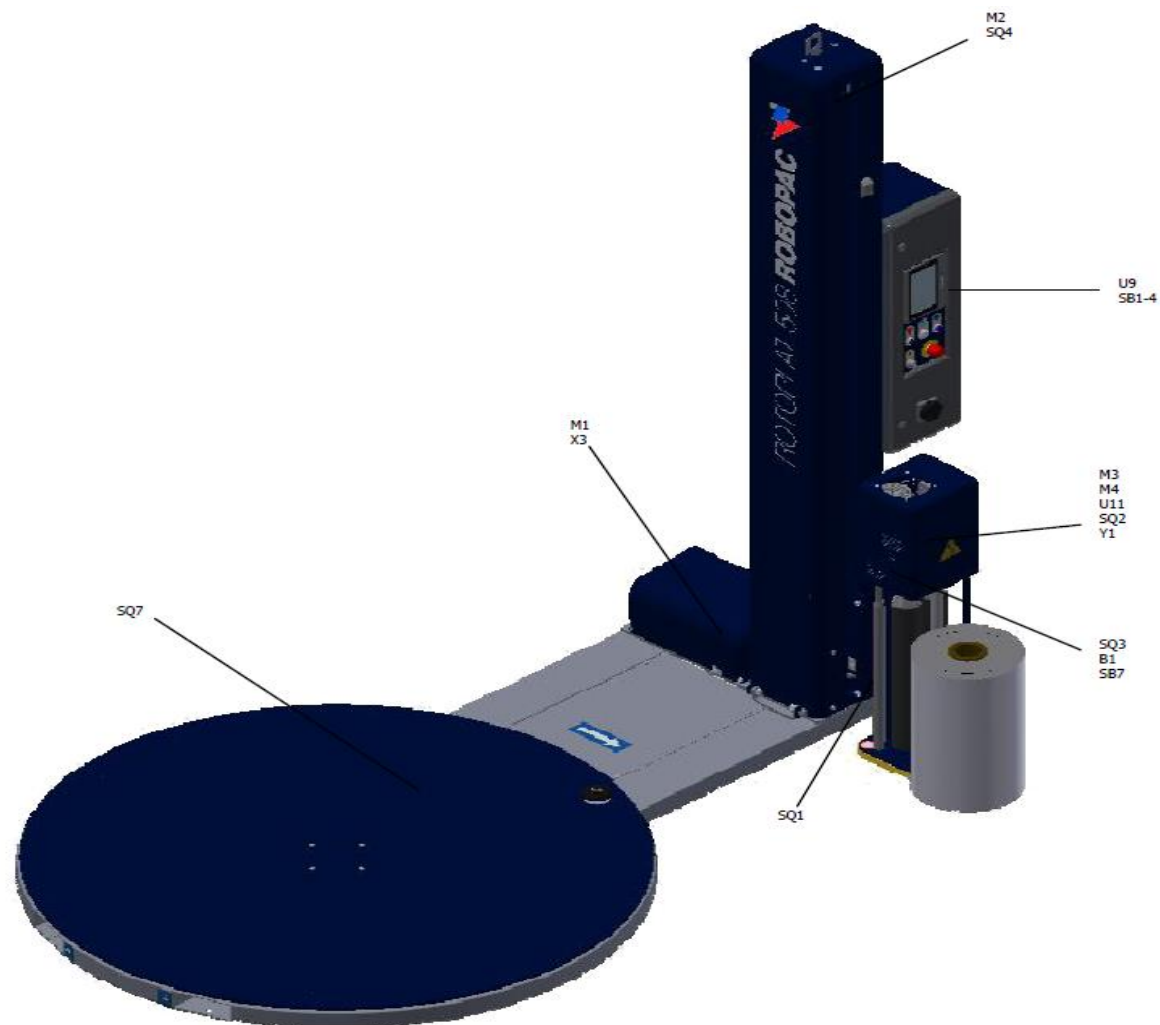


# TECHNICAL DOCUMENTATION MASTERPLAT

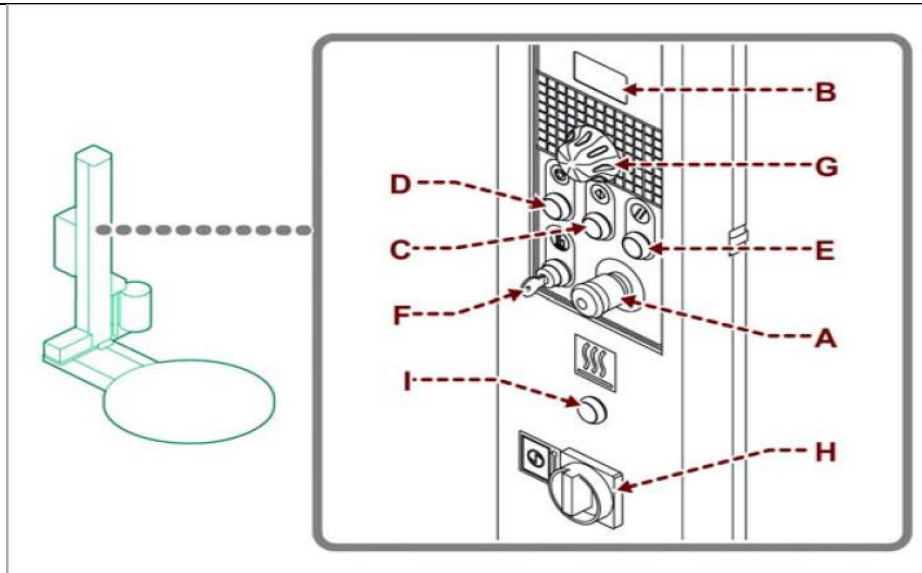


Date	Revisions	Revision reasons	Issue	Checked by	Approved by
03/11/2016	00	First Issue	<i>Zaroli S.</i>	<i>Zaroli S.</i>	<i>Zaroli S.</i>
21/12/2016	01	Upgrade Motor Parameters List	<i>Zaroli S.</i>	<i>Zaroli S.</i>	<i>Zaroli S.</i>

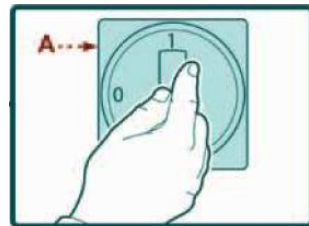
### MACHINE LAY-OUT



OPERATOR PANEL DESCRIPTION



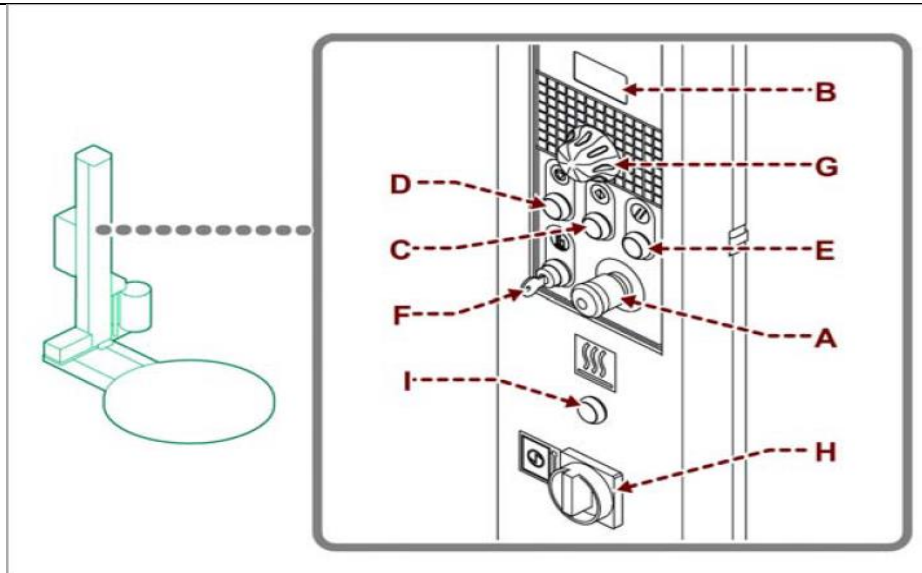
Pic.1



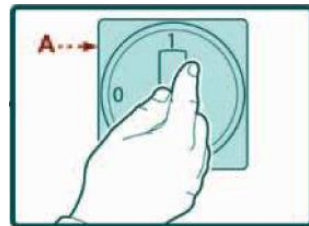
Pic.1a

		<p><b>“Stop cycle” button</b> It is used to stop the automatic wrapping Cycle</p>
		<p><b>“Start cycle” push-button</b> It is used to start the automatic wrapping cycle</p>
		<p><b>“Reset” push-button</b> It is used to reset the machine before restarting after an emergency stop or to restart it after stopping with power supply cut-off.</p>
		<p><b>Key selector for emergency interruption</b> It is used to momentarily interrupt the emergency of the carriage. Turn the key to the position I (JOG), the user interface shows the page on “Safety interrupted” which allows, by pressing the pushbutton (G), to lift the trolley only</p>
		<p><b>Emergency stop push-button</b> It is used to stop with a voluntary action, in case of imminent risk, the organs of the machine that may pose a risk. For further details consult the paragraph “Description of safety devices”</p>
		<p><b>Main switch for machine's ON / OFF</b> Turn main switch (A) (Pic. 1a) on I (ON) to turn on electric power supply.</p>

OPERATOR PANEL DESCRIPTION (Freezer Version)



Pic.1



Pic.1a



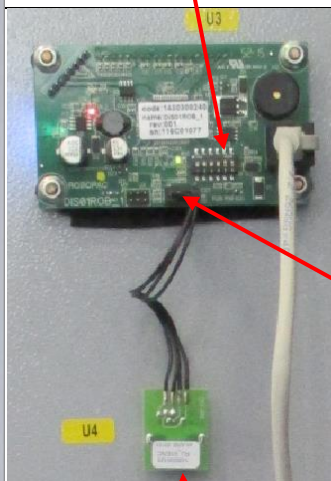
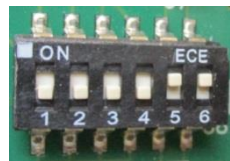
**Heating Electrical Panel**

If the indicator is lit, this means the electric panel is in the heating phase. During this phase all actions on the controls will be ineffective. At the end of the electric panel heating phase, the display prompts the user to press the **(E)** "Reset" button. The heating automatically comes on and goes off at temperatures (minimum and maximum) set by the manufacturer



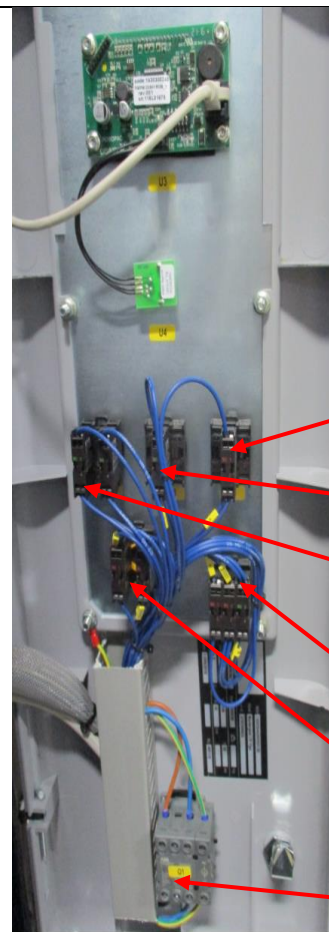
**Buzzer**

DETAILED CONTROL PANEL AND CONNECTIONS



**U3** - display card  
DIS02ROB  
code 1430300240

**U4** - JOG Card  
RJ\_01ENC  
code 143030125



**S4** - STOP (n.c.)

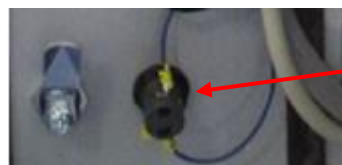
**S3** START (n.o.)

**S2** RESET (n.o)

**S5** - Unlock Security Carriage (n.c.)

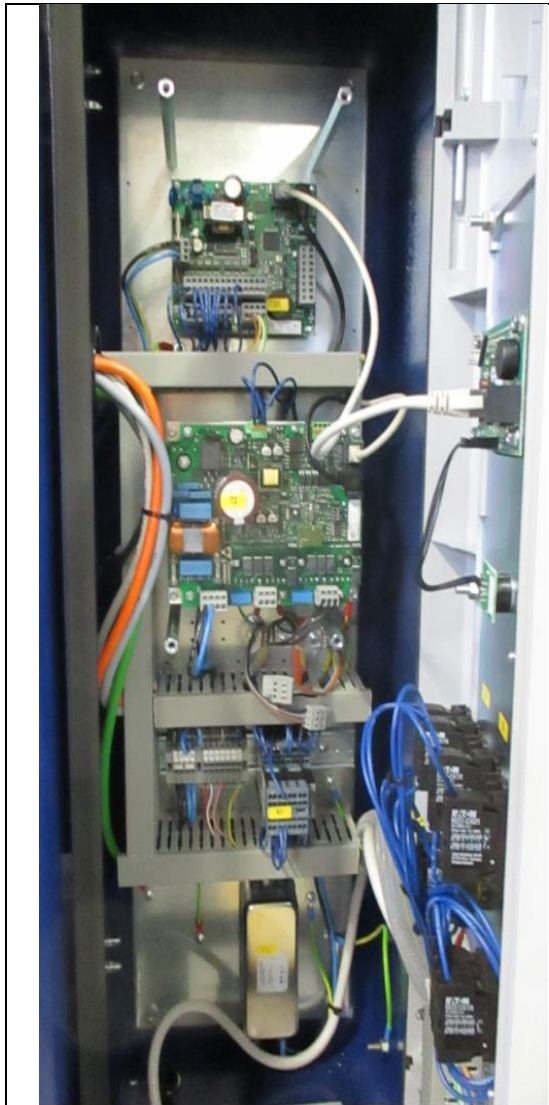
**S1** - Emergency – (n.c.)

**Q1** - Switch-disconnector ON / OFF



**H1** - Buzzer

### DESCRIPTION AND MAIN ELECTRICAL PANEL LAYOUT



The part numbers are for information only.  
Always check and verify the codes on the wiring diagram  
supplied with the machine.

**U1 - PLC Card PLC02ROB**  
code 1430300228



**T1 - Inverter Card INV01ROB\_2**  
code 1430300271

**T2 - Inverter Card INV01ROB\_2**  
code 1430300271



**K1 - Inverters Enable - code 00L0116056**



**V1 - Main filter-**  
code 00L0202680  
code 00L0287639 (new BM 1440 - 1444)

## DESCRIPTION AND MAIN ELECTRICAL PANEL LAYOUT (TP Version)



The part numbers are for information only.  
Always check and verify the codes on the wiring  
diagram supplied with the machine.



