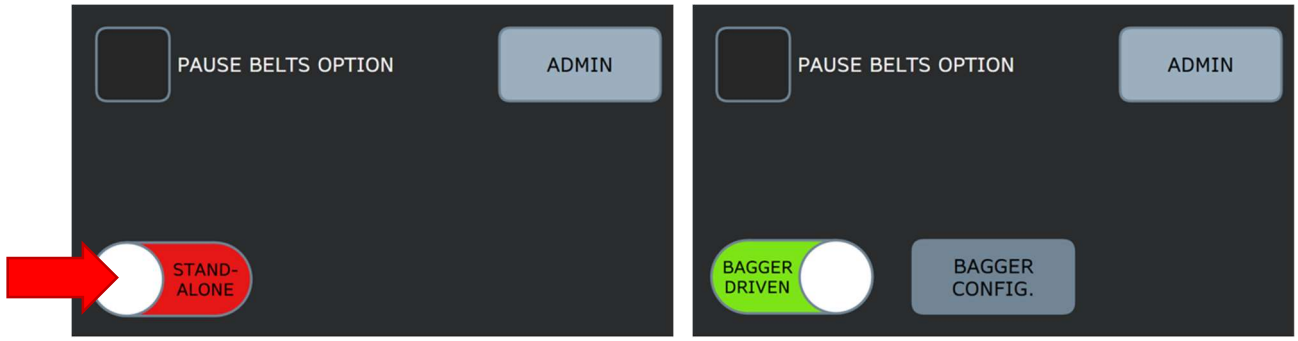
5.7.1: Interlock configuration

5.7.1.1: Interlock start / stop

Follow these steps to configure the interlock:

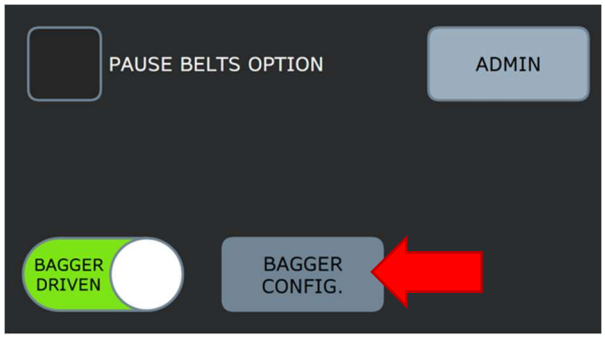
1. Press the down arrow to scroll down until you reach the interlock switch (which is written "stand alone" by default)

2. Press the interlock switch. The bagger configuration button will appear.



5.7.1.2: Interlock with speed given by the bagger

1. Press the bagger configuration button.



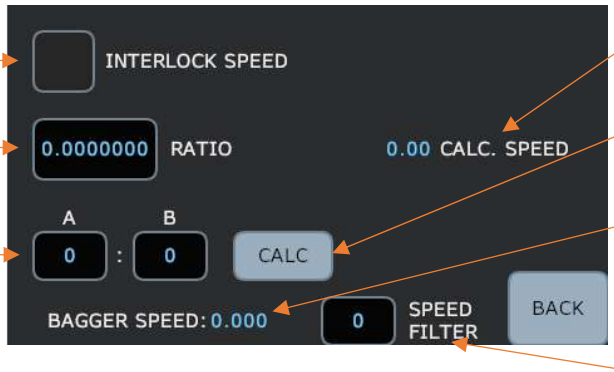
Now on this page, the interlock can be configure.

Use one or the other.

Check to use speed given by the bagger.

Ratio forced in decimal (must be greater to 0)

Enter in the black fields the desired ratio to be applied. Press CALC.



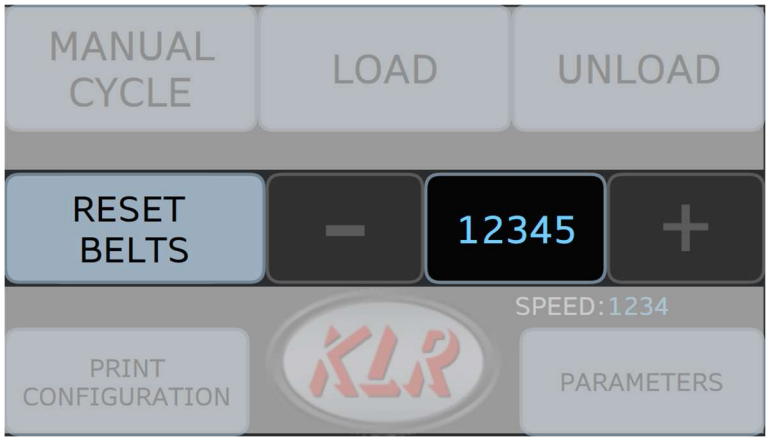
Final speed request to the KLR.950

Sending calculation to KLR.950 controller

Real number of pulses the bagger is currently sending to the KLR.950

Add a tolerance to soften the variations.

By now, the ON/OFF and speed adjustment is no longer accessible. Reset belts will still be available as a bypass.

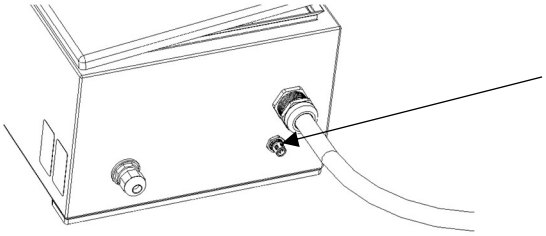


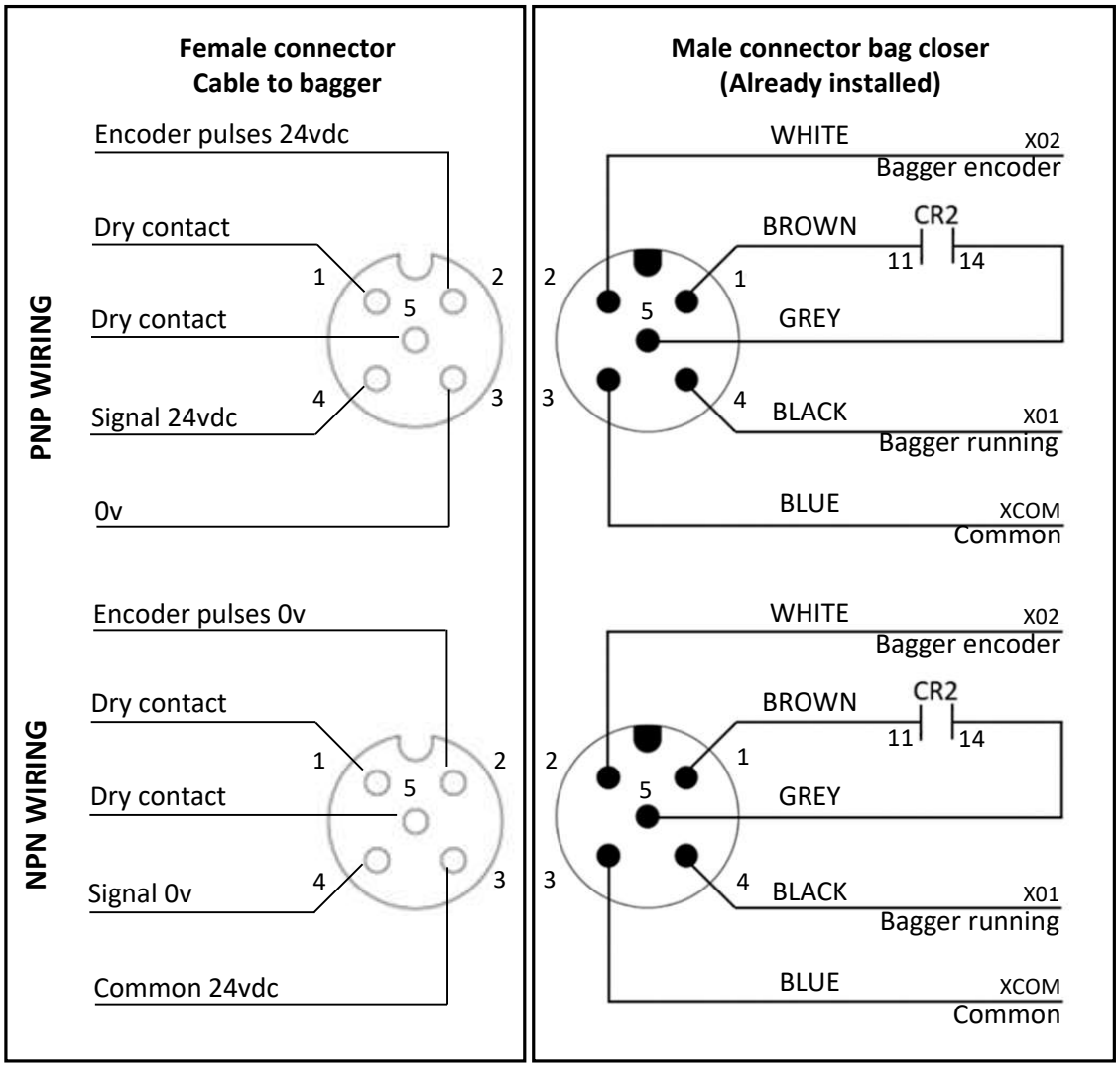
5.7.2: Interlock to bagger wiring

⚠	➢ ONLY qualified technician can perform this kind of task. A wrong wiring can result in a breakage of the bagger controller or other components. For any questions, call KLR for advices.

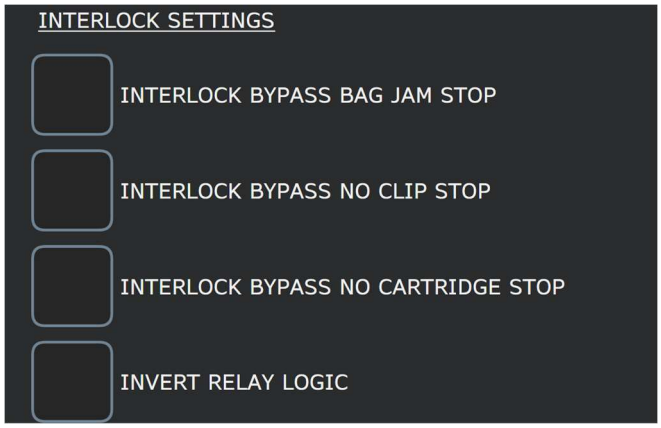
Pin out of the bag closing machine

The bag closer KLR.950 has a built in 5 pins plug intended to communicate to the bagger. This feature allows the bagger to constantly communicate a certain speed to the bag closer to follow. The following picture show the wiring of the connector. See "**Configure interlock**" for more info.





5.7.3: Bypass interlock effect



5.8: Miscellaneous configuration

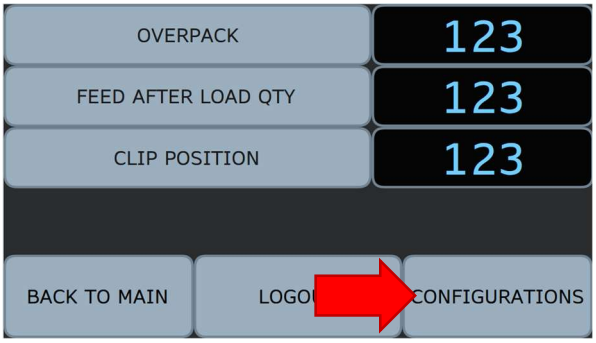
Left/right button

Only relevant in the factory setting. Leave as is.

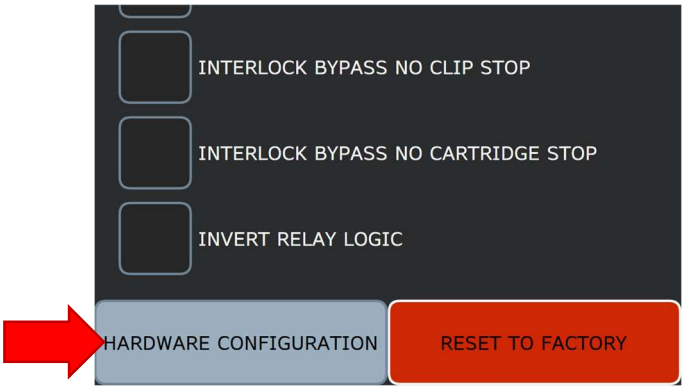
5.9: Hardware configuration

Hardware configuration is especially used to update HMI program. To reach the hardware configuration:

1. Press "**Configuration**".



2. Scroll down completely and press "**Hardware configuration**".



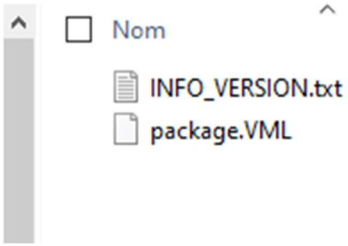
5.10: Updating HMI program

5.10.1: Program revision

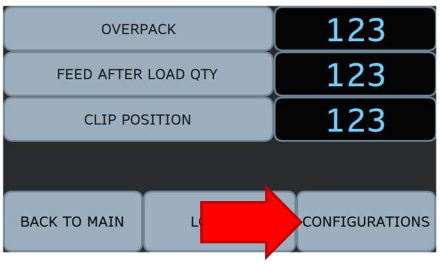
To know what revision the screen (HMI) is currently using, press on the KLR logo. Look at the top right corner. The program revision the machine is using is displayed here.