**U12** – Safety Module – Sensors control SG-BWS-T4  
code 0001318830

**U13** – Safety Module CS-AT-10V024-TF0.3  
code 1400300007

## LAYOUT E DESCRIZIONE QUADRO ELETTRICO (Versione Freezer)



**The part numbers are for information only.  
Always check and verify the codes on the wiring  
diagram supplied with the machine.**

**U11** – Expansion Card PRES03ROB  
code 1430300220

**V1** – Main filter  
code 00L0202680

code 00L0287639 (new BM 1440 - 1444)

**F1** – Heater Fuse - Cylindrical Fuse 10,3x38 AM 16A 500VAC  
code 1190310071

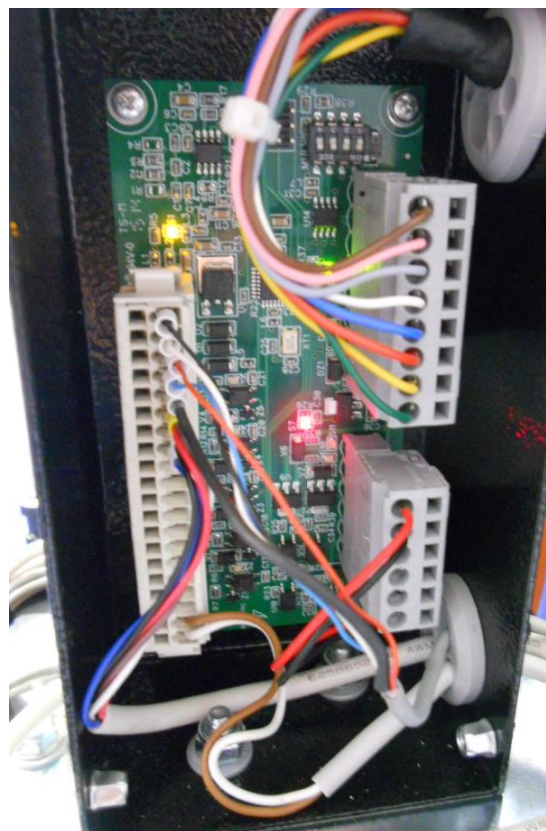
**F2** – Heater Fuse - Cylindrical Fuse 10,3x38 GG 1A 500VAC  
code 0001304230

**S9** - Enclosure Thermostat SK.3110000  
code 0001345043

**K2** – Supply Card Enable  
code 00L0177517

**U5** - Heater with fan 400W CSL 028  
code 0380300006

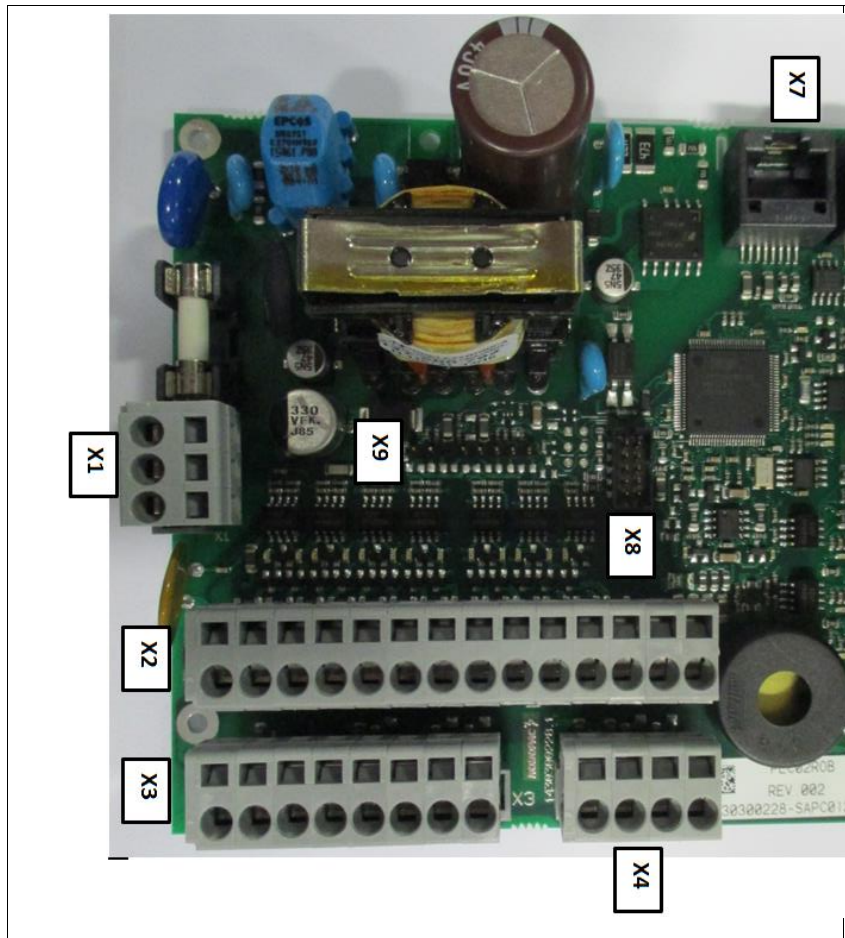
**S8** - Panel thermostat 7T.81.0.000.2401 Finder  
code 00L0197090

**ELECTRICAL PANEL ON CARRIAGE DESCRIPTION**

**U11** - Expansion Card PRES03ROB  
code 1430300220

## ELECTRONIC CARDS DESCRIPTION

### PLC Main Board – PLC02ROB (U1) - - CODE 1430300228

	X1	230 Vac Supply
	X2	Digital Input Terminal (1..8) + Analogic Input (1..2)
	X3	Digital Input Terminal (9..11)
	X4	Digital Input Terminal (12..13)
	X5	Digital Output Terminal (1..4)
	X6	Modbus Communication (RJ45_1)
	X7	Modbus Communication (RJ45_2)
	X8	Debug
	X9	Connector for SD interface (SW update)
	H25	Led 24 V
	H13..16	Led output – Output Led
	H17	Led stato SUP – State Sup Led
	H18	Microcontroller Led
	H19	Error Led/bootloader
	H20	Led 3,3 V
	H21	Led Modbus – Modbus Led
	H1..12..24	Led Input Digitali Digital Input Led



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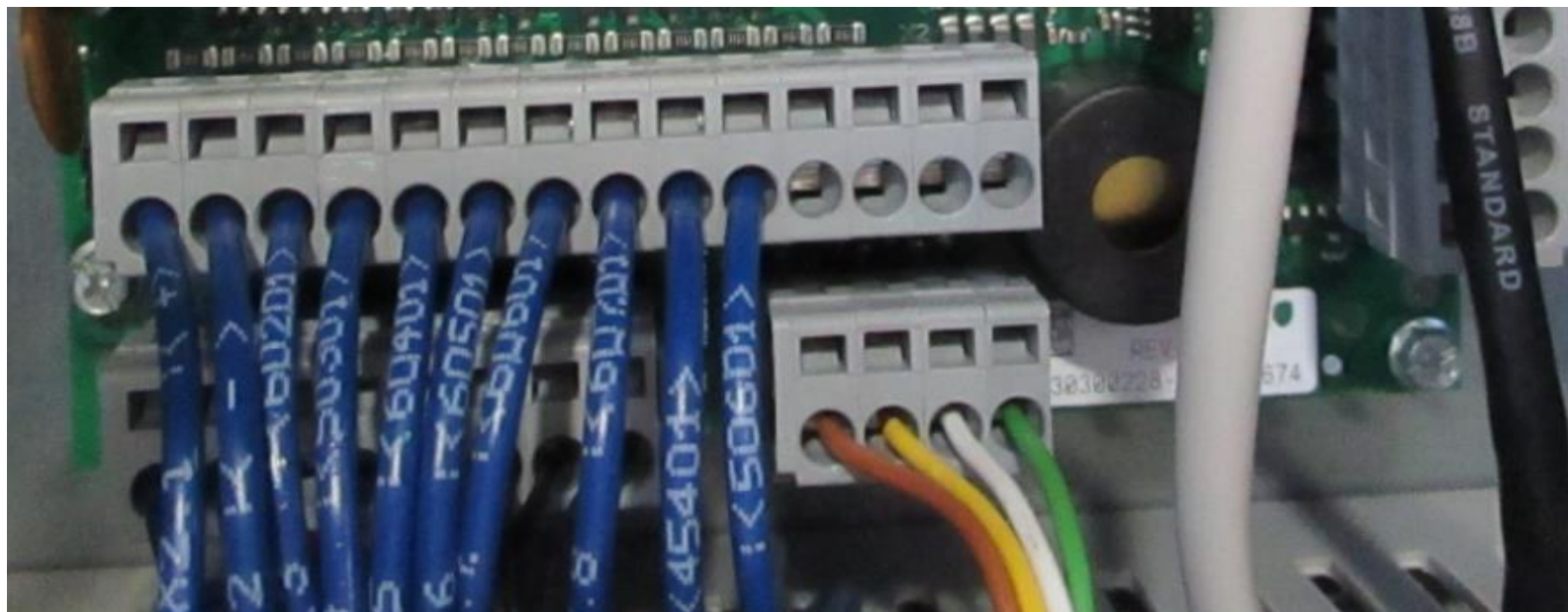
I/O (INPUT/OUTPUT) DESCRIPTION (PLC02ROB (U1))

PLC Card Inputs –status (U1)

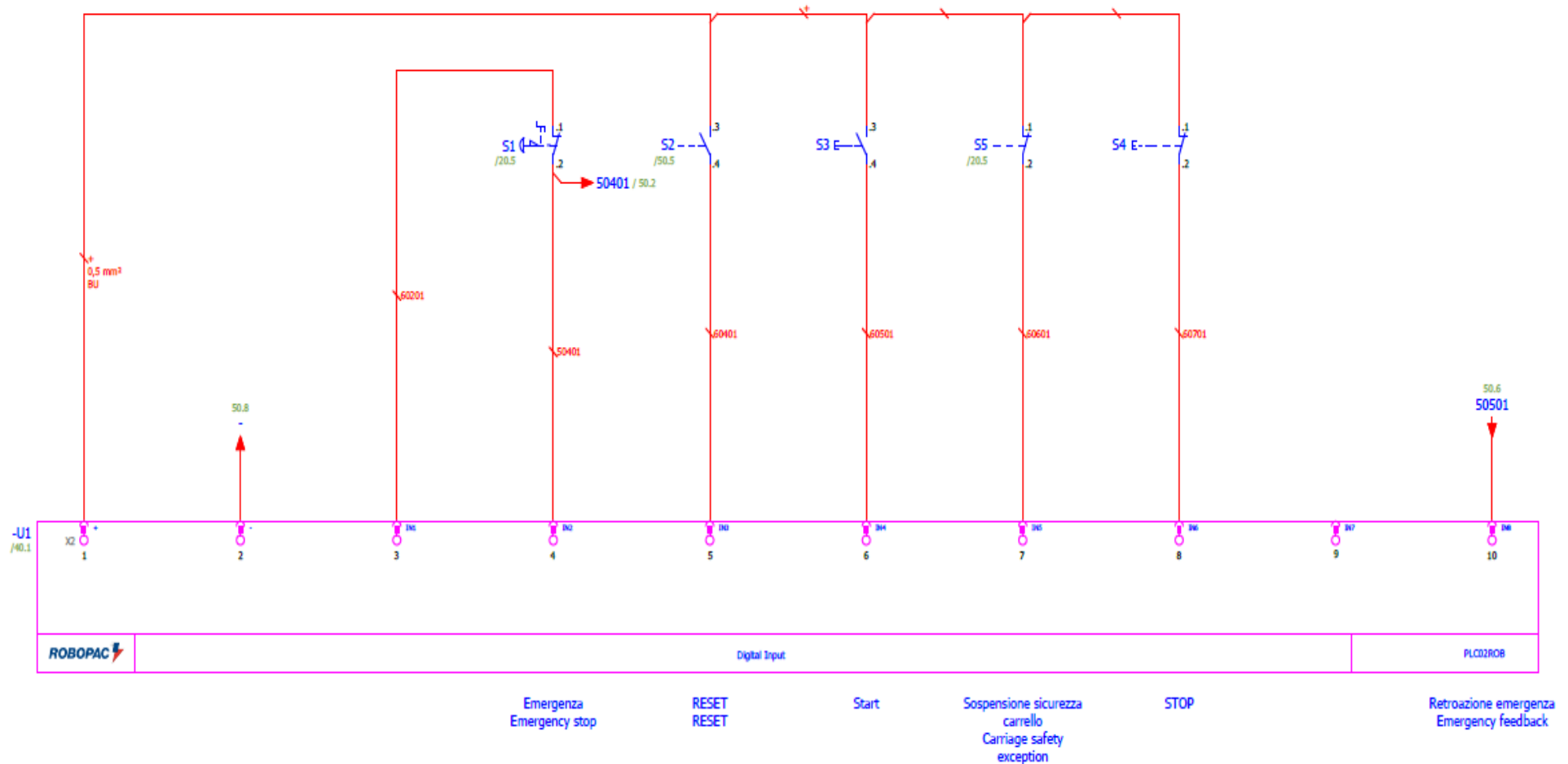
Connector	Input	Led	Input description	Status	Led Status
X4	IN12	H12	Table in home position Sensor	N.O.	Table home position = led ON
X3	IN11	H11	Carriage Low Endstroke	N.C.	Low position Carriage = led OFF
X3	IN10	H10	Carriage High Endstroke	N.C.	High position Carriage = led OFF
X3	IN9	H9	Product height sensor (Only FRD)	N.O.	Product detected = led ON
X2	IN8	H8	Emergency feedback	N.O.	Led ON
X2	IN7	H7	Safety TP Emergency	N.O.	Emergency activated = led OFF (led ON after RESET)
X2	IN6	H6	Stop Push Button	N.C.	Push button pressed = led OFF
X2	IN5	H5	Carriage safety exception	N.C.	Unlock Selector = led OFF
X2	IN4	H4	Start Push Button	N.O.	Push button pressed = led ON
X2	IN3	H3	Reset Push Button	N.O.	Push button pressed = led ON
X2	IN2	H2	EMERGENCY Push Button	N.C.	Push button pressed = led OFF
X3	IN1	H1	Safety Carriage Endstroke	N.C.	EndStroke pressed = led OFF

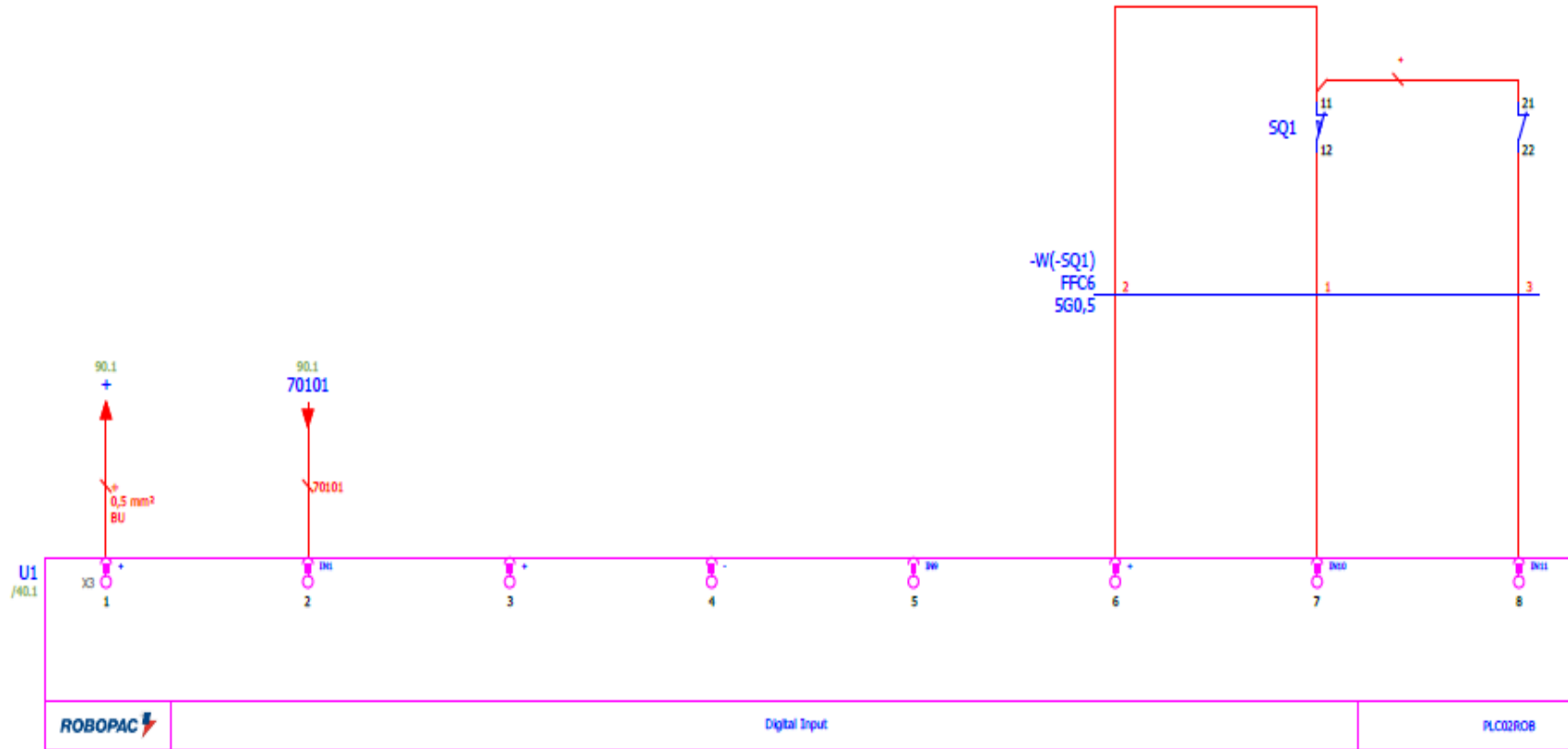
PLC Card Outputs - status (U1)