5.10.2: Updating HMI via USB stick

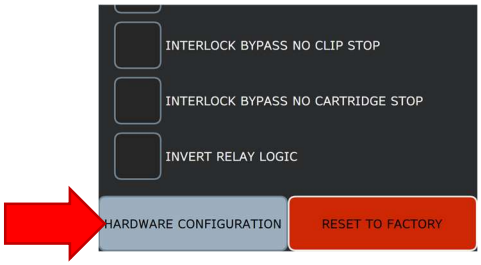
1. On an empty USB stick, drop the supplied files by KLR at the source.



2. Open the electrical box.
3. Plug the USB stick in the back of the screen module.
4. Unlock the parameters.
5. Press "**Parameter**", then press "**Configuration**".



6. Scroll down completely and press "**Hardware configuration**".



7. Scroll down and press "**Downloading from USB**". **DO NOT** turn off the equipment while downloading.
8. Remove the USB stick after the booting is completed.
9. Verify the revision.

5.11: Updating controller program (PLC)

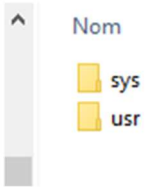
5.11.1: Program revision

To know what revision the controller (PLC) is currently using, press on the KLR logo. The program revision the machine is using is displayed here.

5.11.2: Updating program via SD card

⚠	➢ NOT the same procedure for firmware updating, only for program

1. On an empty SD card (a different than the firmware SD), drop the supplied files by KLR at the source (see ref. figure) (**SD CAPACITY MUST NOT BE BIGGER THAN 16GB**)



2. Remove the KLR embossed plate on the side of the machine to reach the controller.
3. Power OFF.
4. Remove **recipes** SD card from the controller (right hand of the PLC under a rubber flap and keep for later).
5. Power ON.
6. Insert **update** SD card into the controller.

   Do not remove while downloading.

   The SD green light on the controller will instantly turn steady green, then fast blink for a certain time. The touch screen will lose communication during download.
   When done, the SD light will turn back to steady green and the ERROR red light will slow blink (about one by second).

⚠ CAUTION	➢ Watch your hands. The machine might already in RUN mode. The breaker stepper motor will move next step.

7. Now, remove **update** SD card from the controller. The controller will reboot. The RUN light should turn **steady green**. ERROR light **must NOT be ON**.
8. Press on KLR Logo to access FILE version information.
9. Insert the **recipe** SD card back into the PLC.

6.0: MAINTENANCE AND CLEANING

6.1: Preventive maintenance schedule

Here is a quick way to take care of your machine by a preventive maintenance schedule. Due to the complexity of our machine, take note that these procedures are only advices and are subject to change. These time intervals will change according to the usage of the machine:

PREVENTIVE MAINTENANCE SCHEDULE				
Location	**#**	**Procedure**	**Time interval**	**Remarks**
Front and rear belt guide	1	Check tension and wear on four (4) toothed belts, Change belts	Weekly, vary according to the working time.	Look for rounded corners and manufacturer printing is gone. Replace on these signs for maximum performance.
	2	Inspect the sprockets and idle	When belt changing	Sprocket must be slid fit into the spline shaft. Make sure the set screw is tight on the sprocket.
	3	Inspect rear bogey bearing. Remove front plate, check for shaft play inside inner bearing	3 months	Causes of motor shaft rupture if not addressed frequently enough
	4	Test bag sensor lever. Make sure it is free to move	3 months	Sometime banded over because a bag has pulled out the wrong way
	5	Test the pressure applied to the bag when engaged	3 months	When a bag in engaged, you should not be able to pull off the bag with a moderate effort
Rear	6	Remove rear panel. Look the gears wear and lubricate (pea sized of grease on small gear)	3 months	Look for little metal chips. Lubricate the gearing and cycles
	7	Verify the two springs are right in place	3 months	None
-SHEAR OPTION ONLY- Breaking mechanism	8	Rotate / Replace cutter and plate	1.5 million cuts or signs of ragged cut or cutter has no longer sharp edges	The plate has technically 4 lifes, can be rotated 4 times before replacing. New cutter have technically 2 lifes if put on opposite machine.
Cleaning	9	Blow air all the dust.	daily	Turn OFF the power supply. NOT A wash-down machine.

6.2: Maintenance steps

Coming soon

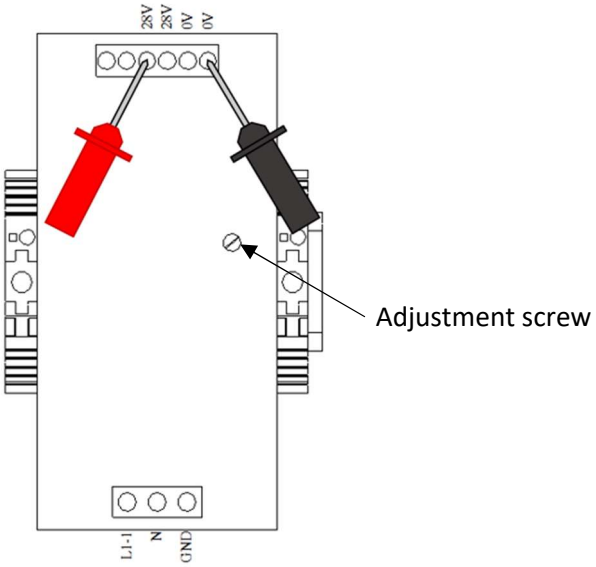
6.2.8: DC volts power supply

CAUTION	➢ Electrification or electrocution hazard, only qualified technician can perform these tasks.

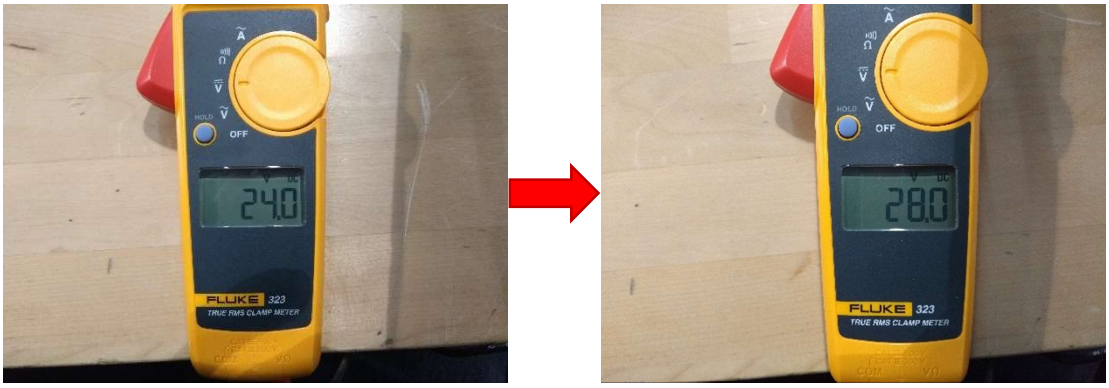
When replacing the power supply or troubleshooting a not functioning inkjet printer. The power supply must be set to 28 volts rather than 24 volts. Follow these steps when the power supply is replaced.

Note: From KLR, the power supply setting will always be 28 volts regardless of what options on the machine. But in fact, only the machine that uses an ink jet printer must be cranked to 28 volts.

1. Open the PC-950-S control panel.
2. Plug the panel.
3. With a multimeter set to DC, probe the + and – from the output and use a terminal screwdriver on the ADJUST screw.



4. Adjust the voltage until you reach 28 volts;



6.2.9: Cleaning

Cleaning must be done daily.

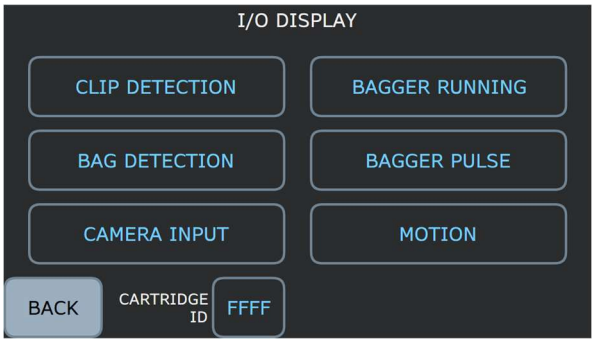
- Use air blowers to get rid of the dust.
- Wipe all excess grease.
- Sanitize parts that can be in contact with food.

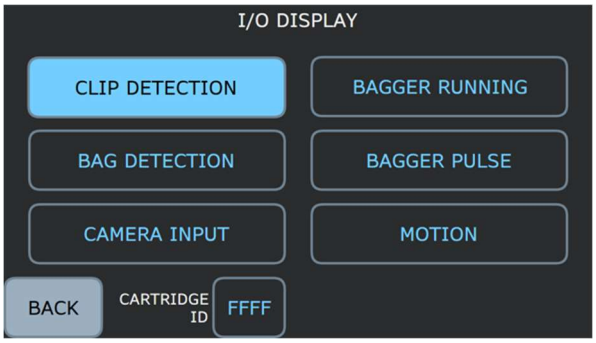
6.3: Troubleshooting

6.3.1: Inputs page

1. To reach the Inputs test page: Press the KLR **logo**, then press "**Inputs**".

2. Each individual input can be tested. Blue indication will display. The machine without option only has **Clip detection** and **Bag detection**.

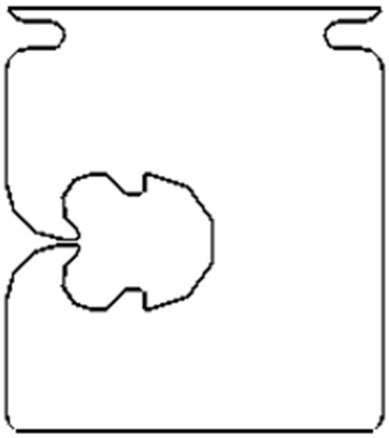




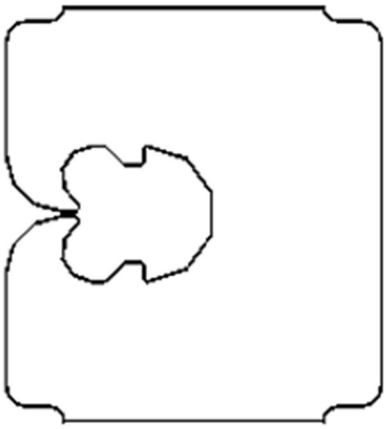
6.3.2: Clip cutting too high or too low

Here is the problem: The clips are cut not at the good height or not constant result.

Wrong cut

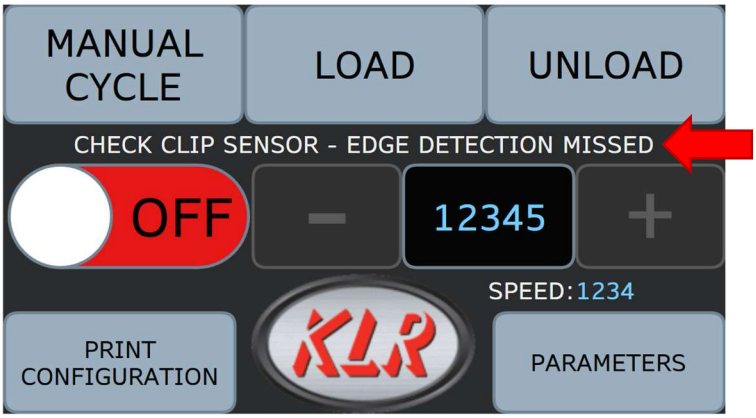


Ideal cut



Possible causes:

1. Check if **clip sensor** is working. If clip sensor is not working properly, a message "**Edge detection missed**" will appear on the main screen.



2. Adjust "**Clip position**". See **5.5.3**. Do manual cycle see result.

7.0: MAINTENANCE AND REPARATIONS BY TECHNICIANS FROM KLR SYSTEMS INC.

7.1: Contact information for service technicians

KLR SYSTEMS INC.

944 Herons street

SAINT-PIE, QUÉBEC, CANADA

J0H 1W0

450-388-0404

Info@klrsystems.com

www.klrsystems.com

7.2: Contact information for technical support

KLR SYSTEMS INC.

944 Herons street

SAINT-PIE, QUÉBEC, CANADA

J0H 1W0

450-388-0404

support@klrsystems.com

www.klrsystems.com

8.0: LISTS OF SPARE PARTS AND CONSUMABLES

There are multiple options available for your machine.

8.1: Spare parts list KLR.950-S SHEAR

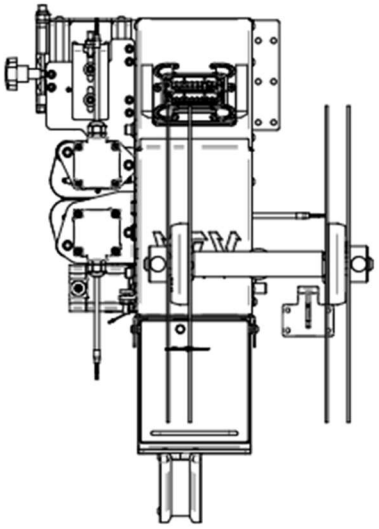
Part number	Quantity						Description
	1 unit	2 units	4 units	8 units	12 units	16 units	
KLR.950-S							
P02-00113S	4	8	16	32	48	64	BEARING SS
P02-00133	1	1	2	3	4	5	BEARING
OS-006S	1	1	2	4	5	7	BAG TRIGGER SPRING
OS-130	1	1	1	2	2	2	PLUNGER SPRING
P02-00018	1	1	2	4	5	7	CAM FOLLOWER
OS-054S	1	1	2	4	5	7	LOWER BELT SPRING
PM-00277-8MM	1	1	2	4	5	7	FLEX SHAFT COUPLER
PM-00925	1	1	1	1	2	2	LOWER BELT PLUNGER
PM-02138	2	4	8	15	22	29	BEARING FOR BELT SHAFT
PM-00350-16	2	3	5	10	15	20	FRONT TIMING BELT
PM-00350-18	2	3	5	10	15	20	REAR TIMING BELT
PR-95116	1	1	2	4	5	7	PULLEY NUT
PR-95126-8MM	1	1	1	2	2	2	SPLIT DRIVE GEAR
PR-95156	1	1	1	2	2	2	PLUNGER
PR-95059	1	1	2	3	4	5	IDLE WHEEL
PR-95090-8MM	1	2	4	7	10	13	SPLINE SHAFT
PR-95146	1	1	2	3	4	5	LOWER FRONT RUNNER
PR-95148	1	2	3	5	8	10	LOWER BACK RUNNER (SPRING)
PR-95145	1	2	3	5	8	10	TOP FRONT RUNNER (SPRING)
PR-95147	1	1	2	3	4	5	TOP BACK RUNNER
PR-95091	1	2	3	5	8	10	DRIVE PULLEY
PE-00930-NO	1	1	2	2	3	4	SENSOR
PE-00512-02	1	1	1	2	3	4	90° M8 CABLE
PE-00511-02	1	1	1	2	3	4	STRAIGHT M8 CABLE
PE-01559	1	1	2	4	5	7	IP67 STEPPER MOTOR
PC-950-S							
PE-00216-4	1	1	2	4	5	7	GLASS FUSE 4A
PE-00216	1	1	2	4	5	7	GLASS FUSE 3A
OPTIONS							
PR-95095-L-02	1	1	2	3	4	5	BAG TRIGGER LEFT HANDED
PR-95095-R-02	1	1	2	3	4	5	BAG TRIGGER RIGHT HANDED
PR-95143-C	1	2	4	7	10	13	SHEAR CUTTER
PR-95016-SHEAR-C	1	2	4	7	10	13	SHEAR PLATE
PE-00377-8MM	1	1	1	1	2	2	ENCODER (KLR.937-S)
PE-95003-2	1	1	1	1	2	2	PRINTER CABLE (KLR.937-S)
COMSUMABLES							
FR-HSAJET-INK	Calculate 200000 prints per cartridge						SOLVENT BASED CARTRIDGE

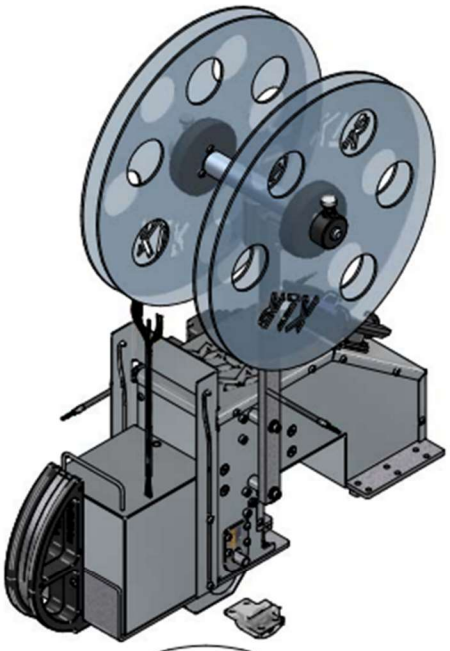
10.0: DECOMMISSIONING OF THE PRODUCT

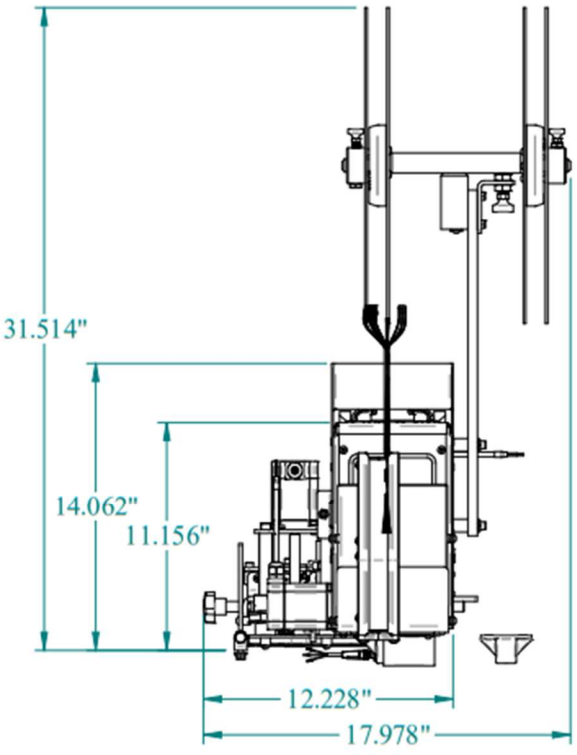
It is advisable to plan a tour of KLR to reinstall the equipment after a prolonged deactivation or a move, destruction, recycling, disposal.