Connector	Output	Led	Output description
X5	OUT1	H13	Down Pressure Platen
X5	OUT2	H14	Up Pressure Platen



### STD Version

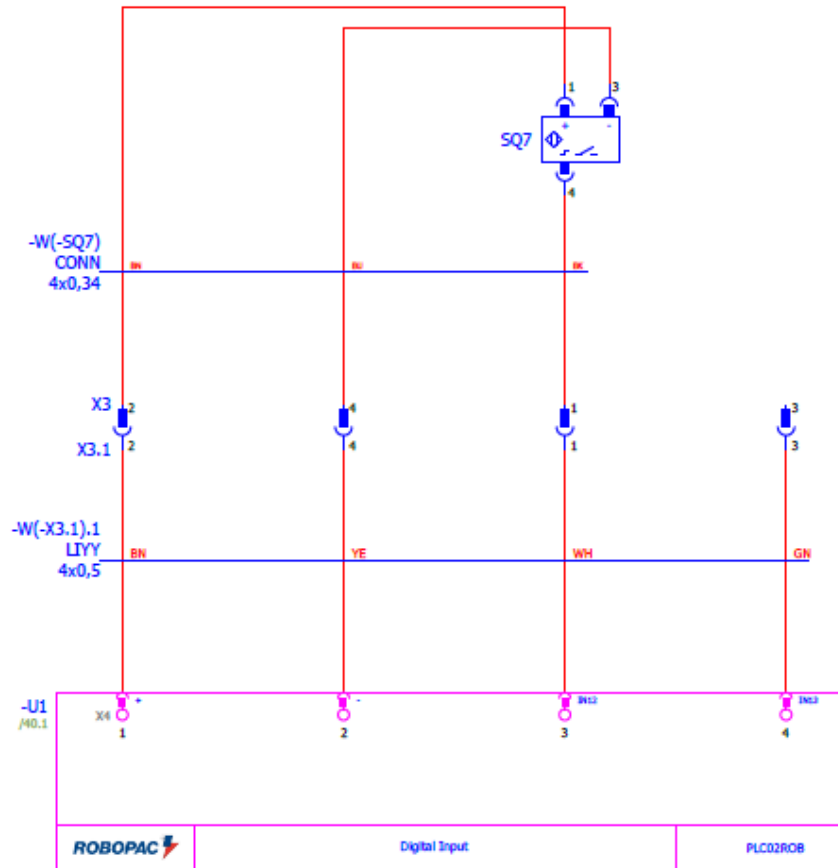




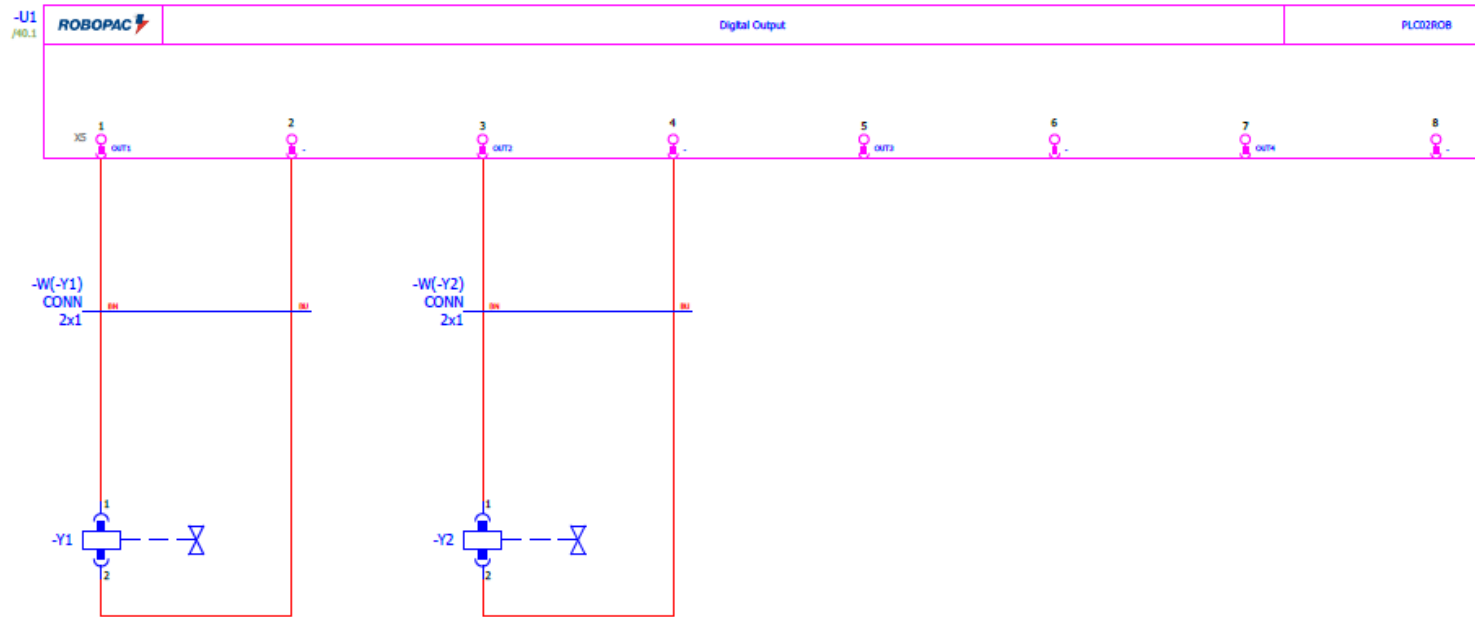
Finecorsa emergenza  
carrello  
Carriage emergency Endstroke

Finecorsa Alto  
High Endstroke

Finecorsa Basso  
Low Endstroke



Fase Tavola  
Table Phase



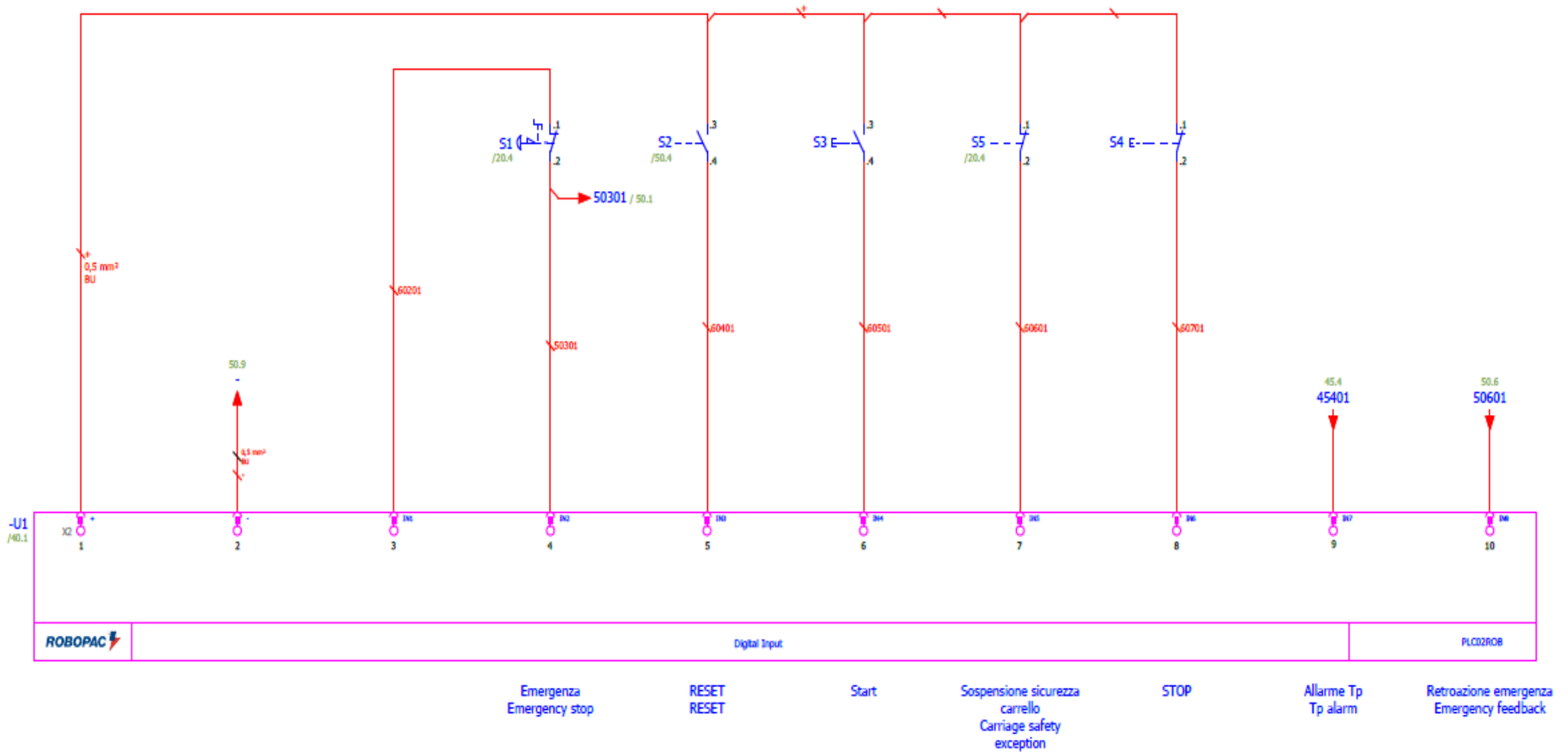
Discesa pressione  
Pressure downward

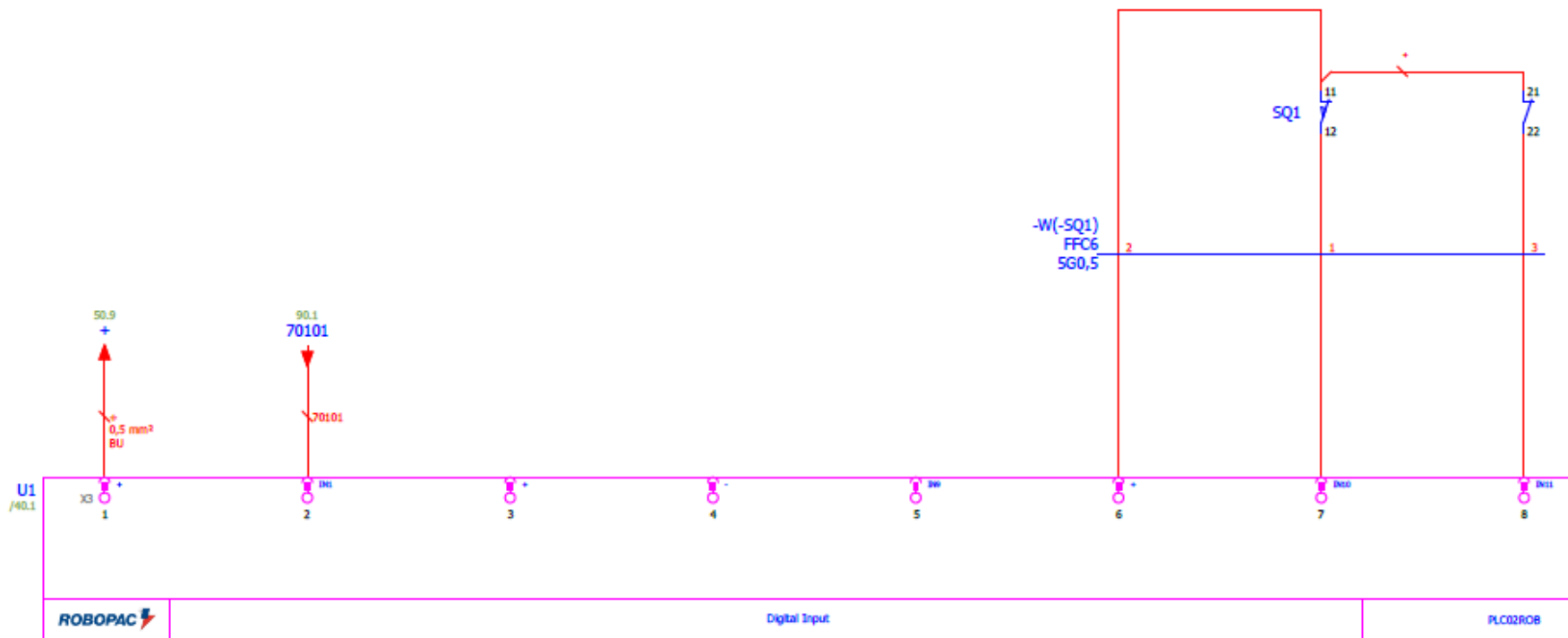
(Optional)

Salita pressione  
Pressure upward

(Optional)

TP Version

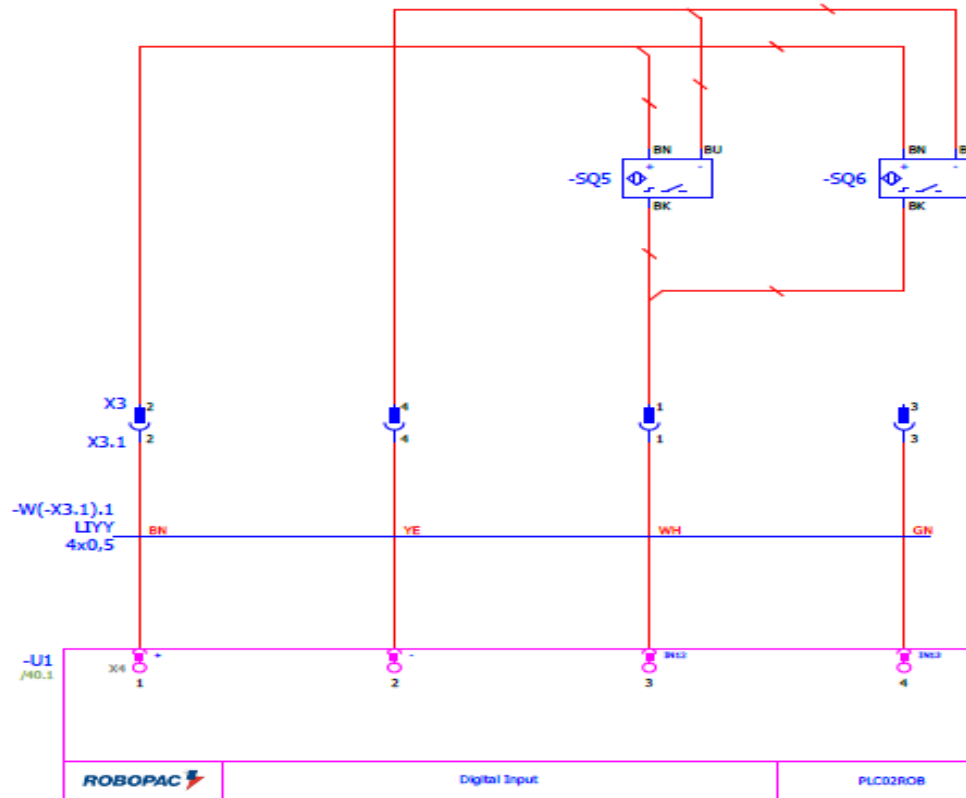




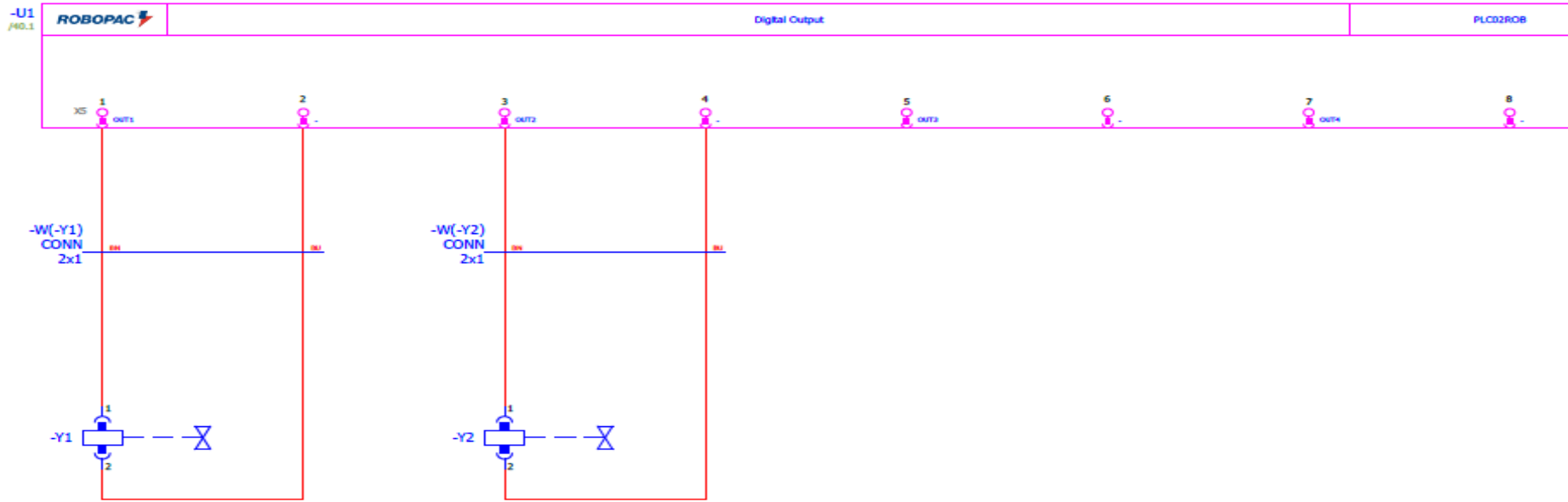
Finecorsa emergenza  
carrello  
Carriage emergency Endstroke