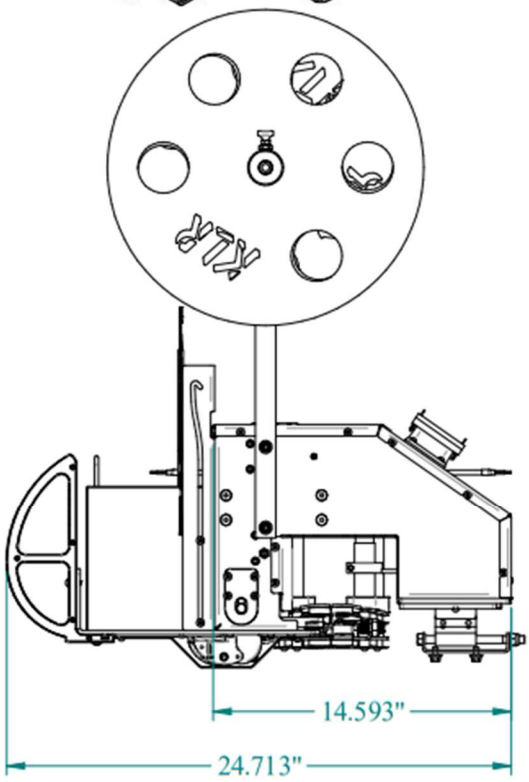
11.0: KLR.950-S EXPLODED VIEWS

11.1: KLR.950-S-L

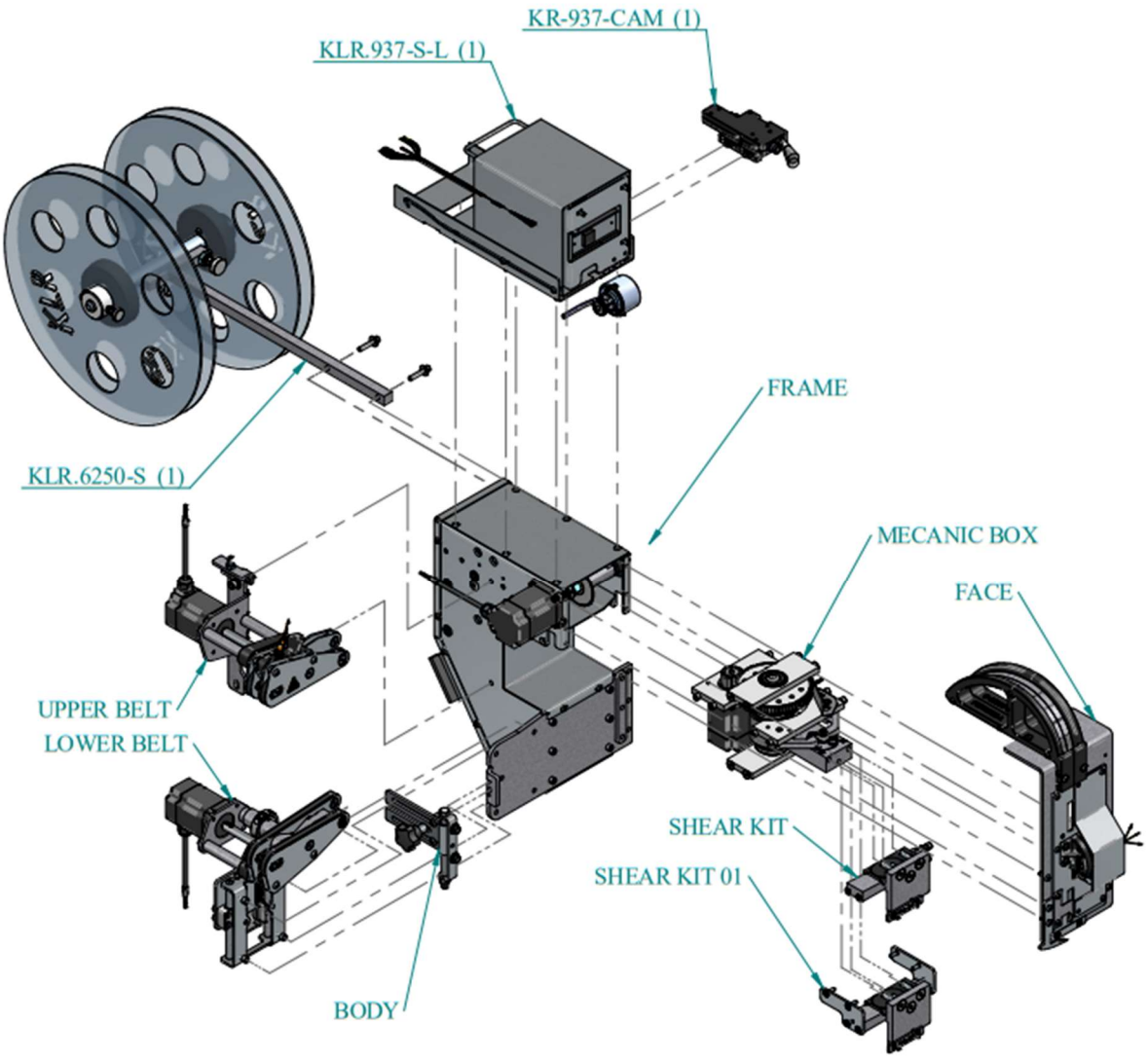




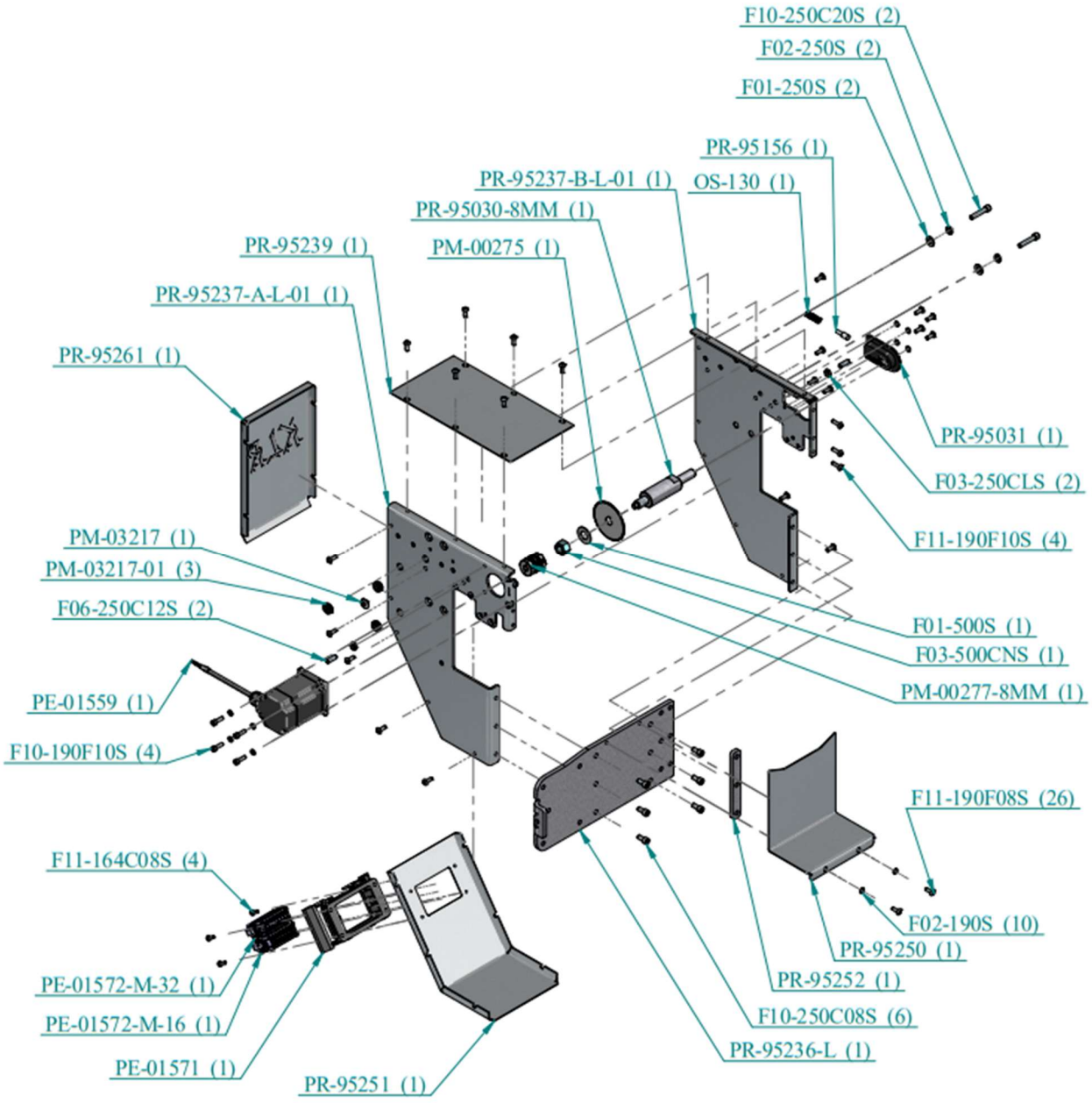




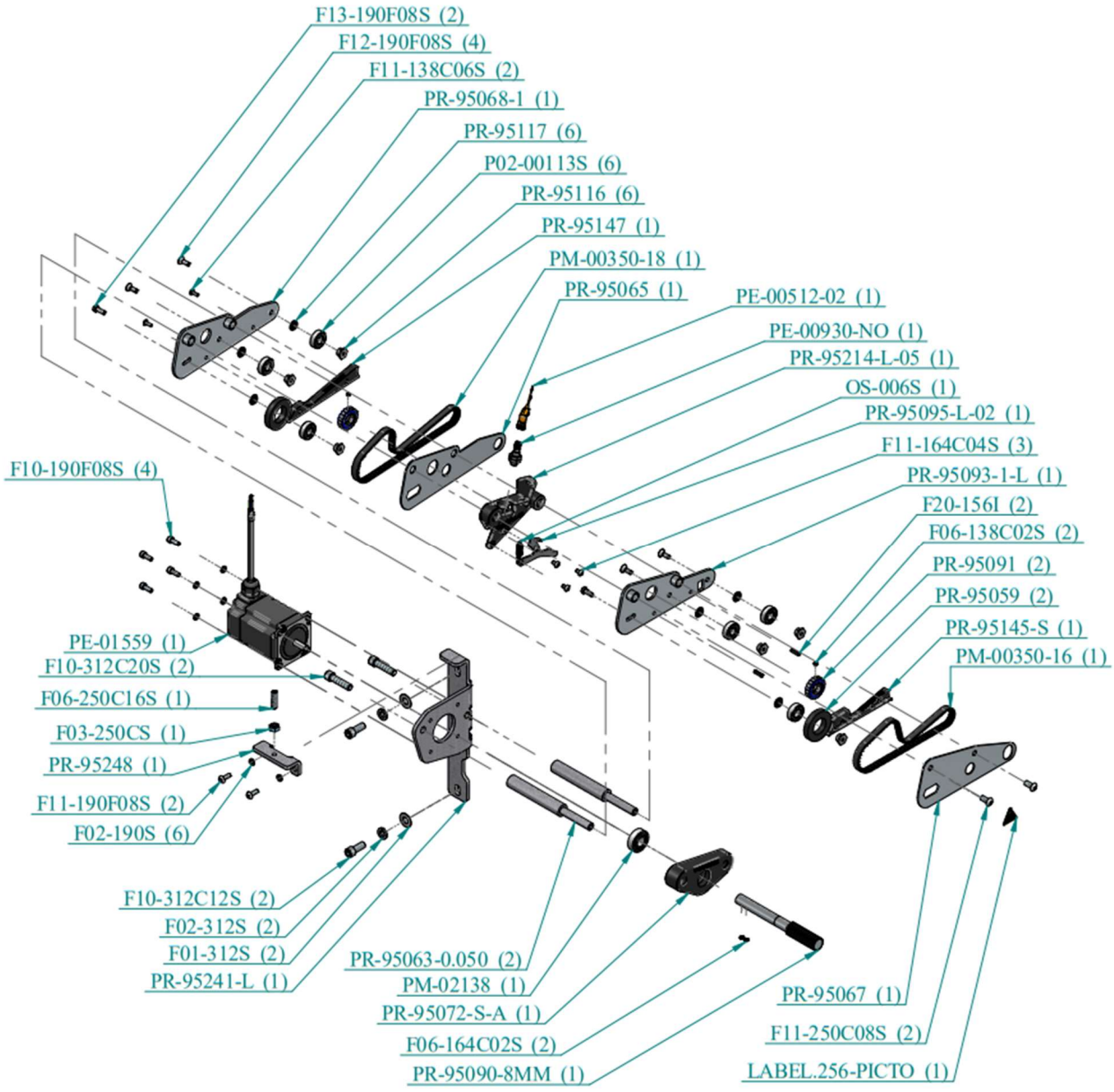
11.2: Main assembly



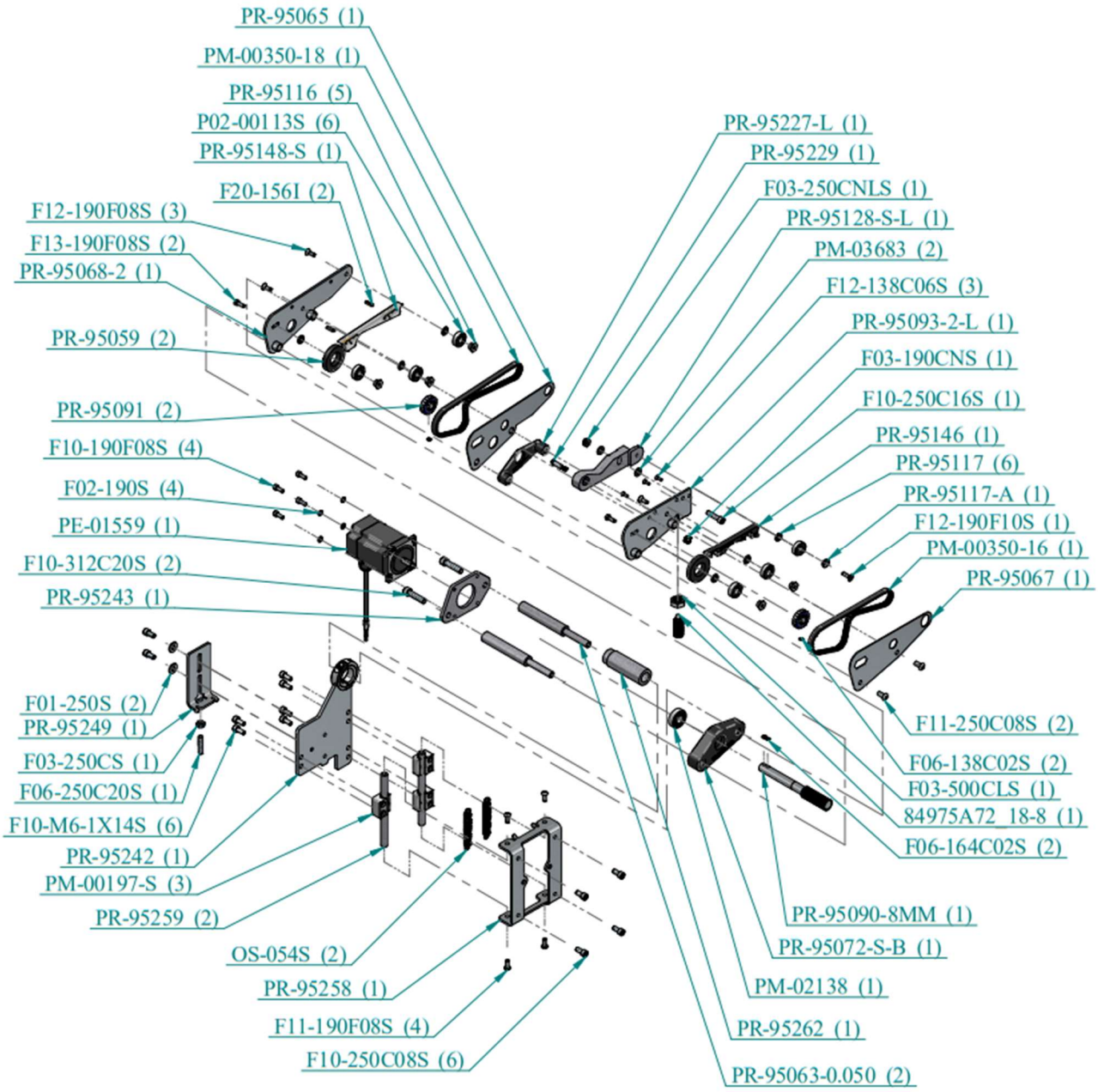
11.3: Frame


F10-250C20S (2)
F02-250S (2)
F01-250S (2)
PR-95156 (1)
PR-95237-B-L-01 (1)
OS-130 (1)
PR-95030-8MM (1)
PR-95239 (1)
PM-00275 (1)
PR-95237-A-L-01 (1)
PR-95261 (1)
PR-95031 (1)
F03-250CLS (2)
F11-190F10S (4)
PM-03217 (1)
PM-03217-01 (3)
F06-250C12S (2)
F01-500S (1)
F03-500CNS (1)
PM-00277-8MM (1)
PE-01559 (1)
F10-190F10S (4)
F11-190F08S (26)
F11-164C08S (4)
F02-190S (10)
PR-95250 (1)
PR-95252 (1)
PE-01572-M-32 (1)
F10-250C08S (6)
PE-01572-M-16 (1)
PR-95236-L (1)
PE-01571 (1)
PR-95251 (1)