Finecorsa Alto  
High Endstroke

Finecorsa Basso  
Low Endstroke



Fase Tavola  
Table Phase



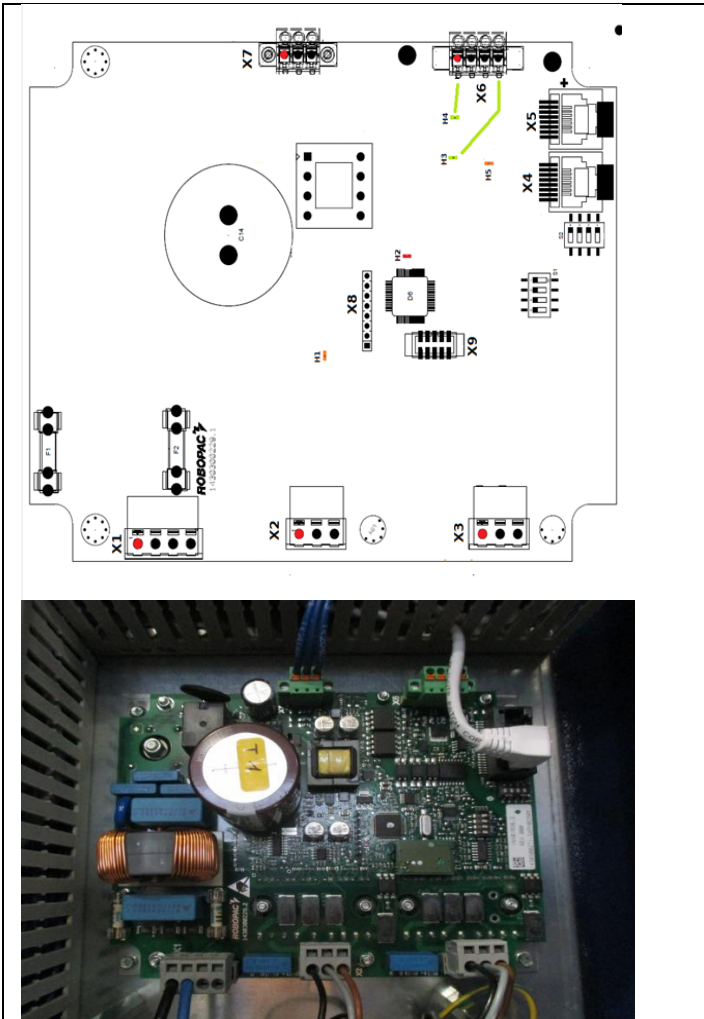
Discesa pressione  
Pressure downward

(Optional)

Salita pressione  
Pressure upward

(Optional)

**Inverter Card INV01ROB\_2 (T1) – CODE 1430300271**



**Table description: status input (T1) Table Rotation Motor and Carriage Lift Motor.**

LED Number	Input description	Led Status	Contact Type
H1	230 VAC Power	ON	
H2	Error Led	1 regular blink	
H3	Input 1 on X6 –	N/A	
H4	Input 2 on X6	N/A	
H5	24V Modbus Power	ON	

**Table description (T1): X1 – X2 – X3 – X4 – X5 – X6 – X7 – X8 – X9 Connectors**

Connector Number	Description
X1	230 VAC – Card Power Supply
X2	Motor 2 – Carriage Lift
X3	Motor 1 – Table Rotation
X4	Communication Out
X5	Communication In
X6	Digital Inputs
X7	Driver Enable
X8	SD for SW update
X9	Debug





Inverter card INV01ROB\_2 (T2) – CODE 1430300271

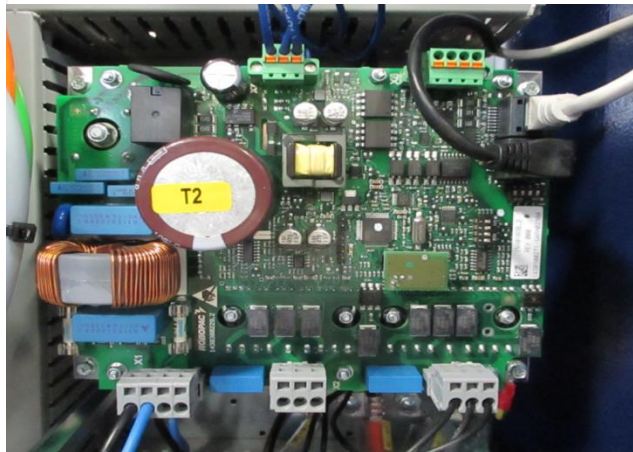
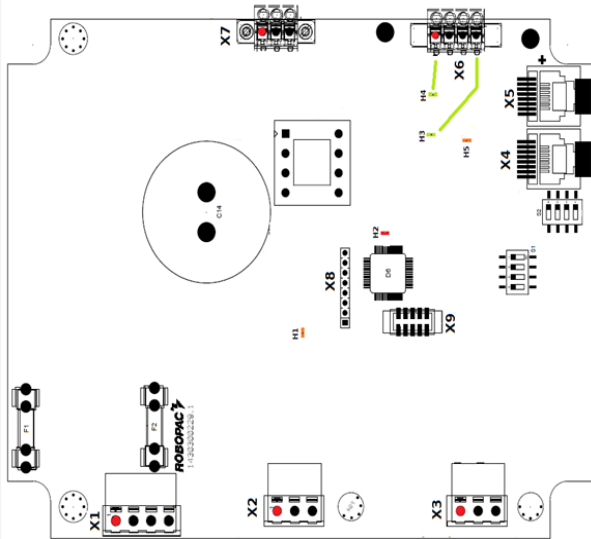


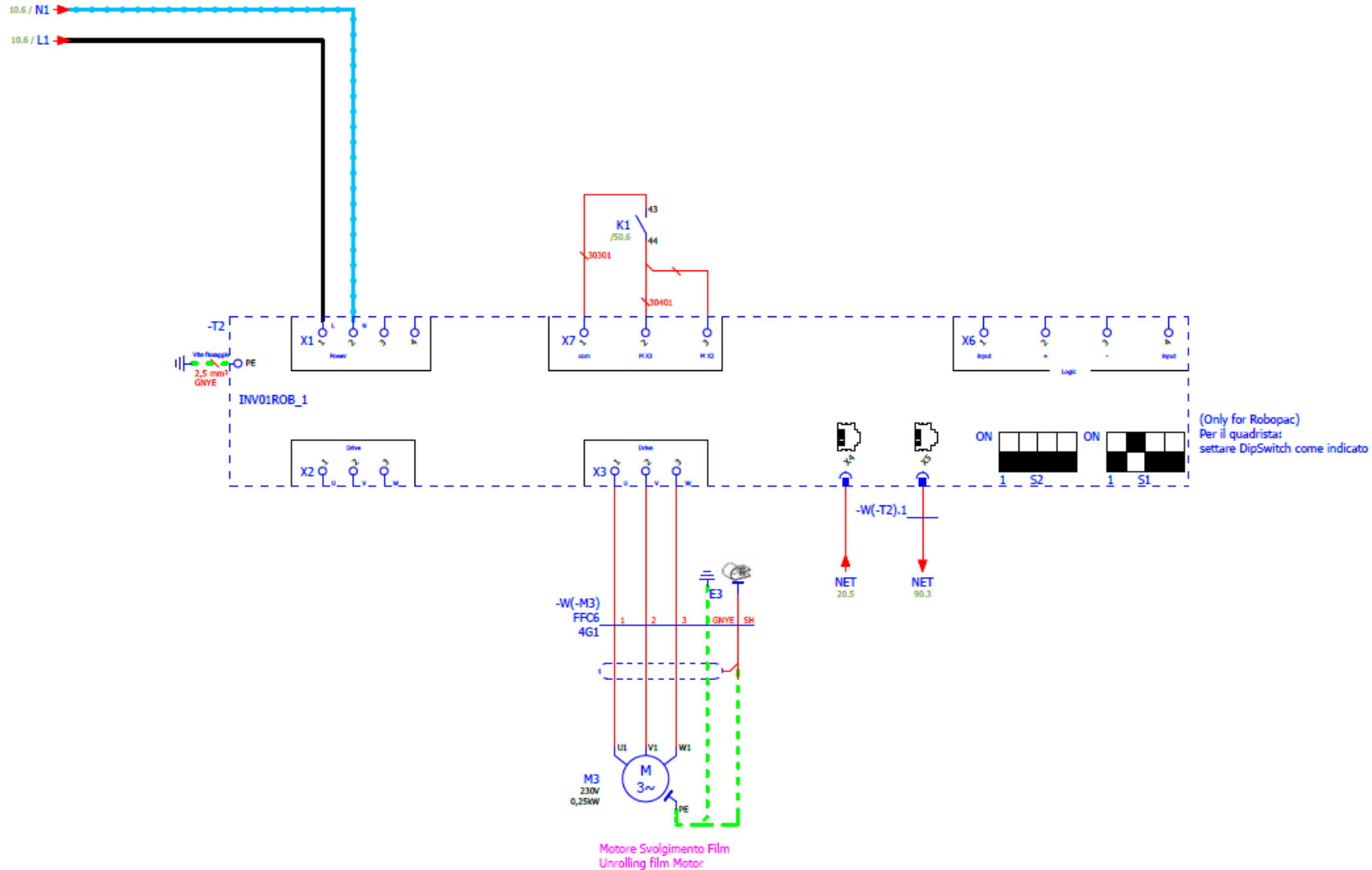
Table description status input (T2) Unrolling Film Motor

LED Number	Input description	Led Status	Contact Type
H1	230 VAC Power	ON	
H2	Error Led	1 regular blink	
H3	Input 1 on X6	N/A	
H4	Input 2 on X6	N/A	
H5	24V Modbus Power	ON	

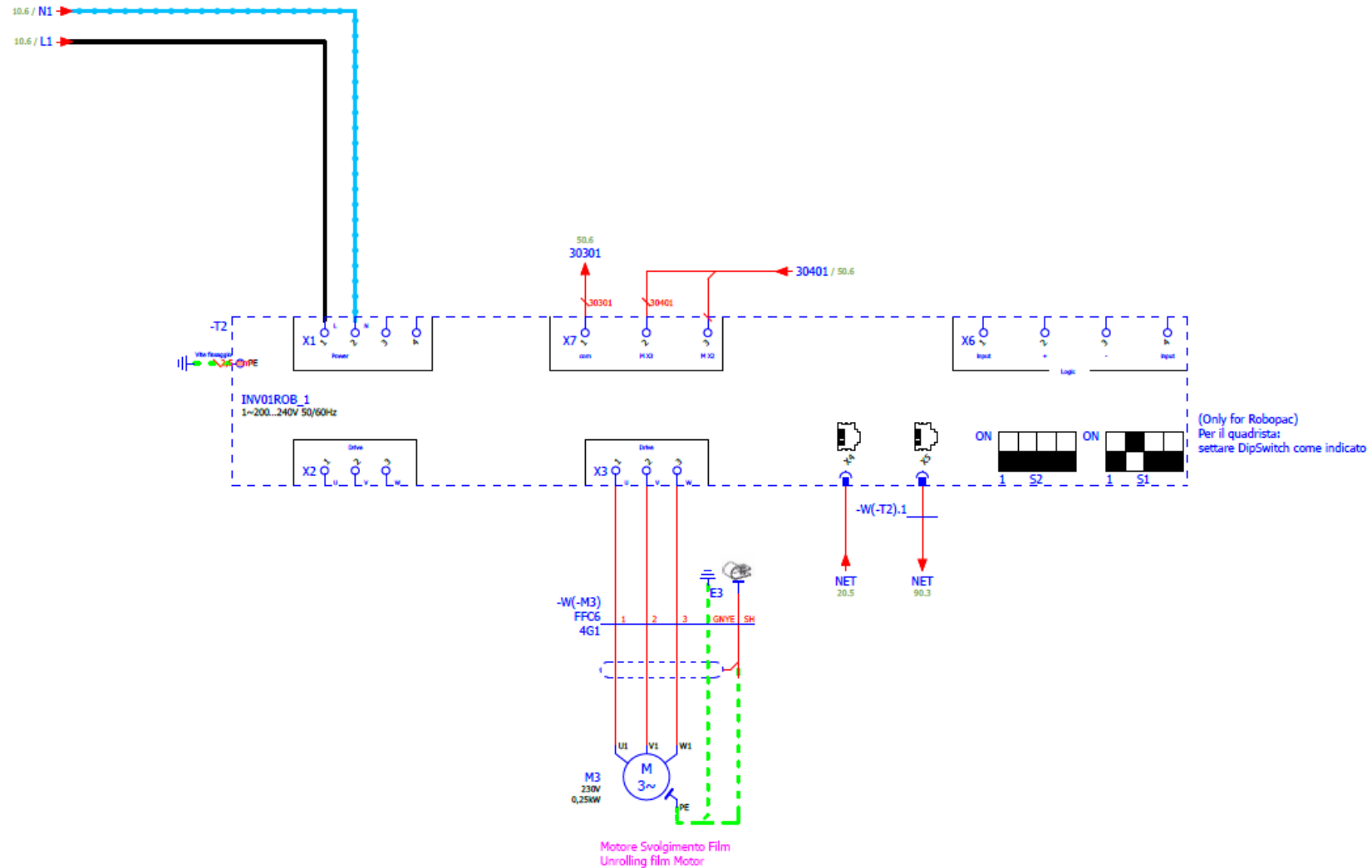
Table description (T2): X1 – X2 – X3 – X4 – X5 – X6 – X7 – X8 – X9 Connectors

Connector Number	Description
X1	230 VAC – Card Power Supply
X2	Motor 4 - Free
X3	Motor 3 – Unrolling Film Motor
X4	Communication Out
X5	Communication In
X6	Digital Inputs
X7	Driver Enable
X8	SD for SW update
X9	Debug

**STD Version**



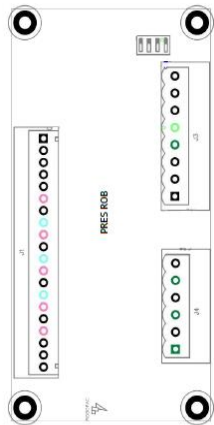
TP Version



Expansion Card PRES03ROB (U11) - - CODE 1430300220

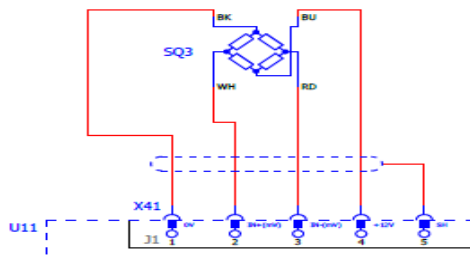
Table description status input/output (U11)

J1 Connector (Pin)	Input Description	Led Status	Contact Type
+ (6)	+24 VDC		
In1 (7)	Product Height Photocell (PGS Only)	ON	N.O.
- (8)	0 VDC		
+ (17)	+24 VDC		
In5 (18)	Unrolling Film Push-Button (PGS Only)	ON	N.O.
+ (19)	+24 VDC		
(20)	Carriage Emergency	OFF	N.C.