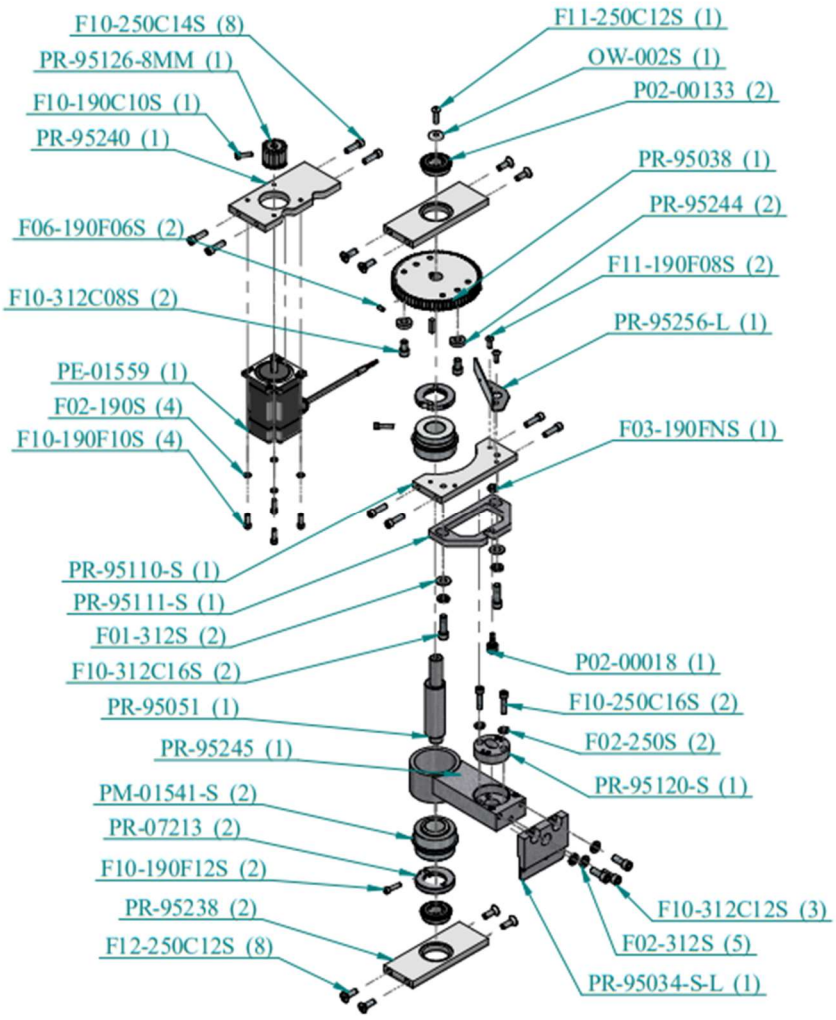
11.4: Upper belt



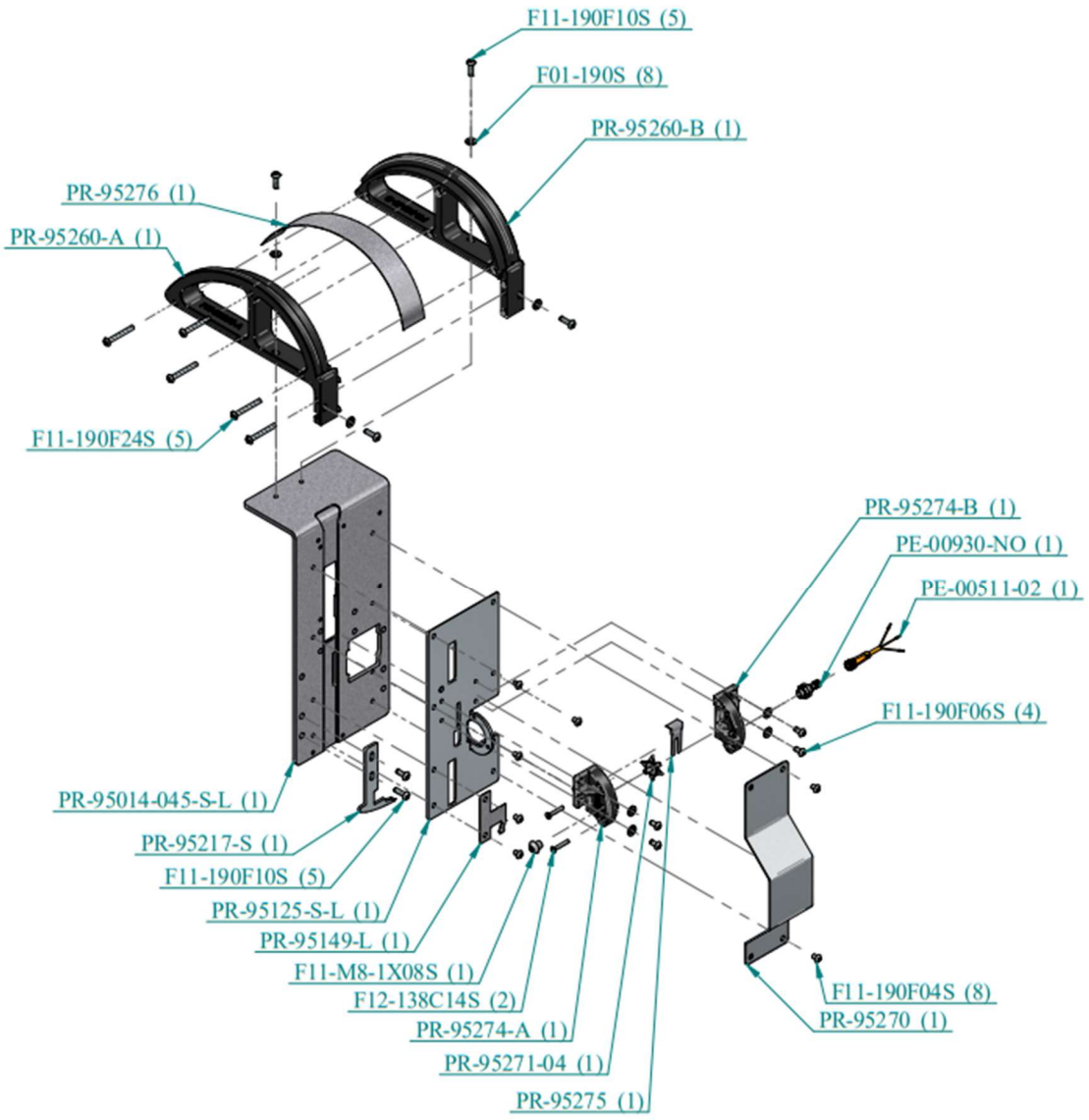
11.5: Lower belt



11.6: Mechanic box



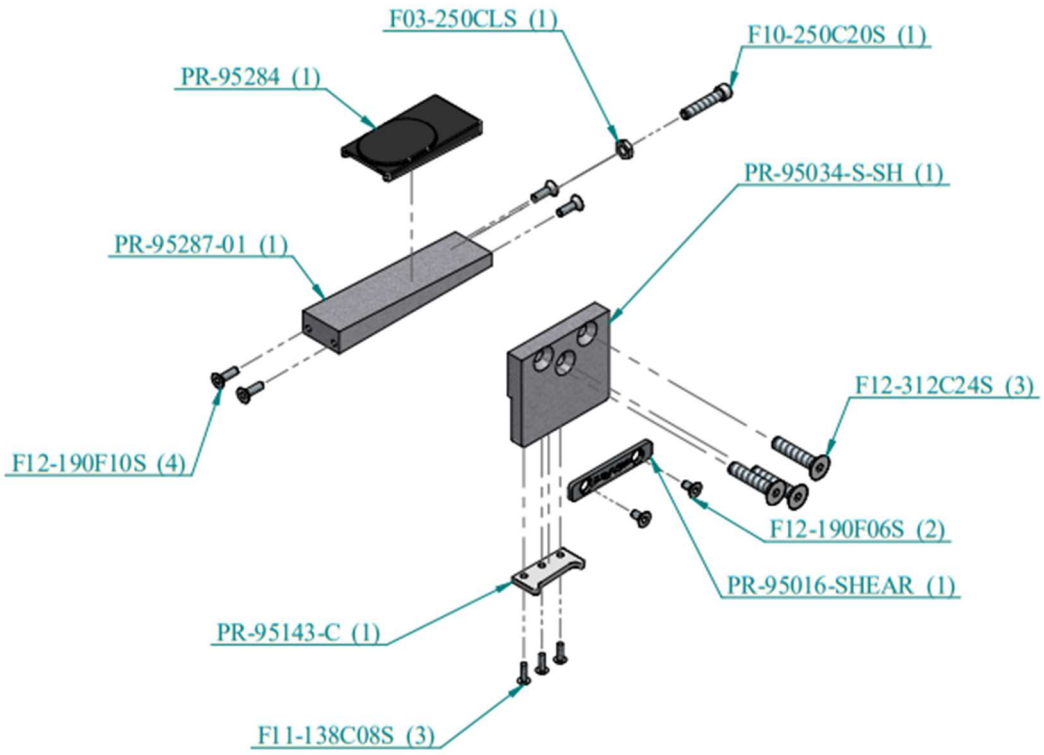
11.7: Track


F11-190F10S (5)
F01-190S (8)
PR-95260-B (1)
PR-95276 (1)
PR-95260-A (1)
F11-190F24S (5)
PR-95274-B (1)
PE-00930-NO (1)
PE-00511-02 (1)
F11-190F06S (4)
PR-95014-045-S-L (1)
PR-95217-S (1)
F11-190F10S (5)
PR-95125-S-L (1)
PR-95149-L (1)
F11-M8-1X08S (1)
F12-138C14S (2)
PR-95274-A (1)
PR-95271-04 (1)
PR-95275 (1)
F11-190F04S (8)
PR-95270 (1)

11.8: Options

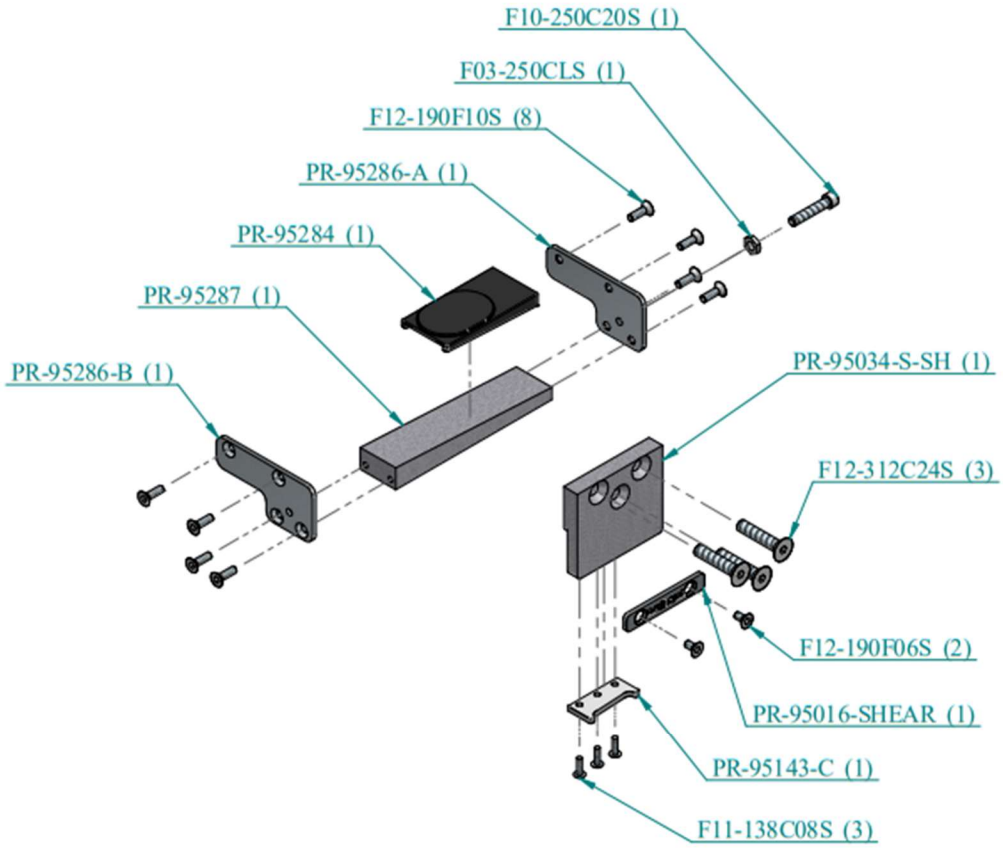
11.8.1: Option Shear

⚠ ***Use this revision for serial number KLR-00071 and beyond.***

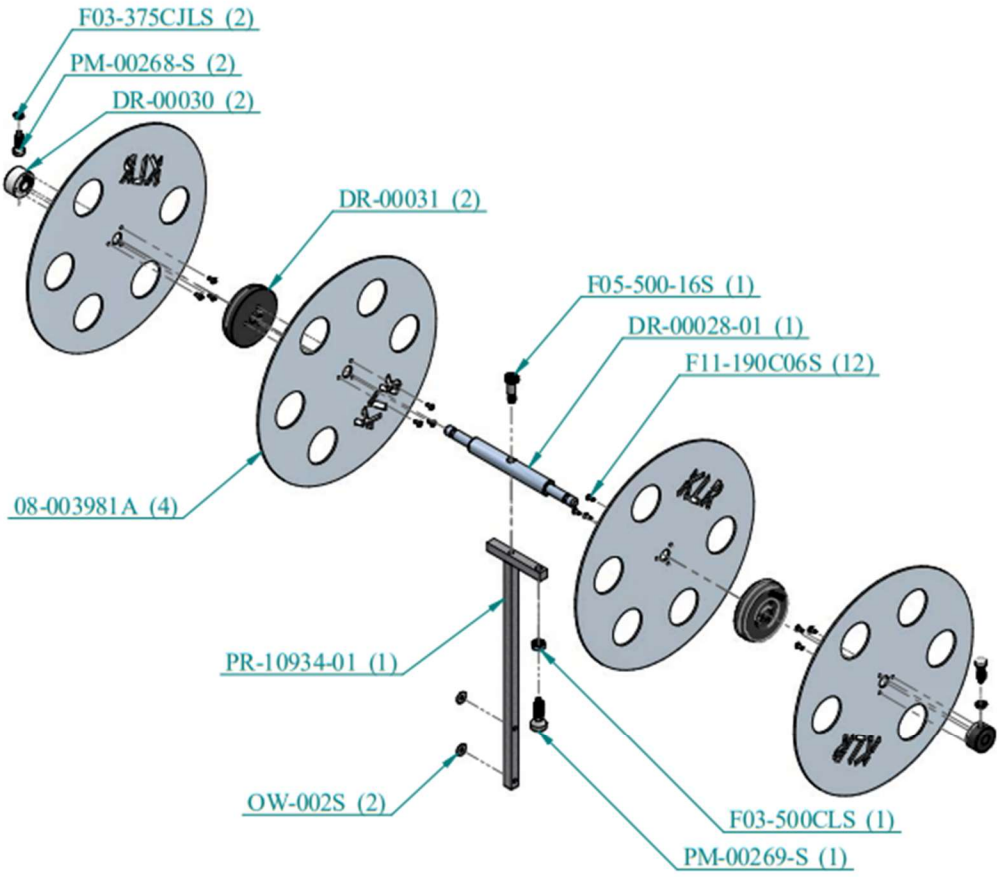


11.8.2: Retrofit option shear

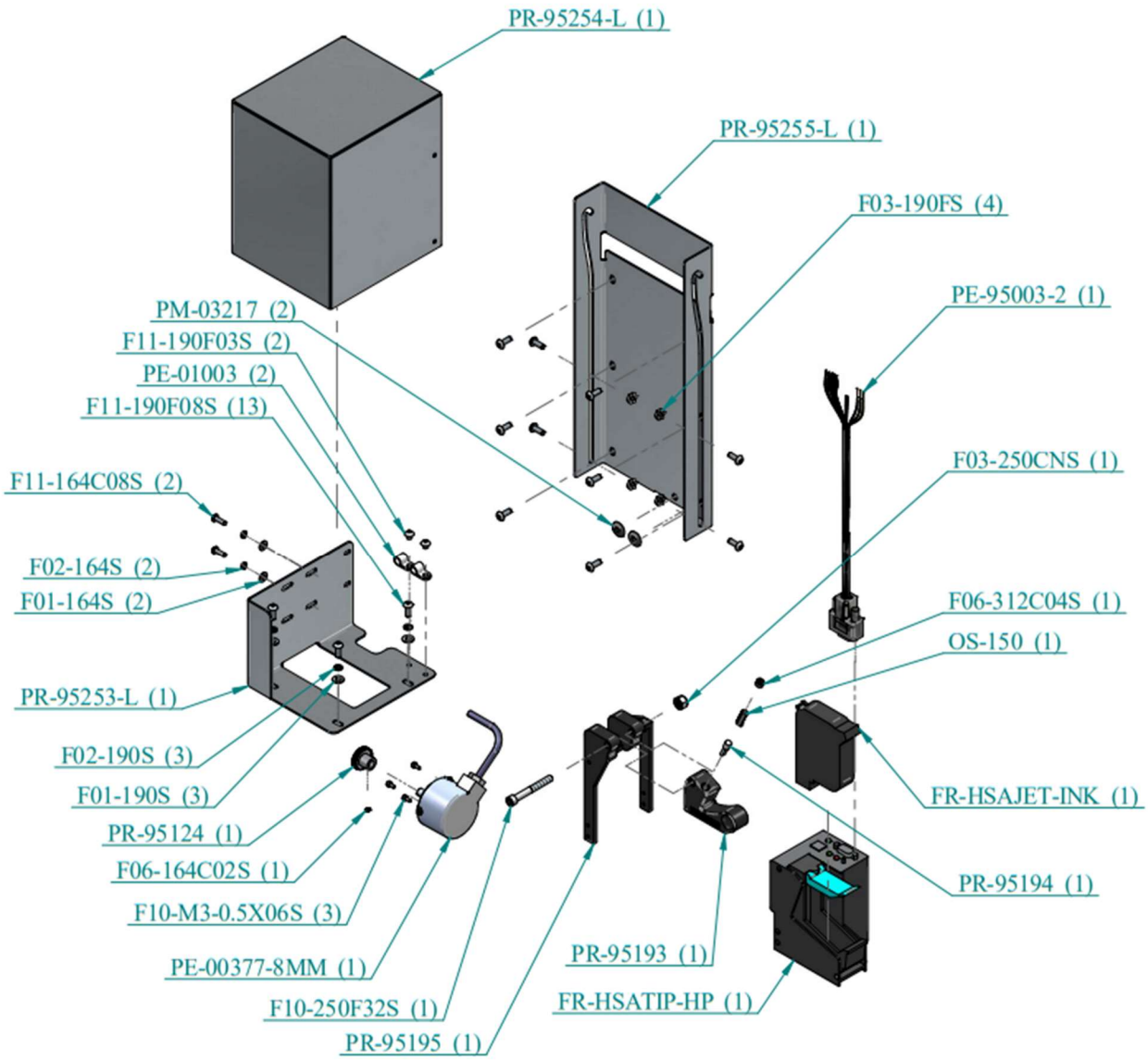
⚠ ***Use this revision for serial number KLR-00060 to KLR-00070 only.***



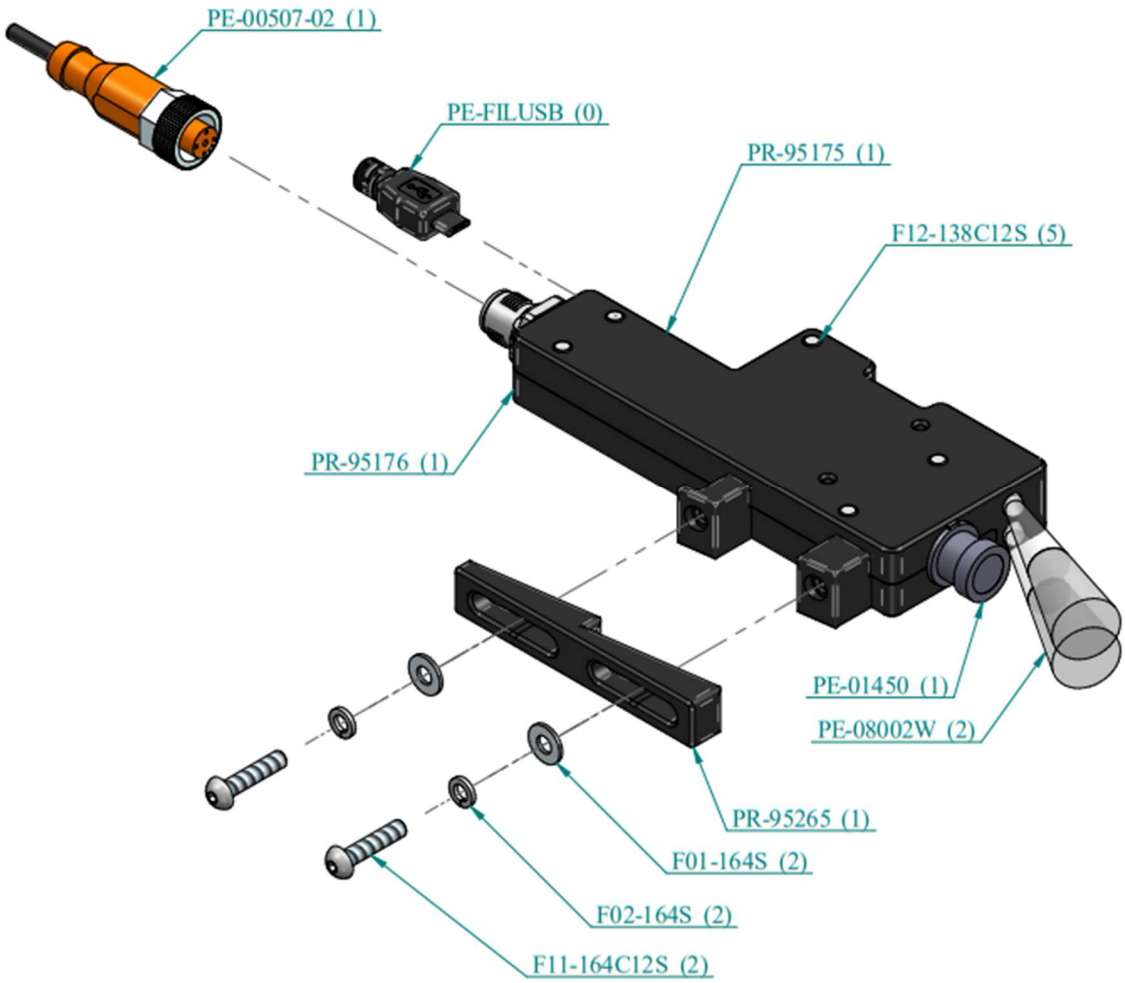
11.8.2: KLR.6250-S Clip holder



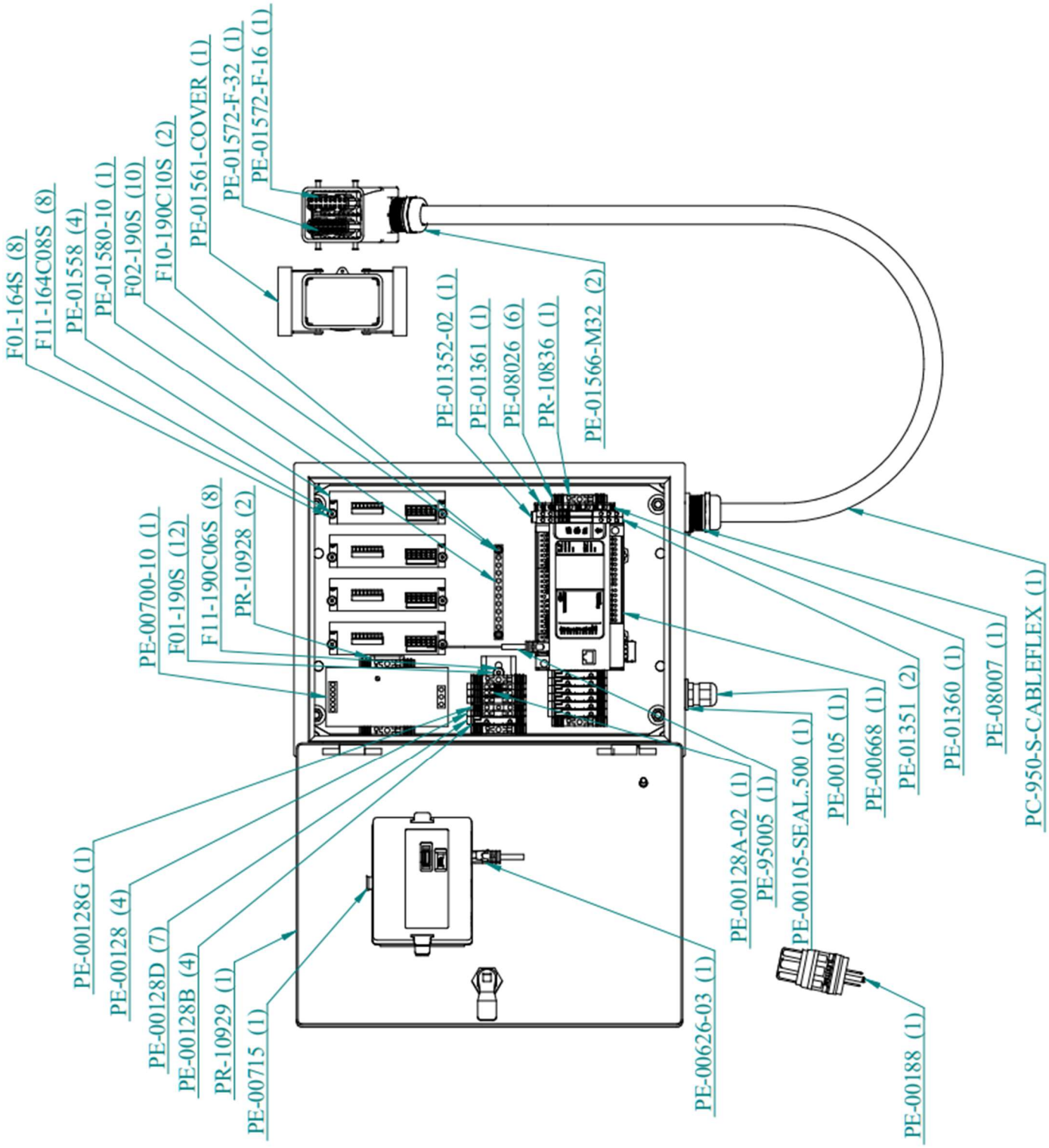
11.8.3: KLR.937-S Ink jet printer



11.8.4: KLR.937-CAM

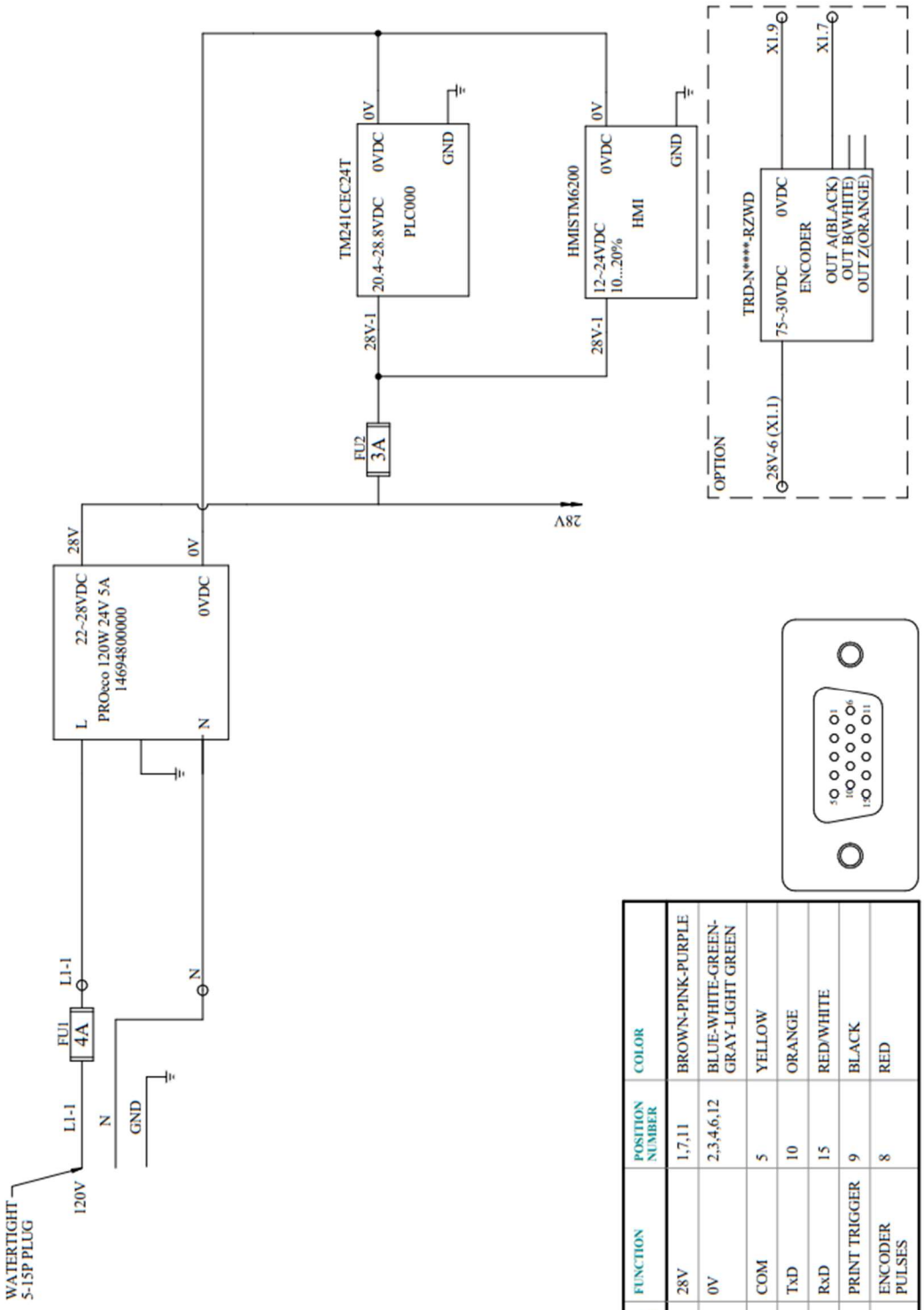


12.0: PC-950-S EXPLODED VIEWS



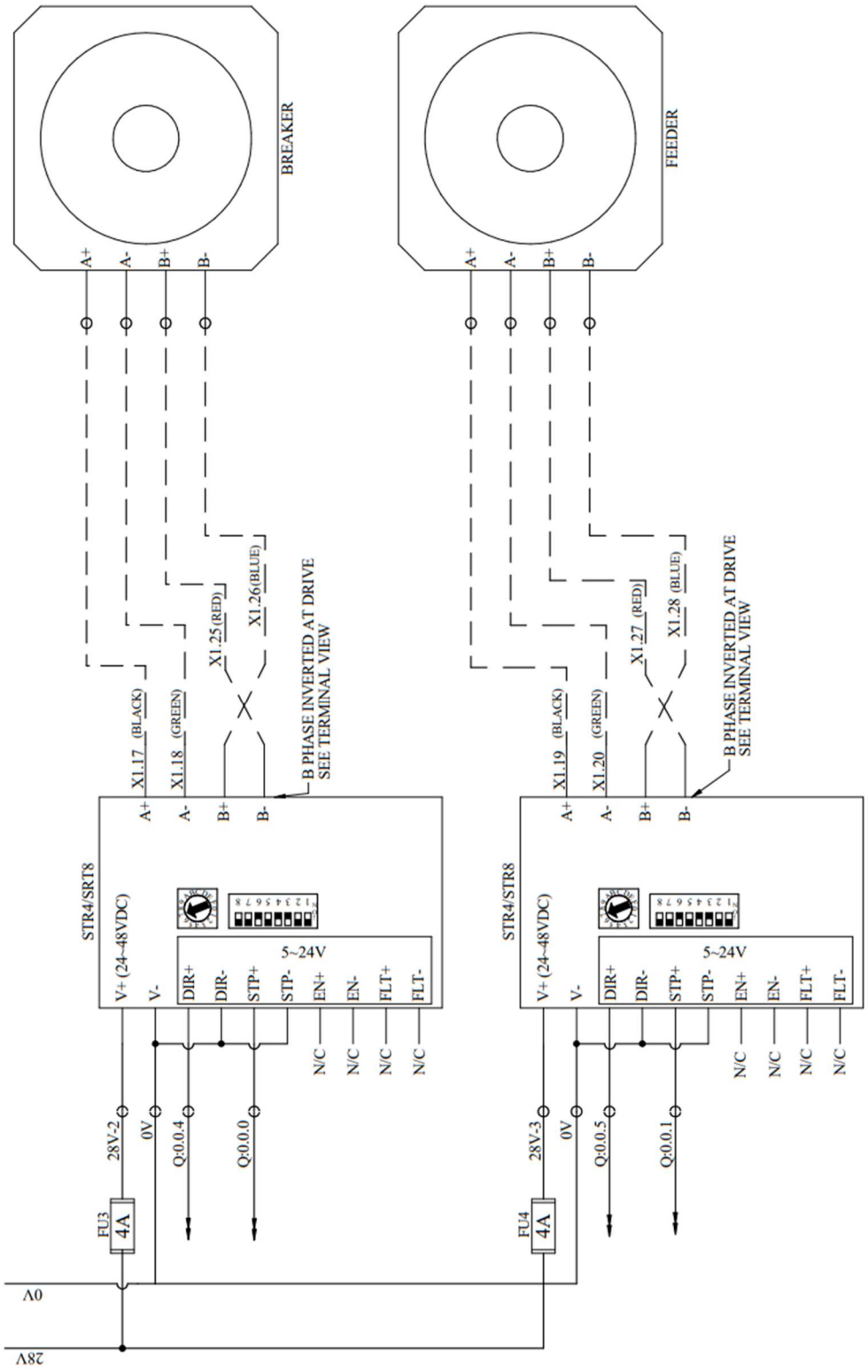
13:0 ELECTRICAL PLAN