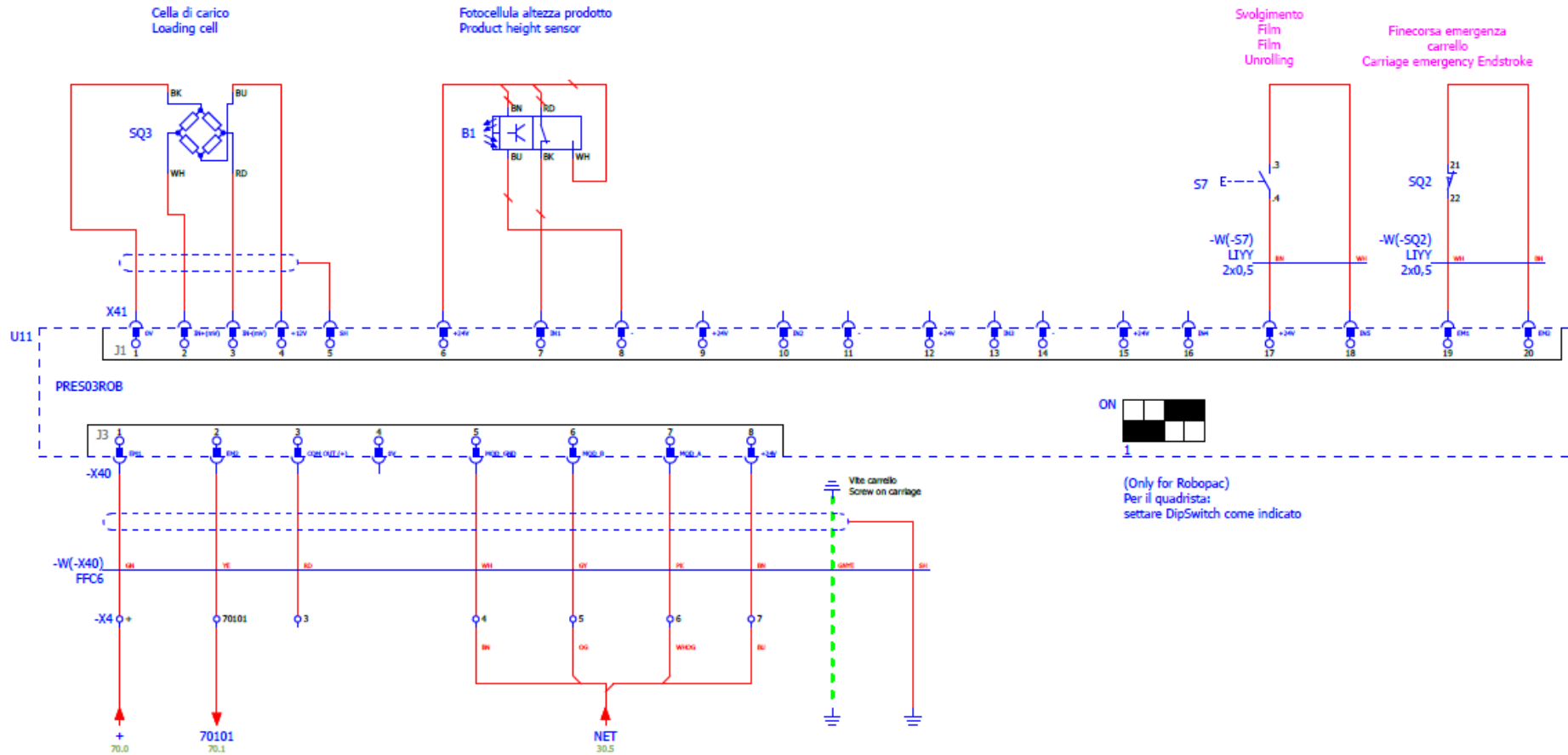


J1 Connector (Pin)	Signal Description
0V (1)	0V Load Cell Power (Black)
In+ (2)	Signal LoadCell (+ mv) (White)
In- (3)	Signal LoadCell (- mv) (Red)
12V (4)	12V Load Cell Power (Bleu)
SCH (5)	Cable shield

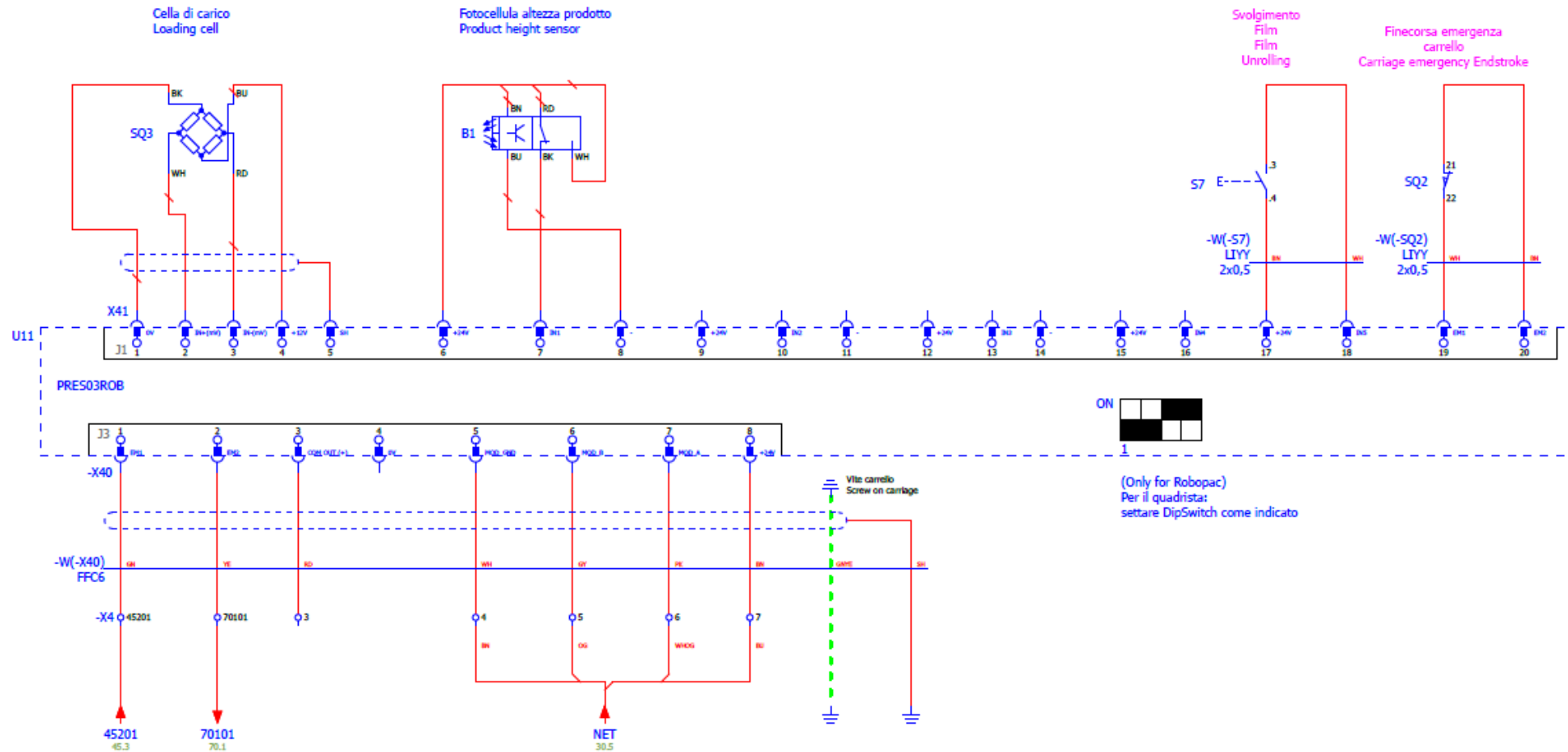
Cella di carico  
Loading cell



STD Version



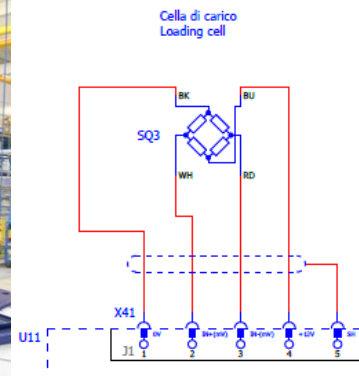
TP Version



**Check function of load cell (on PRES03ROB card on carriage)**

To verify the correct operation of the load cell must be checked on the card on carriage, which between the Blue and Black wires of the same there are the 12 VDC representing the power.

Among White and Red wires must detect the output signal of the cell that will vary from 0 mV to 24 mV DC DC (being the ratio of 2 mV x Volt DC power supply) applying by hand a variable traction roller anchored to the cell to simulate the film's shooting.



### SAFETY DEVICES DESCRIPTION STATUS (U12 – U13)

The Machine is ON



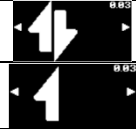

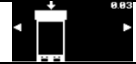

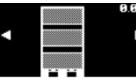
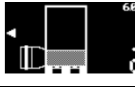
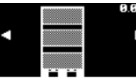
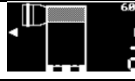
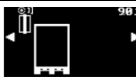
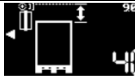
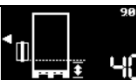
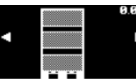
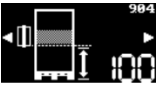
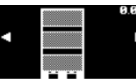
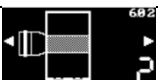





After push button Reset pressed (not Emergency –Safety Transpallet Pallet not activated)



Safety photocell Transpallet activated



LIST OF RECIPES DATA

Parameter	Min. – Max.	Step	Unit of measure / Notes
Packaging cycle type	 883	Up and Down cycle	
	 884	Up only cycle or Down only cycle	
	 885	Top sheet cycle	
	 818	Packaging cycle with Pressure platen	Option activation
Bottom wraps	 886  683	0 – 10	1 Wraps
Top wraps	 886  681	0 – 10	1 Wraps
Photocell delay	 901  902	40 – 100	1 cm
Offset from the ground	 905	0 -- 260	1 cm
Reinforcement height and reinforcement wraps	 886  904	0 -- 260	1 cm
	 886  682	0 – 20	1 Wraps
Table Rotation speed	 884	5 – 12	1 RPM
Carriage up/down speed	 885  581	1.5 – 4.0	0.1 m/minute
	 885  582	1.5 – 4.0	



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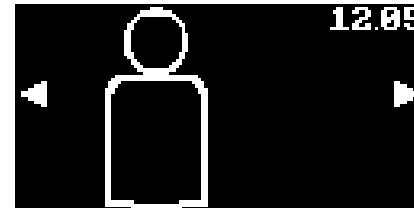
Altimeter		 50 – 310	1	cm
<b>FRD CARRIAGE</b>				
Force to Load (Manual Force to Load adjustment)		Mechanical		
<b>PGS CARRIAGE</b>				
Force to Load		 0 – 100  0 – 100	1	Dimensionless
Pre-stretch film	Fixed Selectable from Gears	150 % 200 % 250 %		%

## OPERATOR PANEL PASSWORD USE

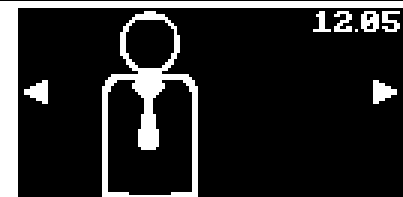
### Select User Level (Version 1.0)

From the menu, select "Settings" and press jog.

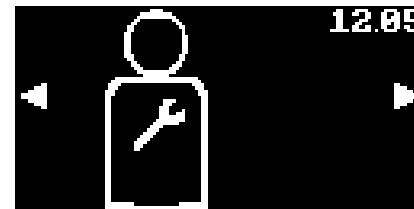
Rotate up to the "Login" item, identified by a template: if the template is empty, it means that the login has not been carried out.



Tie: 'MACHINE MANAGER' user.  
Enter the password **1111**



Service: 'SERVICE' user  
Enter the password **006262**



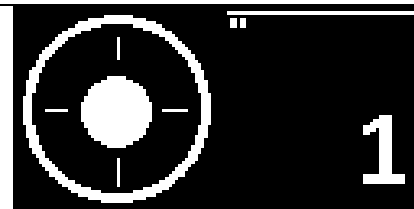
Robopac: 'ROBOPAC' user  
programming key needed with special internal file during the switch on phase..

To enter the password, rotate the first digit in a clockwise direction, the second digit in a counter clockwise direction and so on.

For the digit 0, click 10 times.

After the last digit, press jog.

If the password is correct, one of the icons described in the previous item will be displayed (MACHINE MANAGER or SERVICE)



### Select User Level (Version 2.0 and later)

From the menu, select "Settings" and press jog.

Rotate up to the "Login" item, identified by a template: if the template is empty, it means that the login has not been carried out.

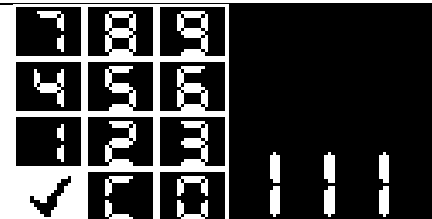
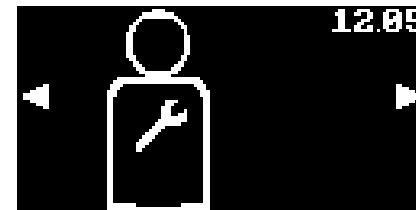
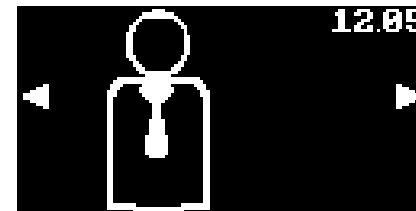
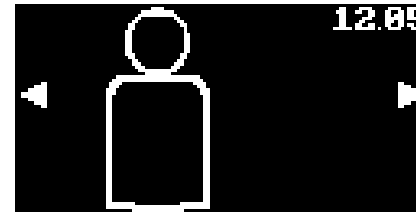
Tie: 'MACHINE MANAGER' user.  
Enter the password **1111**

Service: 'SERVICE' user  
Enter the password **6161**






Robopac: 'ROBOPAC' user  
programming key needed with special internal file during the switch on phase..


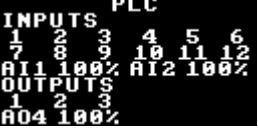

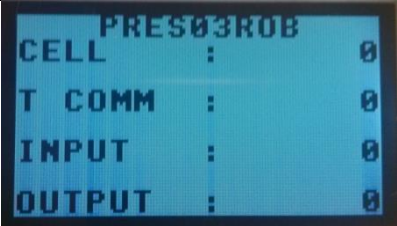
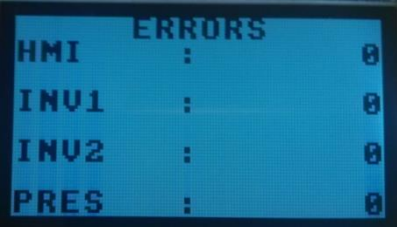
To enter the password, turn the jog to select the digit, press to insert it.  
C is reset with the number, the **check** is confirmed the number

If the password is correct, one of the icons described in the previous item will be displayed (MACHINE MANAGER or SERVICE)



## VARIOUS OPERATOR PANEL FUNCTIONS

<p><b>SW / HW INFORMATION</b></p> <p>From the 'Settings' menu, rotate the jog up to the 'Info' icon, then press jog</p>	
<p>The first page indicates the software versions of the various cards installed on the machine (in case of FRD, only HMI, PLC and INV1)</p>	
<p>Rotate the jog to the left to display the second page, which contains the serial number of the various cards installed on the machine (in case of FRD, only HMI, PLC and INV1)</p>	
<p><b>RESETTING THE CYCLE COUNTER</b></p> <p>From the 'Settings' menu, rotate the jog up to the counters page. The values of the partial counter (P) and of the total counter (T) are displayed.</p> <p>To reset the values (as user "Service" is only possible to reset P, as "Robopac" both) press the jog to enter the page, at the top shows the message RESET? NO.</p> <p>Turn the jog to show the word RESET? YES and press the jog.</p> <p>To exit the screen, with the word RESET? NO press the jog.</p>	 

<p><b>ELECTRONIC CARDS STATUS</b></p> <p>From the 'Settings' menu, rotate the jog up to the I/O icon and press jog The same menu can be reached during the processing cycle by pressing the jog from the settings page (wrench)</p>	
<p>The first pages indicated the status of digital and analogue inputs and of the digital outputs</p>	
<p>The four following pages show the status of the 4 engines (Table, Cart, Shooting, unused extra) with:</p> <ul style="list-style-type: none"> <li>• Communication time [ms]</li> <li>• driver temperature [° C]</li> <li>• DC bus voltage [V]</li> <li>• Torque current [A]</li> <li>• current speed [Hz]</li> <li>• running Command</li> <li>• required speed [Hz]</li> </ul>	
<p>Card information page PRE S03 ROB (valid only on PGS)</p> <ul style="list-style-type: none"> <li>• the value of the load cell</li> <li>• Communication time</li> <li>• Input status</li> <li>• Output status</li> </ul>	
<p>Page counters Modbus communication errors</p> <ul style="list-style-type: none"> <li>• HMI</li> <li>• Inverter 1</li> <li>• Inverter 2</li> <li>• PRES03ROB</li> </ul>	

## CHANGE PASSWORD MACHINE MANAGER

Function available only if the login has been carried out as 'MACHINE MANAGER'.

From the menu, select "Settings" and press jog.  
Rotate up to the "change Pwd" item and press jog



The first screen needs a confirmation to proceed, so press jog.

The screen with a key requires the new password (from 1111 to 9999), rotate the jog to change the value.  
Continue rotating in the same direction to increase the number of increases per click. By stopping the rotation, it goes back to one increase per click.  
Press jog to select the desired value



The screen with two keys requires confirmation of the value just entered; proceed as above and press jog





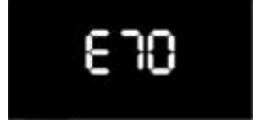
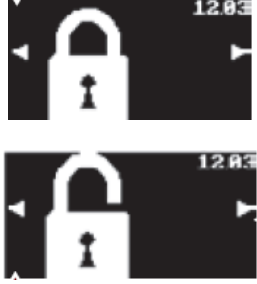


If the two values coincide, the screen with the check mark and the new 'MACHINE MANAGER' password is displayed. Otherwise, the password stays the same.














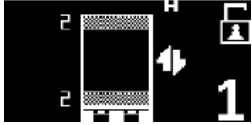




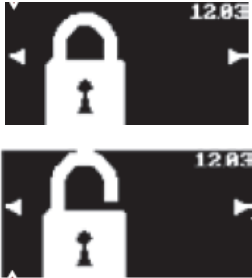
## KEYBOARD LOCK FUNCTION

(Version 1.0)

<p>With the user selection level 'MACHINE MANAGER',   select 'Settings' and press jog..</p>	
<p>Turn the jog to the icon 'Unlocked Panel'</p>	
<p>Jog pressing the panel is locked and the icon 'Locked' Panel</p>	
<p>In this way you can not make changes to the data of the recipes of the work programs.</p>	
<p>To Unlock the back panel, select the icon 'Locked panel' and press jog.           It looks like the icon of 'Unlocked Panel'</p>	

(Version 2.0 and later)

<p>With the user selection level 'MACHINE HEAD',  in Easy mode  from the Main page you can arm / disarm the keylock by holding down the Jog for at least 5 seconds.</p>	
<p>Turn the jog to the icon 'Unlocked Panel'</p>	
<p>Jog pressing the panel is locked and the icon 'Locked' Panel</p>	
<p>In this way you can not make changes to the data of the recipes of the work programs.</p>	
<p>To Unlock the back panel, select the icon 'Locked panel' and press jog.</p> <p>It looks like the icon of 'Unlocked Panel'</p>	

<p>With the user selection level 'MACHINE HEAD'  ,in Easy mode  and Advanced  from the main page you can arm / disarm the keylock by holding down the STOP button for a few seconds.</p>	 
<p>From the screen that appears pallet counter rotate the jog to the icon 'Unlocked Panel'</p>	
<p>Turn the jog to the icon 'Unlocked Panel'</p>	
<p>Jog pressing the panel is locked and the icon 'Locked' Panel</p>	
<p>In this way you can not make changes to the data of the recipes of the work programs.</p>	
<p>To Unlock the back panel, select the icon 'Locked panel' and press jog.</p> <p>It looks like the icon of 'Unlocked Panel'</p>	



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## MACHINE CONFIGURATION AND INTERNAL PARAMETER LIST

To edit the parameters in the list below, we suggest you contact a Robopac technician

Machine Configuration Parameters (Vers. Sw Pack\_Masterplat\_2.0 – 3.0)

PARAMETER	DESCRIPTION	VALUE	FRD (DEF)	PGS
1	Carriage Type	0 = FRD 1 = PGS	0	1
2	Film Brake Alarm On	0-1	0	1
3	Enable U.S.A. display	0-1	0	0
4	K_GAIN	0-200	125	125
5	K_TMIN (Minimum Force to Load)	0-200	20	20
6	K_DELTA (Max Force to Load)	0-100	30	30
7	Table diameter	0=1500 mm 1=1650 mm 2=1800 mm	1	1
8	Transpallet Enable	0-1	0	0
9	Pressure Platen Enable (Pneumatic)	0-1	0	0
10	Simulation Enable	0-1	0	0
11	Restart Time	0 = Disable xx = seconds of wait	0	0
12	Carriage Model	0 = Standard 1 = Freezer / Inox	0	0



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To edit the parameters in the list below, we suggest you contact a Robopac technician

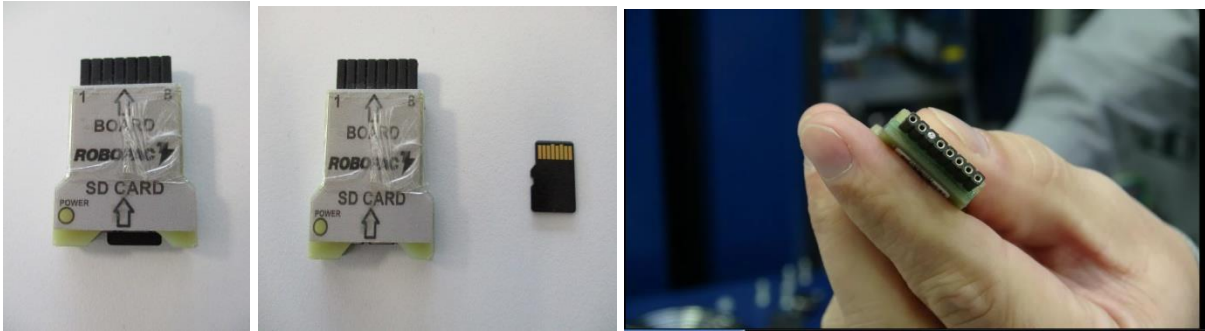
Motors Parameters (Vers. Sw Pack\_Masterplat\_2.0 – 3.0)

PARAMETER	DESCRIPTION	VALUE	DEFAULT			
			1 (TABLE)	2 (CARRIAGE)	3 (FILM DRIVE)	4 (NOT USED)
1	FW version					
2	Bootloader version					
3	Minimum frequency	0-20 (Hz)	0	0	0	0
4	Maximum frequency	0-100 (Hz)	100	100	100	100
5	Acceleration	0-999 (Hz/sec)	(25) - 12	200	200	200
6	Deceleration	0-999 (Hz/sec)	(22) - 12	200	200	200
7	Maximum current	0-10 (A)	7	5	5	5
8	Average current	0-100 (dA)	50	25	25	25
9	Rated frequency	0-100 (Hz)	50	72	72	72
10	Boost voltage	0-100 (%)	5	5	5	5
11	Point 1 frequency	0-100 (Hz)	10	10	10	10
12	Point 1 voltage	0-100 (%)	20	16	16	16
13	Motor type	0-5	0	0	0	0
14	Positioning on	0-1	0	0	0	0
15	I Max Low Frequency	0-100	50	25	25	25
16	Feedback Value	0-6	0	0	0	0
17	Early low speed	0-999	100	0	0	0
18	Low speed value	0-999 (dHz)	50	50	50	50
19	Fast deceleration (Hz/sec)	0-999 (Hz/sec)	100	65	65	65
20	Communication Timeout	0-100 (ms)	30	30	30	30

**PROCEDURE FOR REPLACING, LOADING SOFTWARE AND CALIBRATION OF ELECTRONIC CARDS**

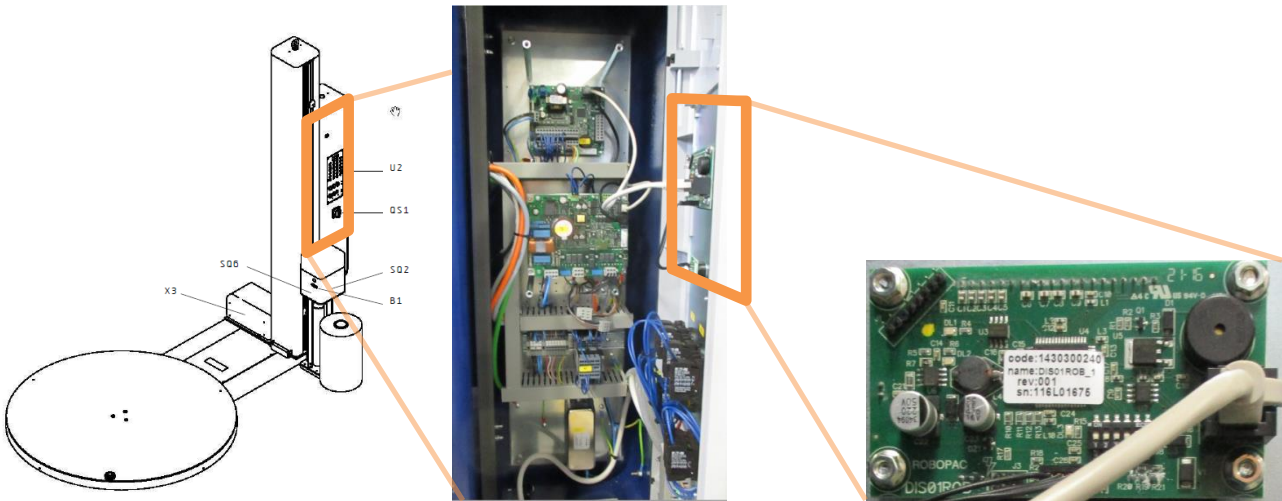
If you were to perform a software update is on Display Panel (U3) that the PLC adapter (U1) must be in possession of the following Key Programming + SD Card and related software.

Copy the files of the Panel Display software and the PLC card on SD Card on a basic level (no directory).



### DISPLAY PANEL (U3)

In case you need to perform a software update on both touch screen panel (HMI) and the PLC card, you must always start from the download of the panel software.



### New installation

The new display panel DIS01ROB is supplied as a spare part WITHOUT software

- Mount mechanically the new display panel in place of the faulty part



- Wire electrically the new display panel and set the dip switch as indicated



**New Installation or Software update**

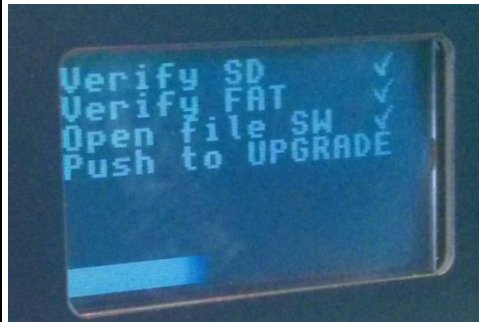
- Switch off the machine
- Insert the programming key with the corresponding SD (the same key card used to program the PLC) with previously installed software into the SD connector.



- Switch on the machine

They will see the following screens with related procedures :

After briefly shows the next screen: hold down the jog until the completion of the lower white bar.



This starts the automatic software load procedure. When the procedure is shown for a few seconds by side (all entries have a check mark next to, in the case of error is shown an x next to the wrong entry screen). The display will automatically restart.



You are prompted to perform the software update. The jog rotation lets you choose NO / YES, to go forward, press the jog.

DO NOT MAKE the UPGRADE as was done in step 1



You are prompted to upgrade the image. The jog rotation lets you choose NO / YES, to go forward, press the jog.

Turn to YES and press the jog. Wait for completion of the procedure (15 seconds) until the appearance of the next screen



You are prompted to reset the data memory.

The jog rotation lets you choose NO / YES, to go forward, press the jog.

DO NOT MAKE THE RESET because the memory is still empty.











- When finished remove the programming key with its SD card from its connector SD.

The software installation procedure is now complete.

We need to run the machine initialization procedure (see procedure) to fully restore the machine operation.

### Initialization machine

Starting the machine	
Press the RESET pushbutton	
<p>The HOME screen will now appear; the programming key contains a release file for automatic access at the Robopac security level</p> <p>Otherwise, proceed with the user access procedure.</p>	
<p>Press jog to access the menu and proceed until you reach the Parameters page, after which press jog again.</p> <p>Hold STOP for more than 5 seconds to access the 'Settings' menu. Turn the jog to the Parameters page and press the jog.</p>	
<p>To set the default parameters, select the 'DEF' menu item, press jog and rotate towards the right until a check mark is displayed. Keep pressing jog until the second check mark appears. Press once again to exit.</p>	
<p>Edit the parameters based on the machine configuration. Once the procedure is completed, position the cursor on the 'Back' menu item and press jog.</p>	
<p>Press jog to access the menu and proceed until you reach the Motors page, then press jog again.</p>	
<p>To set the motors default parameters, select the 'DEF' menu item, press jog and rotate towards the right until a check mark is displayed. Keep pressing jog until the second check mark appears. Press once again to exit.</p>	
<p>Each motor (identified by the number at the top right) has 20 parameters (identified by the number at the bottom right)</p> <p>MOT 1 → Table MOT 2 → Carriage MOT 3 → Stretch</p> <p>If necessary, manually edit the motor parameters to change the default values (Only Robopac User).</p>	

**Recipes Default****Recipes Default**

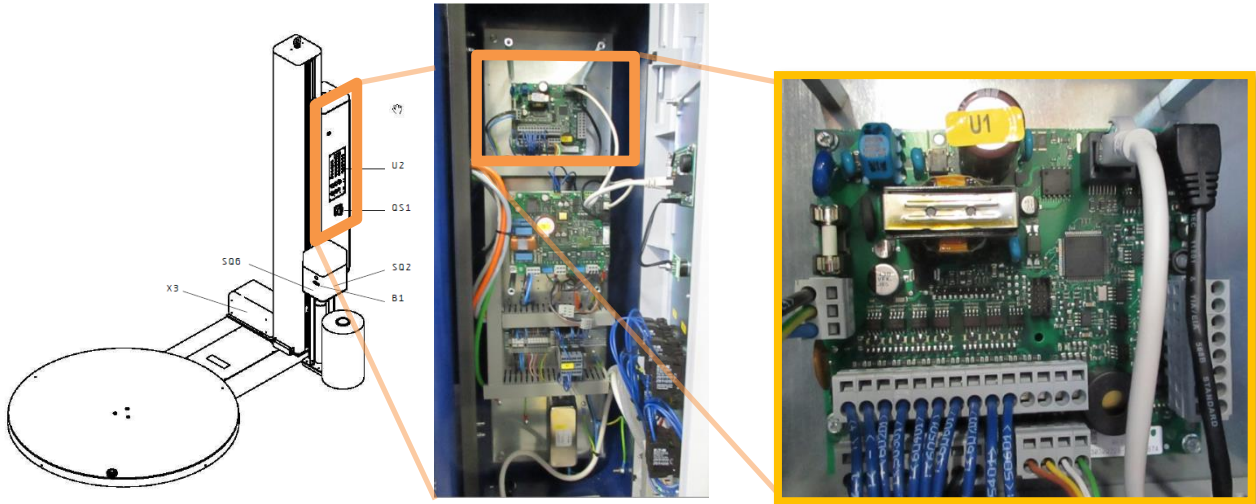
From the 'Settings' menu, turn the jog up to the default page recipes. Procedure to be performed before shipping the machine.

Press jog, turn right until you show a tick.  
Press and hold the jog until the onset of the second check.  
Press again to exit.