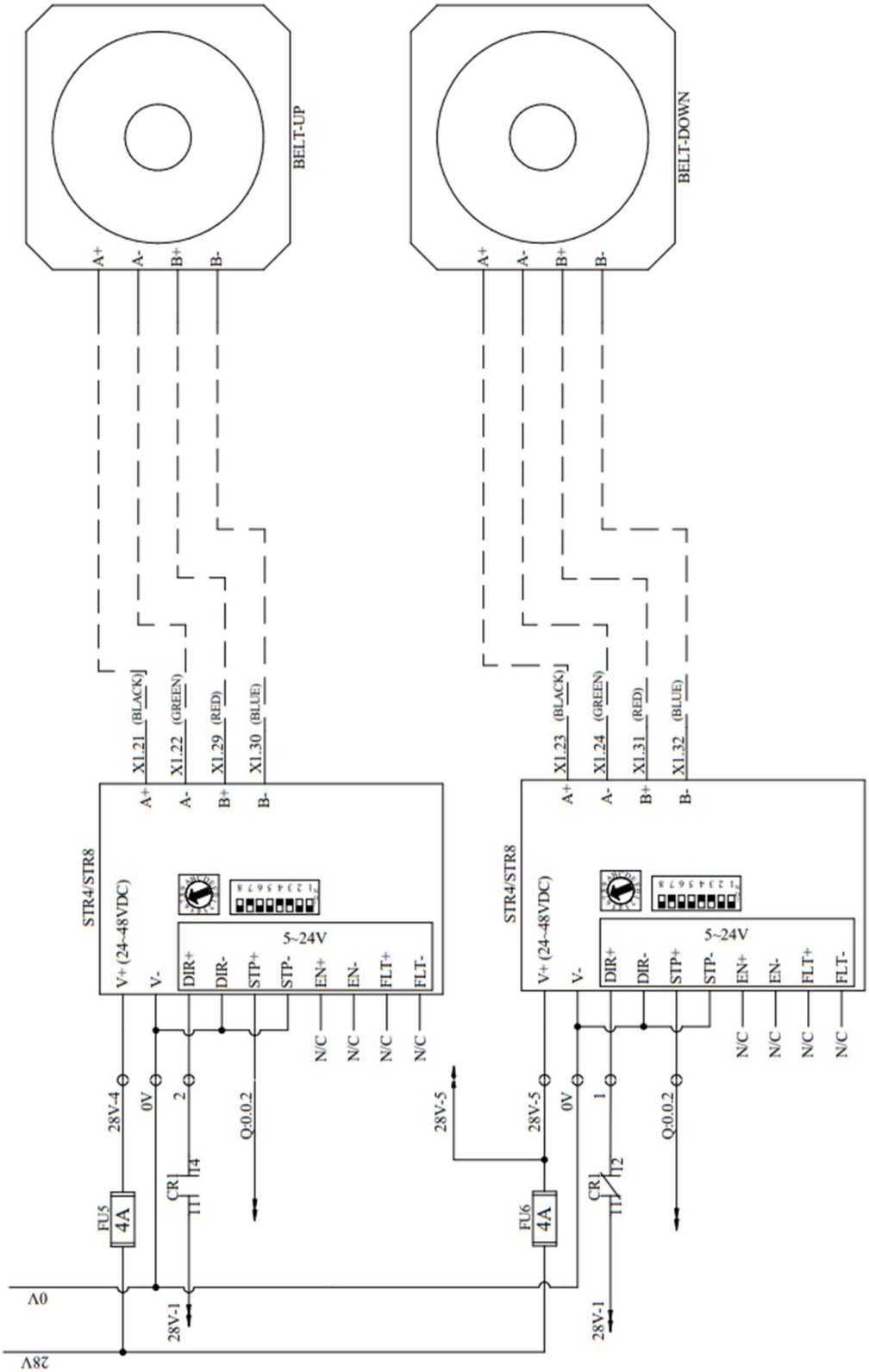
13.1: Distribution



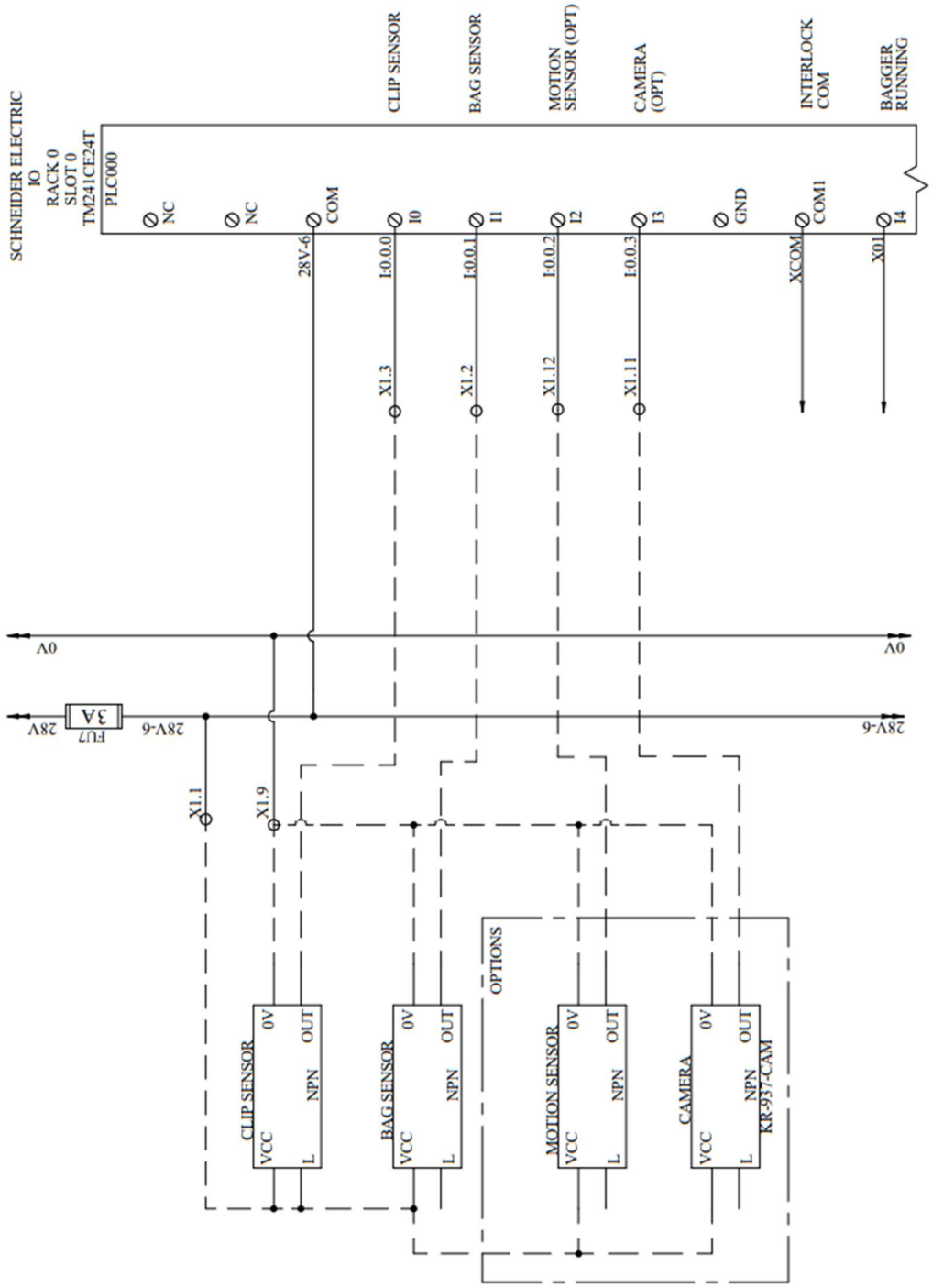
WIRE NUMBER	FUNCTION	POSITION NUMBER	COLOR
X1.8	28V	1,7,11	BROWN-PINK-PURPLE
X1.16	0V	2,3,4,6,12	BLUE-WHITE-GREEN-GRAY-LIGHT GREEN
X1.5	COM	5	YELLOW
X1.6	TxD	10	ORANGE
X1.14	RxD	15	RED/WHITE
X1.15	PRINT TRIGGER	9	BLACK
X1.7	ENCODER PULSES	8	RED