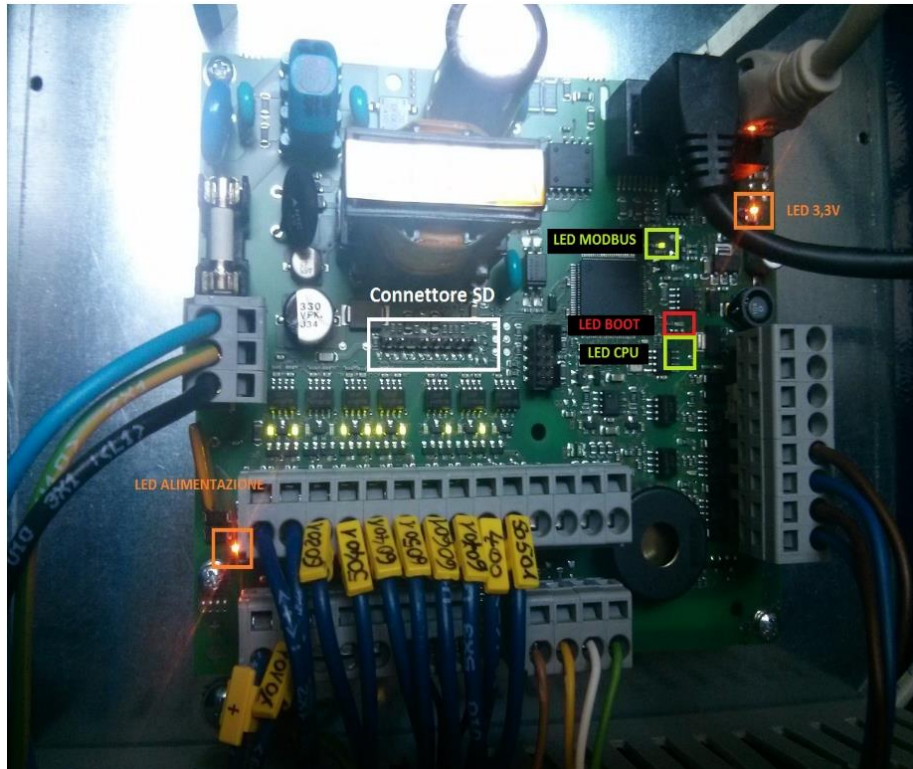
**PLC CARD(U1)****New Installation or Software Update**

This electronic card is supplied as spare part WITHOUT software

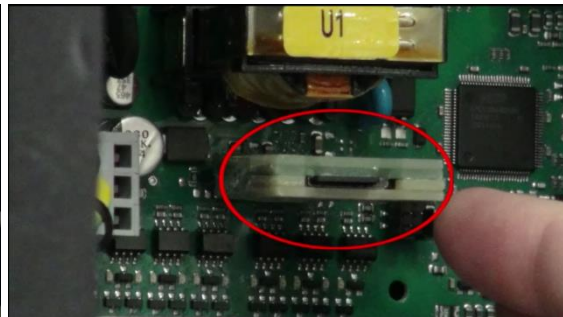
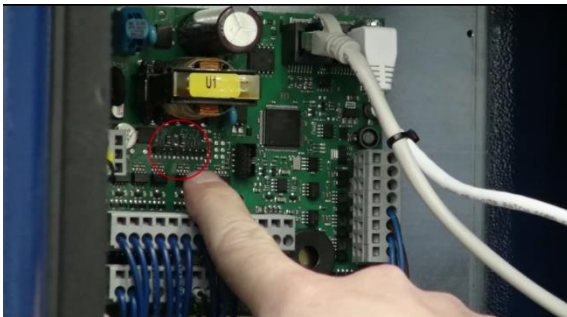



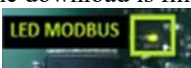

Recover the original software version of the machine and install it on the Micro SD card.

Follow the PLC card software loading procedure as described below:



- Switch off the machine
- Mount mechanically the new card in place of the faulty card.
- Wire electrically the new card.
- Insert the programming key with the corresponding SD with previously installed software into the SD connector.

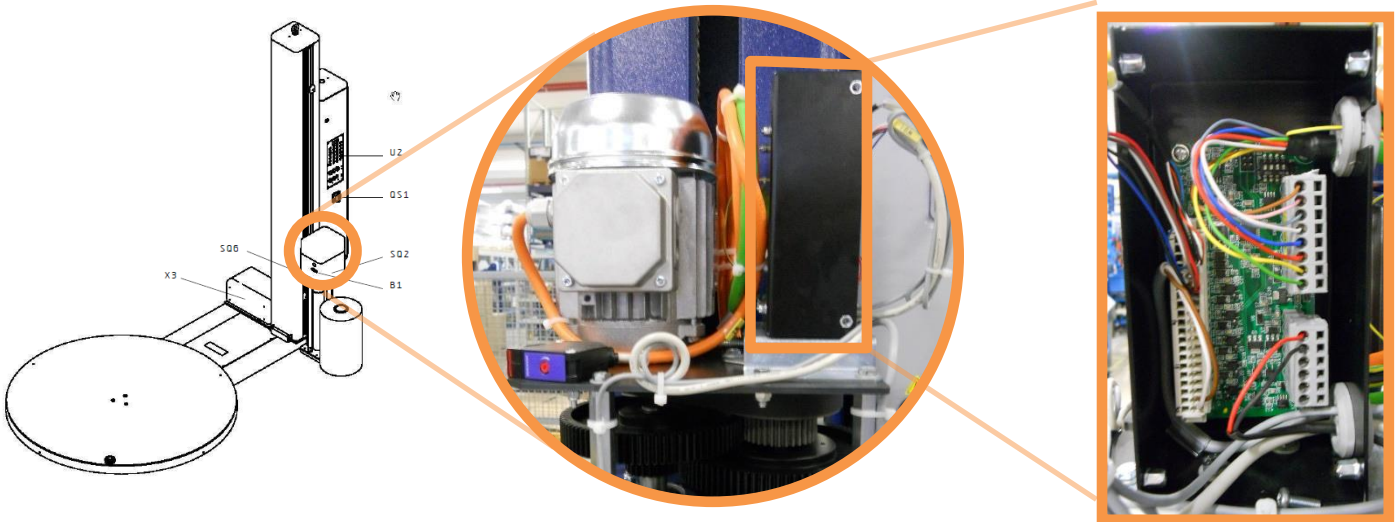


- Switch on the machine.
- The red LED (LED boot)  lights for a second
- The next flashing (about 2 seconds) indicates the software download
- When the download is finished successfully, the red LED turns off permanently and starts flashing the green LED (led Modbus)  and (non-alarm) the two LEDs (LED CPU) 
- Switch off the machine
- Remove the programming key with its SD card from its connector SD.

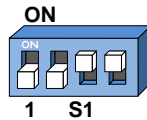
### EXPANSION CARD (U11)

#### New Installation on the carriage of the PGS version machines.

This electronic card is provided as spare part COMPLETE with software.



- Switch off the machine.
- Mount mechanically the new card in place of the faulty card.
- Wire electrically the new card.
- Place the S1 switches of the card as follows:



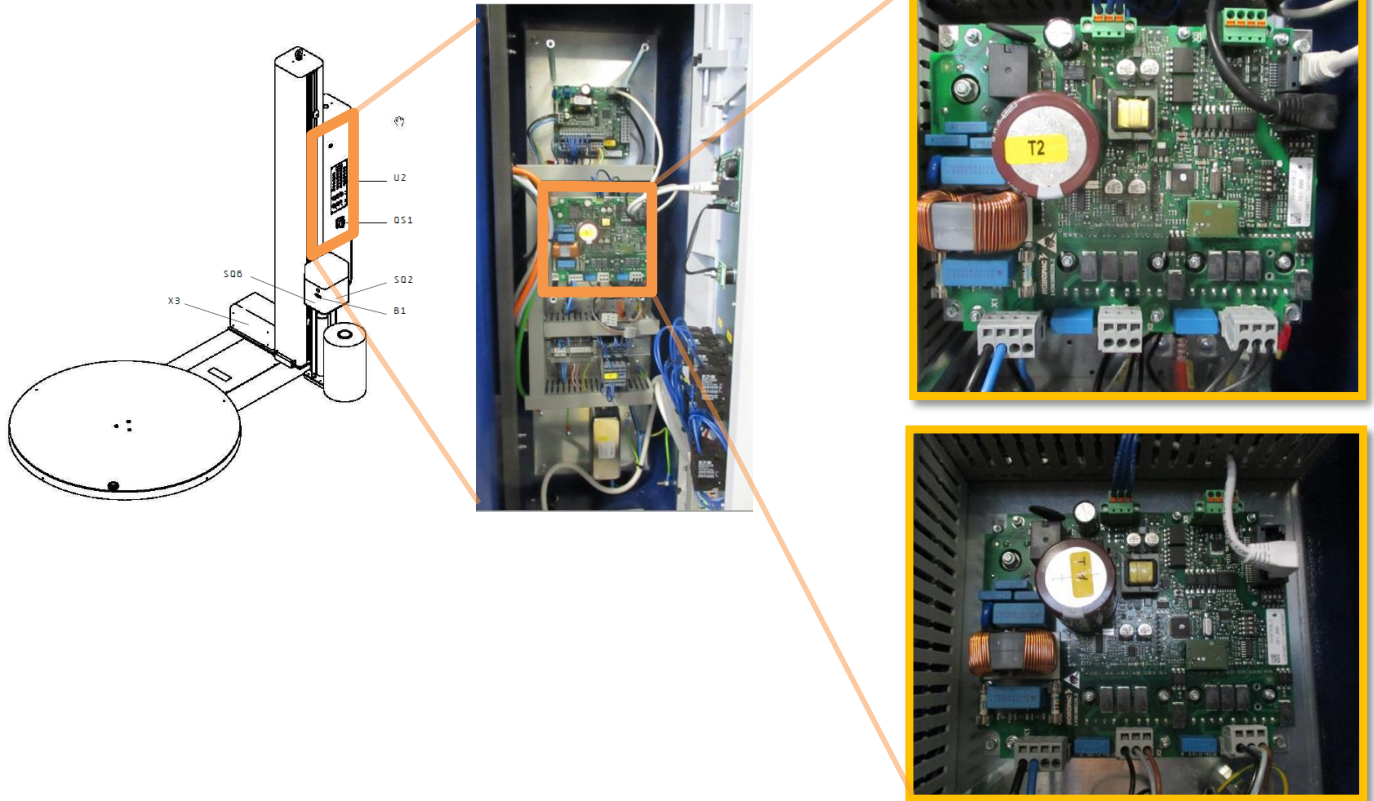
- Switch on the machine.
- Remove the film from the last carriage reel (the one connected to the load cell)
- Calibrate the load cell by following the procedure below:

#### RESETTING THE LOAD CELL (PGS only)

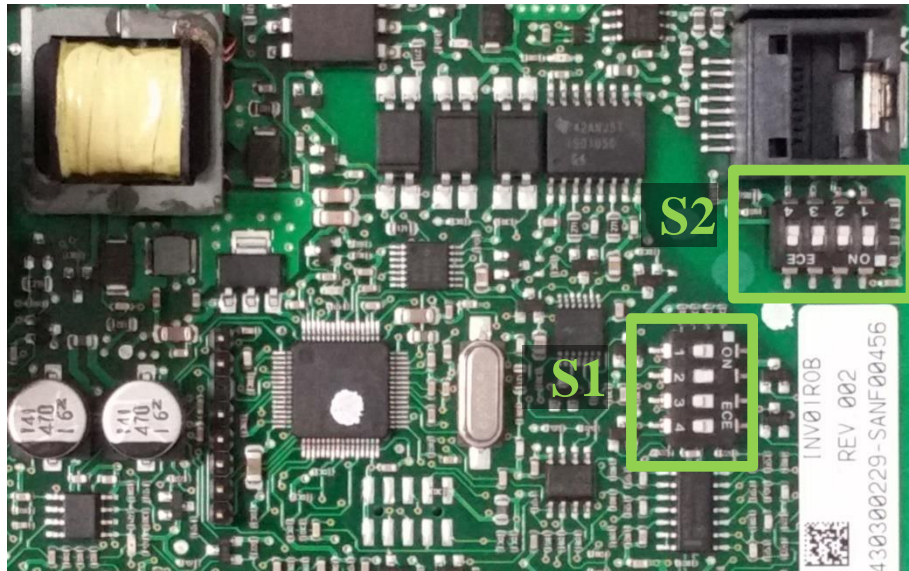
<p>Select the operator level MACHINE MANAGER or SERVICE.</p>	
<p>From the Setting menu, turn the jog down to icon "load cell" and press the jog</p>	
<p>Release the film exit roller, where the load cell is located. Keep pressing jog. The new OFFSET value is about 10 units higher than the actual CELL value.</p> <p><b>N.B.</b> CELL values included between OFFSET - 35 and OFFSET + 15 are acceptable.</p>	

**INVERTER CARD (T1 – T2)****New Installation**

This electronic card is provided as spare part COMPLETE with software.



- Switch off the machine.
- Mount mechanically the new card in place of the faulty card.
- Wire electrically the new card.
- Place the S1 and S2 switches of the card as follows:



<p><b>Inverter Card T1</b> - Table Rotation Motor - Up/Down Carriage Motor</p>	
<p><b>Inverter Card T2 (Film Drive Motor)</b> - Film Drive Motor (PGS Only)</p>	

- Switch on the machine
- Set the card configuration using the following procedure:

<p>From the 'Settings' menu, turn the jog to the Motors page, and press the jog</p>	
<p>To set the motors default parameters, select the 'DEF' menu item, press jog and rotate towards the right until a check mark is displayed. Keep pressing jog until the second check mark appears. Press once again to exit.</p>	
<p>Each motor (identified by the number at the top right) has 20 parameters (identified by the number at the bottom right) MOT 1 → Table MOT 2 → Carriage MOT 3 → Stretch</p> <p>If necessary, manually edit the motor parameters to change the default values (Only Robopac User).</p>	

## PRODUCT HEIGHT DETECTION PHOTOCELL CALIBRATION

### Standard photocell (for clear products)

Adjust the photocell sensitivity trimmer to load centre



### Dark product photocell

#### Suppression distance setting

##### 1. Object detection

Position object to detect in front of the sensor at the distance required.  
Turn distance adjustment trimmer (ADJ) to minimum: yellow LED OFF and green LED ON.



Rotate trimmer in a clockwise direction until the yellow LED and green LED turn ON. *Object detection condition (A status of position indicator)*



A

##### 2. Background suppression

Remove object and ensure that the background is in front of the sensor: yellow LED OFF and green LED ON.



Rotate trimmer in a clockwise direction until the yellow LED and green LED turn ON: *background detection condition (B status of position indicator)*.



B

The trimmer reaches maximum level with yellow LED OFF if the background is outside the operating range.

Rotate trimmer in an anticlockwise direction until yellow LED turns OFF and green LED ON: *condition where background is outside operating range (C status of position indicator)*.



C

##### 3. Setting and control

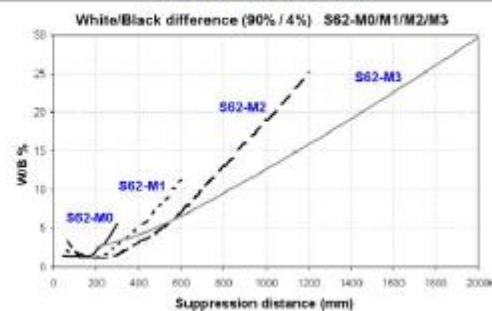
Rotate trimmer in an anticlockwise direction until the indicator reaches an intermediate point between position A and C.




If position A and C are close to each other, leave trimmer on position C. The sensor is now ready to function correctly and in stable conditions:



#### DETECTION DIAGRAM



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## REMOTE CONTROL INSTALLATION & SETTING

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To install the remote control it is necessary to perform the procedure of RX & TX codes in self-learning of the receiver.

### New code setting

- 1.1. Set the dip switch 1 & 2 to OFF.
- 1.2. For the channel 1, press the button P1 till the related led will become ON (LED1).
- 1.3. Press the (START) push button of the remote and keep it pressed until the second led will become ON too (the second led makes a blink).
- 1.4. Release the (START) push button of the remote
- 1.5. The receiver will confirm the successful setting by a double blinks (2) of the two leds
- 1.6. In case of failed setting, the receiver will turn OFF the related led of the channel and will not make any double blink of setting confirmation. If the memory of the codes is full, the receiver will advise this event by seven (7) blinks of the two leds.
- 1.7. For the channel 2, press the push button P2; the other operations works the same as above (setting the STOP push button of the remote).

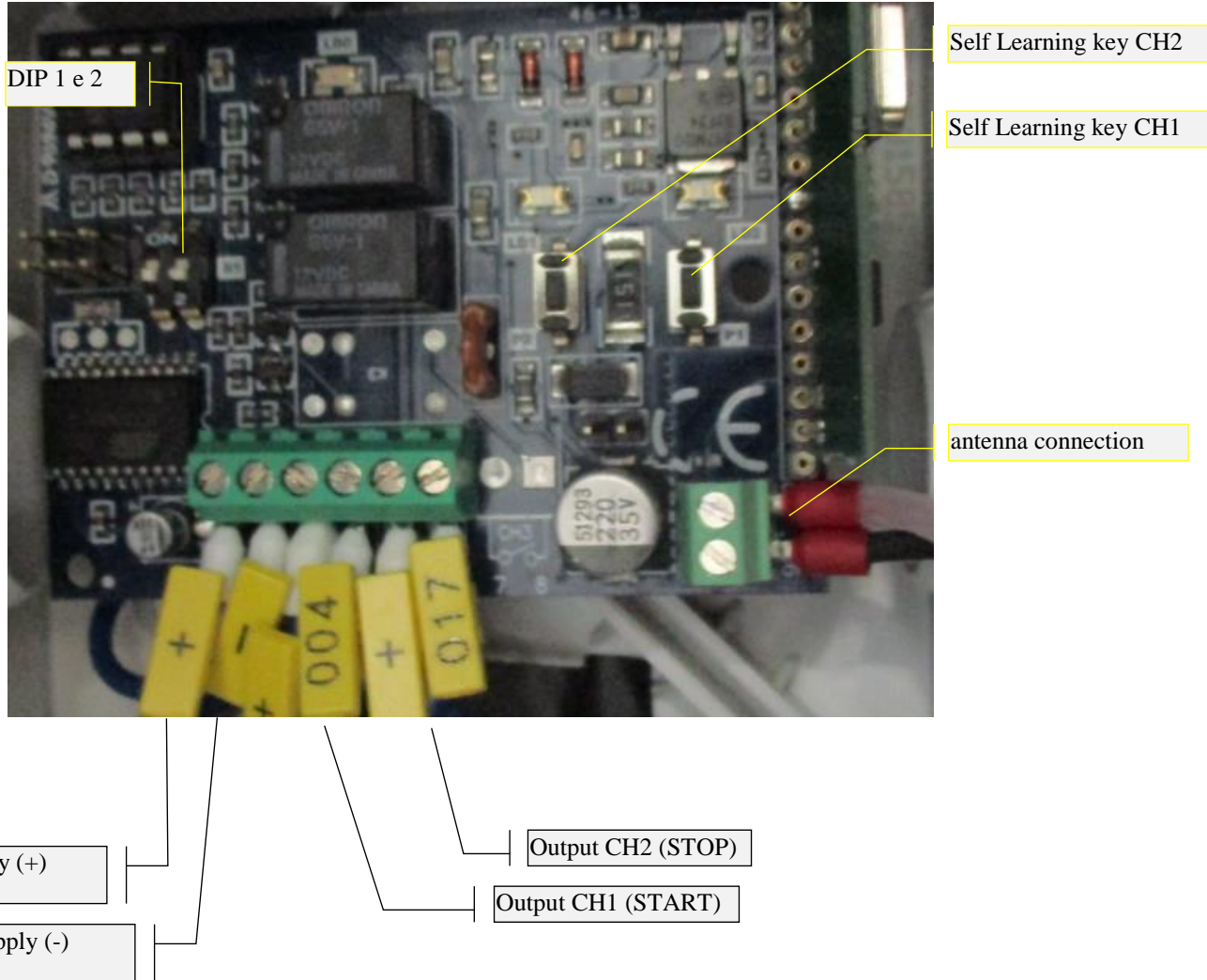
### Set code deleting

- 2.1. Press the push button P1 (or P2) until the related led will become ON LED1 (or LED2).
- 2.2. Press the push button Ch.1 (or Ch.2) of the remote.
- 2.3. The receiver will confirm the successful deleting by five (5) blinks of the two leds
- 2.4. In case of failure on the receiver the related led of the selected channel and will not make the five blinks of confirmation.

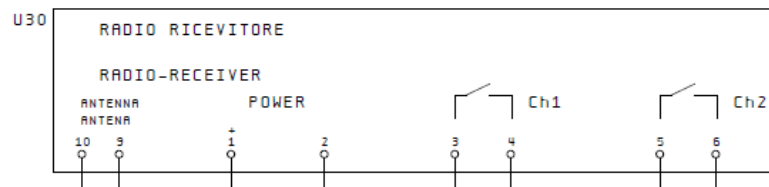
### All set code deleting

- 3.1. Press the push button P1 until the LED1 will become ON and keep it pressed until it will become OFF again..
- 3.2. On the receiver will become ON the LED1, and after 7 seconds will become OFF again giving confirmation of the deleted codes.

RECEIVER RADIO CARD (code 1430300157)



RECEIVER RADIO CARD DESCRIPTION

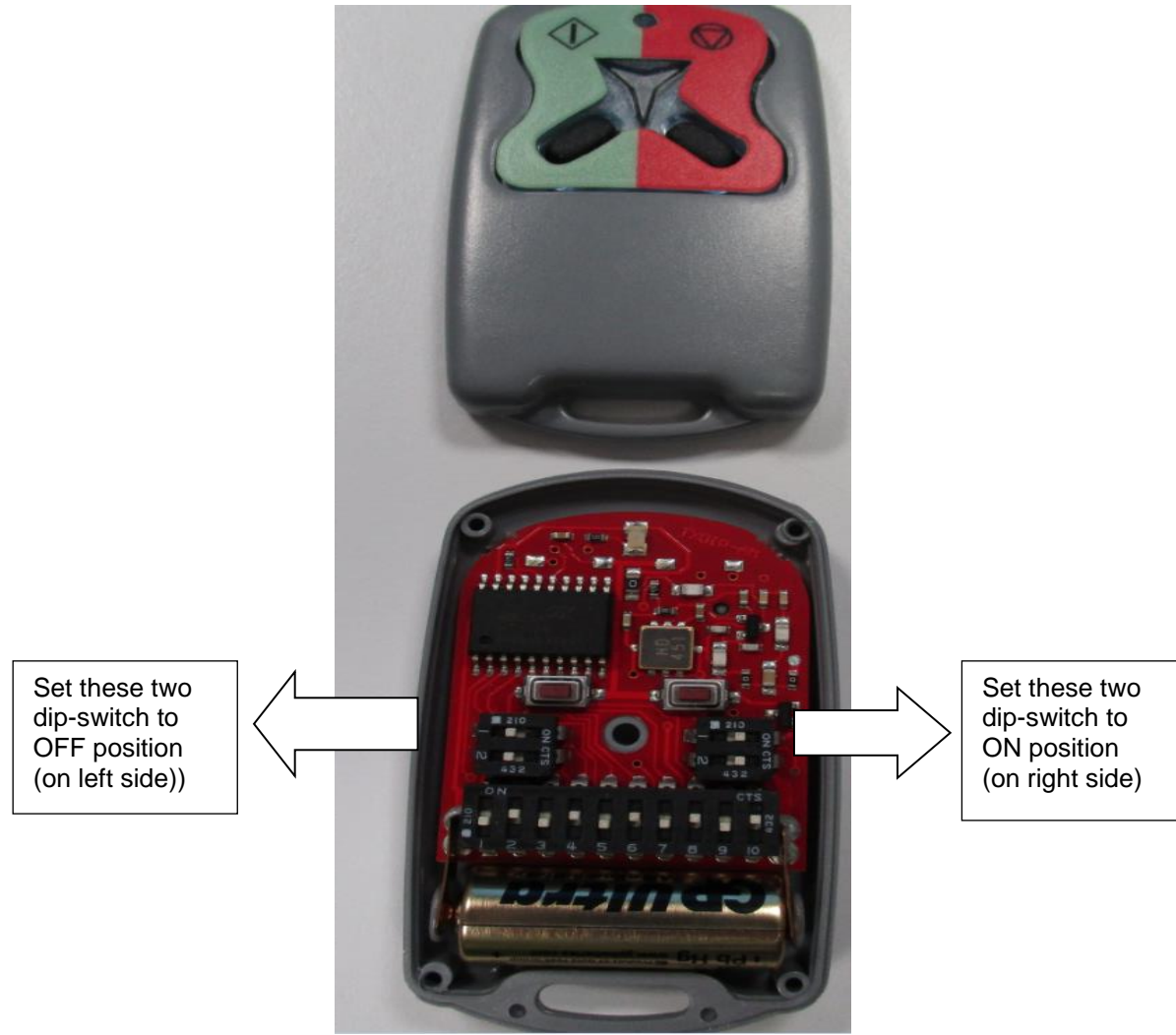


ELECTRICAL CONNECTION




9,10	Central "Antenna" – Sock "Antenna"
3,4	N.O. contact channel 1 (START)
5,6	N.O. contact channel 2 (STOP)
1	0 V ac,dc
2	+12V,+24V ac,dc


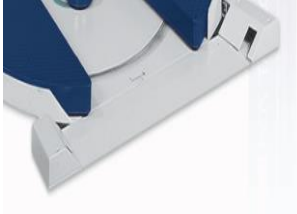
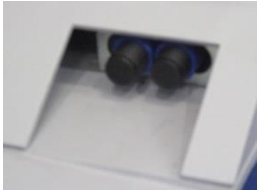

TECHNICAL CHARACTERISTICS


Power supply	+12V,+24V ac,dc
Consumption	50 mA
Receiver Frequency	433.92 MHz e 30.875 MHz
Min / Max. temperature of workng	-25°C +70°C
Dimensions	+12V,+24V ac,dc





**REMOTE CONTROL EMITTER CARD CONFIGURATION (code 0590300000)**


## ALARM LIST AND TROUBLESHOOTING


Alarm code	Alarm description	Troubleshooting	Cause of the fault	Solution
	<b>Emergency push button pressed</b>	Check the SB1 emergency press button contact.  Check input IN 2 (Led H2) on the PLC board.	Contact broken	Turn and lift the mushroom head button and press RESET  Replace the SB1 emergency limit stop contact
		<b>Carriage descent Safety Alarm</b>	Carriage descent emergency	Obstacle between floor and carriage
		Check the conditions of the limit stop connected to the emergency plate.  Check input IN 1 (Led H1) on the PLC board	The safety limit stop connected to the metallic plate is broken	Replace the mechanical limit stop

	<p><b>Forklift photocell alarm</b></p>   	<p>Check emergency photocell alignment with the reflector.</p>	<p>Incorrect photocell alignment with reflector</p>	<p>Newly align the photocells</p>
			<p>Photocells damages or wiring disconnected</p>	<p>Replace the emergency photocell or fix wiring</p>
		<p>Check correct emergency photocell operations</p> <p>Check input IN 7 (Led H7) on the PLC board</p>	<p>The machine PLC main board is defective</p>	<p>Replace the PLC main board.</p>
		<p>Check photocell alignment with the reflector</p>	<p>Improper alignment photocell with reflector</p>	<p>Newly align the photocell.</p>
	<p><b>Roller lock forklift photocell alarm</b></p>	<p>Check correct emergency photocell operations</p> <p>Check input IN 7 (Led H7) on the PLC board</p>	<p>Photocells damages or wiring disconnected</p>	<p>Replace the emergency photocell or fix wiring.</p>
			<p>The machine PLC main board is defective</p>	<p>Replace the PLC main board.</p>

 <p><b>Motor Index:</b> 1= Table rotation 2 = Carriage 3 = Stretch</p> <p>Numerical value: numerical combination used to identify errors</p>	<p><b>Motor Fault</b></p> <p><b>Driver L/H</b> Wrong motor enabling voltage</p> <p><b>Driver A/B</b> No motor enabling</p> <p><b>Over V / Max V /Under V</b> Wrong motor supply voltage</p> <p><b>HW Max I</b> Instantaneous overcurrent (cannot be parametrised)</p> <p><b>Max I / Int I</b> Overcurrent (brief / integral) on motor (in relation to motor parameters)</p> <p><b>OverHeat</b> High temperature</p> <p><b>Phase</b> Motor incorrectly connected</p> <p><b>P Wrong</b> Positioning command not consistent with motor parameters</p> <p><b>Comm</b> Communication error (see Error 83)</p>	<p>Disconnect the motor indicated in the error message from the PLC main board and start a cycle.</p>	<p>If the error message no longer appears, it could be a motor fault</p>	<p>Replace the motor.</p>
		<p>Possible gear motor fault.</p>	<p>If the message persists, it could be a PLC board fault</p> <p>Possible gear motor fault..</p>	<p>Replace the PLC card.</p> <p>Replace the gear motor</p>

	<p><b>Film break alarm</b> (Only PGS)</p>	Film not connected to the product		Replace the film reel on the carriage or re-attach the edge of the film to the product and press START.
		<p>Check correct load cell operations (extensometer)</p>	The load cell does not send the signal to the signal amplifier board.	Replace the load cell (extensometer).
			The load cell correctly operates	Replace the cell signal amplifier/pre-stretch motor inverter board.
	<p><b>Allarme rotazione tavola</b></p>  	Check revolution counter sensor position (the alarm appears with there is no PLC input signal for at least 2 table revolutions)	Incorrect sensor position.	Correctly reposition the sensor
		Check correct sensor operations	Possible sensor and relevant wiring fault	Replace the sensor
		Check input IN 12 (Led H12) on the PLC board.	Possible PLC board fault	Replace the PLC board.

	<b>Carriage speed alarm</b>	<p>The carriage is not lifted at the set speed. Check correct motor connection</p>	<p>Possible motor failure or failure associated wiring.</p>	<p>Replace the motor and restore the connection.</p>
		<p>Check connection of the up-down motor carriage and access to the T1 card.</p>	<p>Possible T1 board fault (lower level).</p>	<p>Replace the T1 board (lower level).</p>

 <p><b>Inv U1</b> (Table + Carriage) <b>Inv U2</b> (Stretch + Pre-stretch) <b>PRES</b> (Load cell reading card) <b>HMI</b> (operator panel)</p>	<p><b>Communication alarm.</b></p> <p>The screen displays the cards that show the communication alarm simultaneously.</p>	<p>Check the connections to the various devices.</p>	Possible communication wire fault	Replace connection wire.
		<p>If necessary, try again by connecting one device at a time.</p>	Possible electronic board fault	<p>Replace the electronic board.</p> <p>On display put Dipswitch 4 = ON</p> <p>Turn on the machine Enter password Service</p> <p>Change parameters</p> <p>Press up arrow switch off</p> <p>return DIP switch 4 = OFF.</p>

<b>Masterplat FRD - PGS</b>	The carriage remains still (does not lift or lower)	Check the mechanical high and low limit stops	One or both mechanical limit stops are defective.	Replace defective mechanical limit stops.
		Make sure the high and low position limit stops correctly send the signal to the power board.	Possible high and low mechanical limit stop electrical fault or wires disconnected	Replace the mechanical limit stop or restore wiring
		Check PLC board operating conditions	Possible PLC board fault	Replace the PLC board.
<b>Masterplat FRD - PGS</b>	Film breaks during product wrapping or not appropriately applied to the load (too tight or too loose)	Make sure film is correctly applied on the carriage and, especially, that it "embraces" the last roller where the film sensitivity sensor is installed.	Incorrect film threading on the reel carriage	Correctly load film on the machine and make sure it is threaded through the path indicated in the machine manual.
		Visually inspect roller conditions	Rollers are dirty and mark film	Clean with pressurised air (do not use thinners)
		Make sure the film sensitivity sensor (extensometer) is not mechanically damaged or incorrectly installed (the dancer roller must be free to move a few millimetres in the upper and lower housings)	The film sensitivity sensor is too tight or mechanically damaged.	Loosen the screws that secure the film sensitivity sensor to the carriage frame and make sure it is correctly installed. If the tool is mechanically damaged, replace it.
		Make sure the film sensitivity sensor (extensometer) is not electrically damaged	Film sensitivity sensor electrical fault	Calibrate the tool (extensometer)
		Make sure the load cell/pre-stretch motor inverter (extensometer) signal amplifier board is not electrically defective	Film sensitivity sensor electrical fault	Calibrate the tool (extensometer)