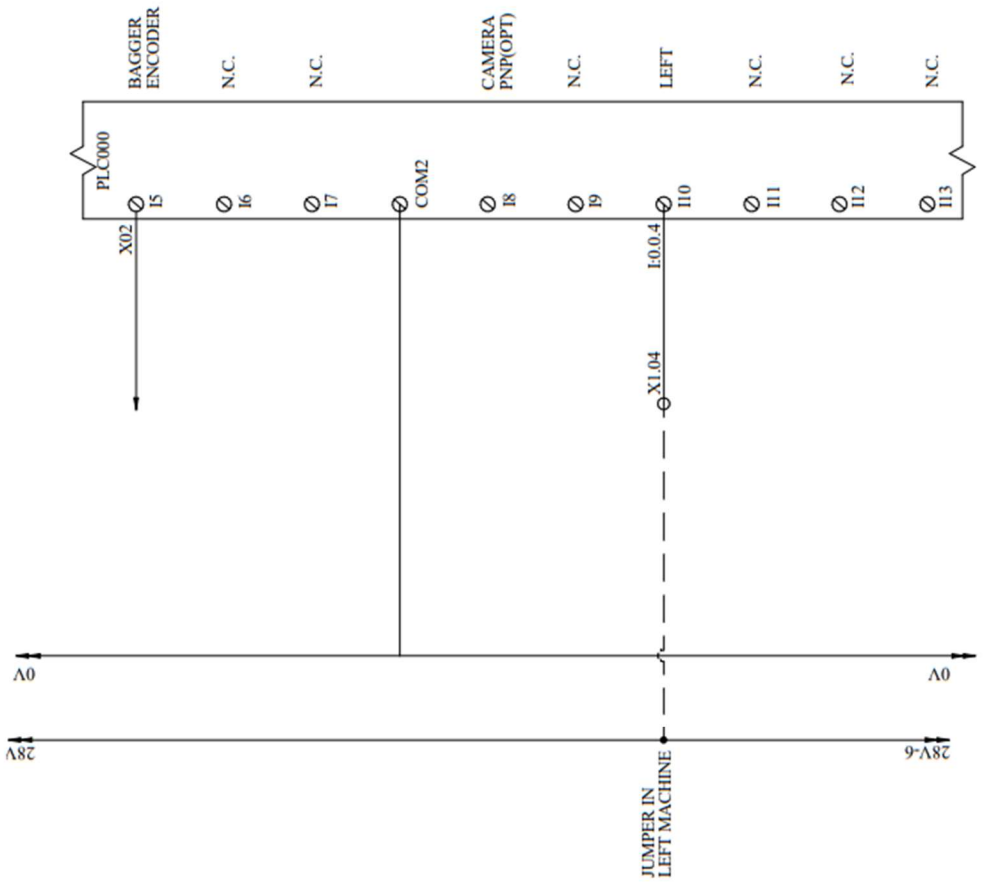
13.2: Stepper motors



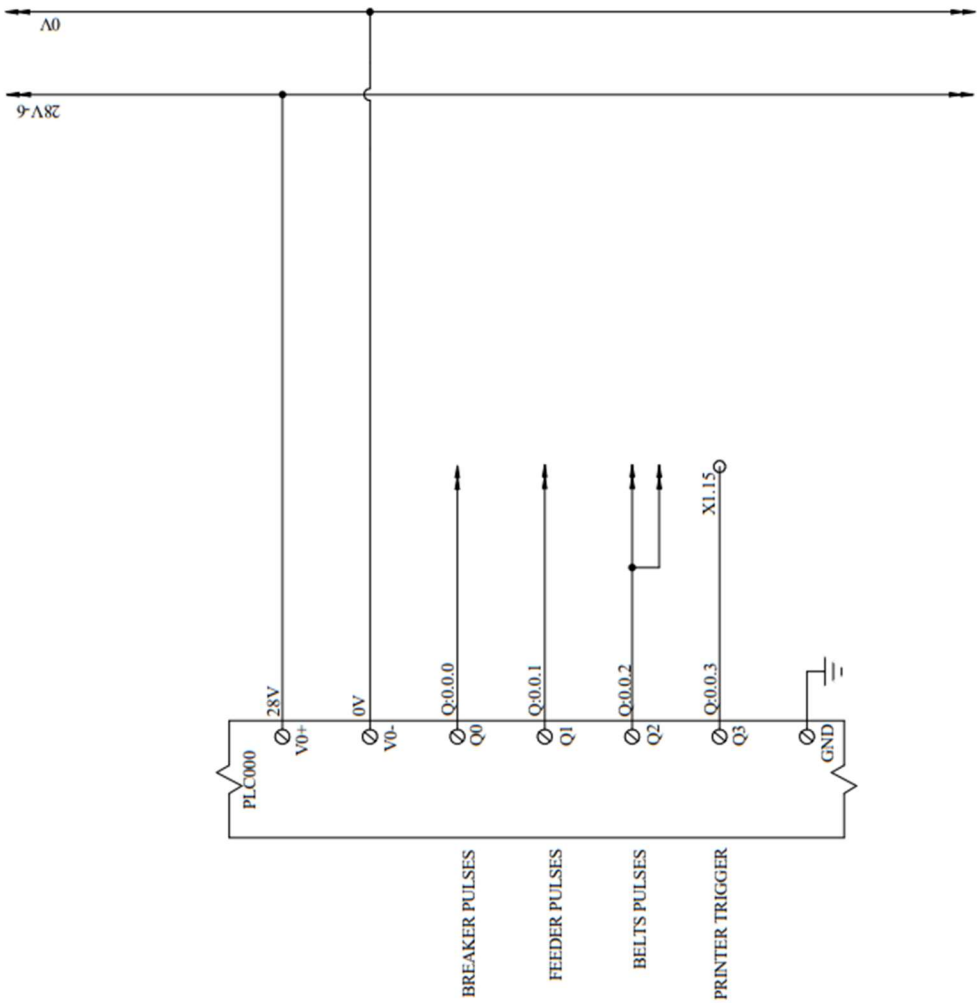

BELT-UP
BELT-DOWN
A+
A-
B+
B-
X1.21 (BLACK)
X1.22 (GREEN)
X1.29 (RED)
X1.30 (BLUE)
X1.23 (BLACK)
X1.24 (GREEN)
X1.31 (RED)
X1.32 (BLUE)
STR4/STR8
V+ (24-48VDC)
V-
5~24V
DIR+
DIR-
STP+
STP-
EN+
EN-
FLT+
FLT-
N/C
28V-4
28V-5
0V
2
1
Q-0.0.2
CR1
T4
T2
11
FU5
FU6
4A
28V-1
0V
28V

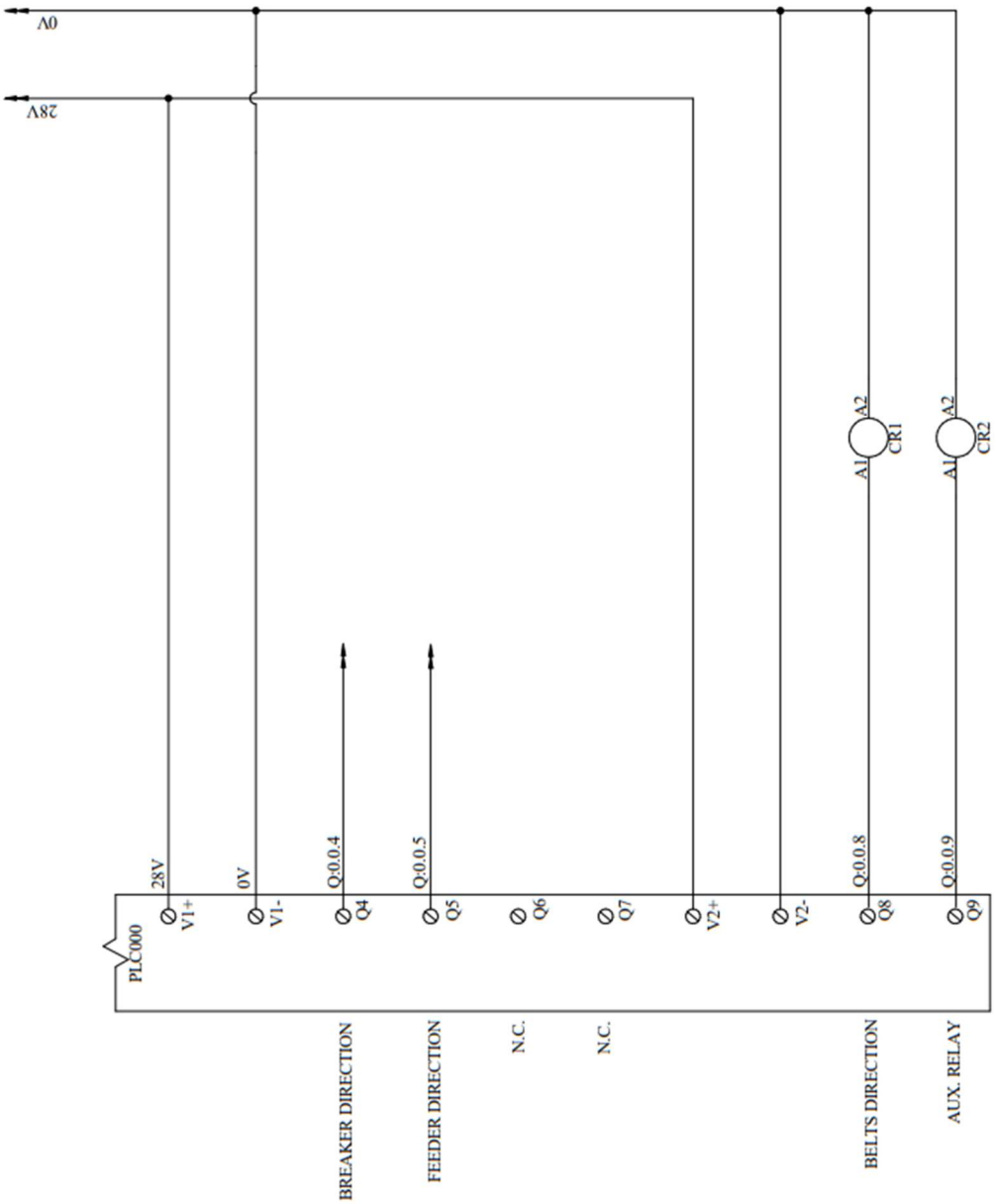
13.3: Inputs


SCHNEIDER ELECTRIC
IO
RACK 0
SLOT 0
TM241CE24T
PLC000
NC
NC
COM
I0
I1
I2
I3
GND
COM1
I4
CLIP SENSOR
BAG SENSOR
MOTION SENSOR (OPT)
CAMERA (OPT)
INTERLOCK COM
BAGGER RUNNING
28V-6
I:0.0.0
I:0.0.1
I:0.0.2
I:0.0.3
XCOM
X01
X1.3
X1.2
X1.12
X1.11
0V
28V
FU7
3A
X1.1
X1.9
OPTIONS
CLIP SENSOR
BAG SENSOR
MOTION SENSOR
CAMERA
0V
OUT
VCC
NPN
L
KR-937-CAM

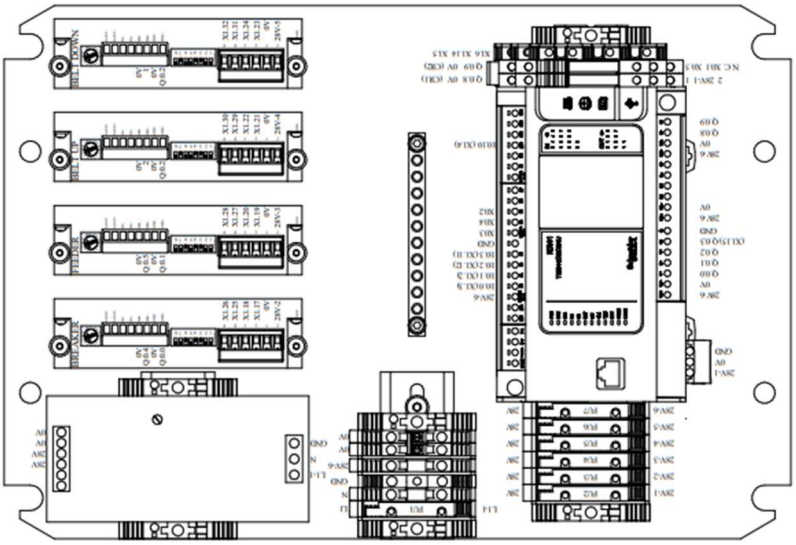

BAGGER ENCODER
N.C.
N.C.
CAMERA PNP(OPT)
N.C.
LEFT
N.C.
N.C.
N.C.
PLC000
I5
I6
I7
COM2
I8
I9
I10
I11
I12
I13
X02
I:0.0.4
X1.04
0V
0V
28V
28V-6
JUMPER IN LEFT MACHINE

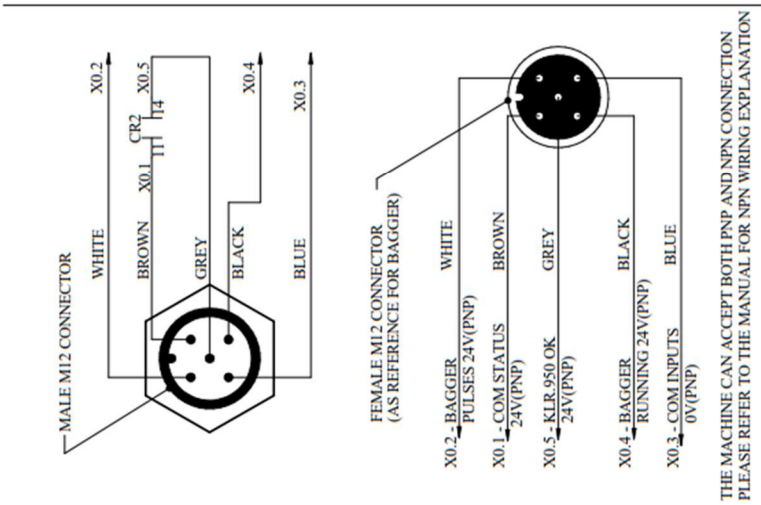
13.4: Outputs


0V
28V-6
28V
0V
Q:0.0.0
Q:0.0.1
Q:0.0.2
Q:0.0.3
X1.15
V0+
V0-
Q0
Q1
Q2
Q3
GND
PLC000
BREAKER PULSES
FEEDER PULSES
BELTS PULSES
PRINTER TRIGGER


0V
28V
PLC000
28V
V1+
0V
V1-
Q:0.0.4
Q4
Q:0.0.5
Q5
Q6
Q7
V2+
V2-
Q:0.0.8
Q8
Q:0.0.9
Q9
A2
CR1
A1
A2
CR2
A1
BREAKER DIRECTION
FEEDER DIRECTION
N.C.
N.C.
BELTS DIRECTION
AUX. RELAY

13.5: Terminal block





MULTI-POLE CONNECTOR	
PIN NUMBER	DESCRIPTION
X1.1	28V-6
X1.2	I:0.1 - BAG SENSOR
X1.3	I:0.0 - CLIP SENSOR
X1.4	I:0.10 - LEFT (24V)
X1.5	xCOM
X1.6	Rx
X1.7	ENCODER
X1.8	28V-6
X1.9	0V
X1.10	GND
X1.11	I:0.3 - CAMERA (OPT)
X1.12	I:0.2 - MOTION SENSOR (OPT)
X1.13	
X1.14	Tx
X1.15	Q:0.3 - PRINTER TRIGGER
X1.16	0V
X1.17	BREAKER - A+
X1.18	BREAKER - A-
X1.19	FEEDER - A+
X1.20	FEEDER - A-
X1.21	BELT UP - A+
X1.22	BELT UP - A-
X1.23	BELT DOWN - A+
X1.24	BELT DOWN - A-
X1.25	BREAKER - B+
X1.26	BREAKER - B-
X1.27	FEEDER - B+
X1.28	FEEDER - B-
X1.29	BELT UP - B+
X1.30	BELT UP - B-
X1.31	BELT DOWN - B+
X1.32	BELT DOWN - B-