

PP-1500

SEMI AUTOMATIC PALLET WRAPPING MACHINE

(HMI VERSION)

OPERATION MANUAL

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1. GENERAL

1.1 NOTICE OF INSTALLATION

To make sure a safe and correct operation, please check conditions below before install the machine:

- 1) Power source capacity must be equal of the machine need.
- 2) Machine standard power is 230v (+- 10%)
- 3) Machine standard power Hertz is 50 Hz. (+- 2%)
- 4) Machine is designed for temperature range between 4°C - 45°C
- 5) Make sure the wire is tidy on the ground.
- 6) Ensure flat ground so there is no vibration during operation
- 7) Read and follow the instruction manual

1.2 NOTICE OF OPERATION

To have good protection for the operator, please make sure the following conditions:

- 1) Before operating, please read the machine operational manual carefully.
- 2) Make sure there is no object put on the power cable.
- 3) Make sure there is no object put on the upper carriage unit.
- 4) Avoid any damp object or water around the electric parts.
- 5) Avoid film winded into the turntable.
- 6) Do not stand on or across the machine during operation.
- 7) When the problem occurs, please check the section of 5 Trouble shooting

2. SPECIFICATION

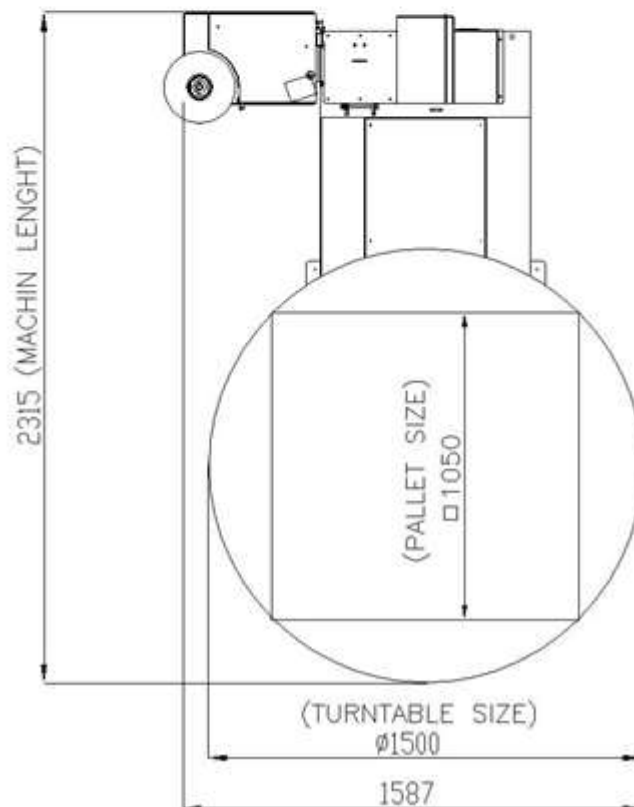
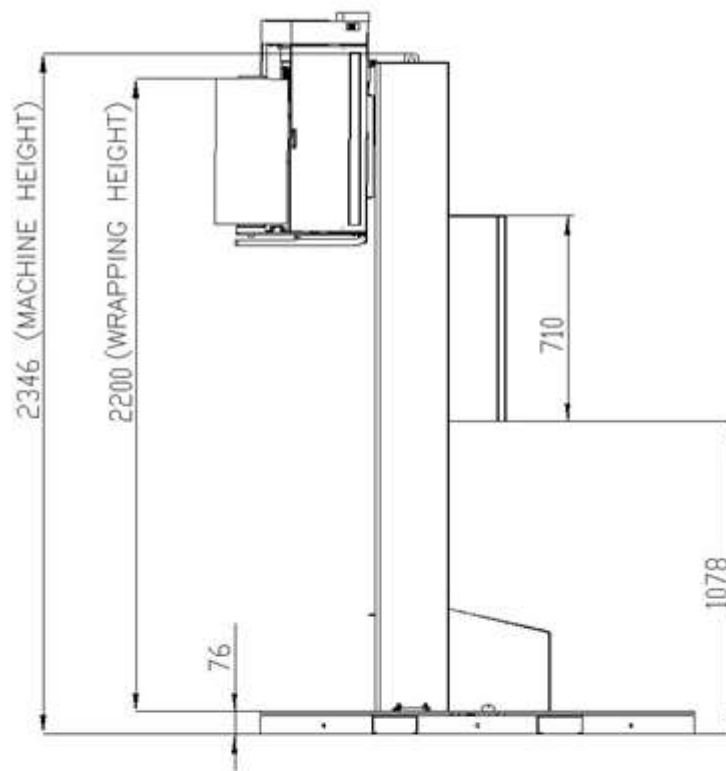
2.1 SPECIFICATION TABLE

Model	PP-1500
Turntable speed	12 RPM
Turntable diameter	1500 mm
Max. Wrapping height	2200 mm
Max. Wrapping size	1050x1050 mm
Max. Loading weight	2200 kg
Film stretch (%)	200% (300%, 250%, 150% optional)
Max. Film spec.	φ250x500 mm
Turntable height	76 mm
Ramp (slope) spec.	1165x1000 mm
Machine size	2315x1587x2346 mm
Machine net weight	394 kg

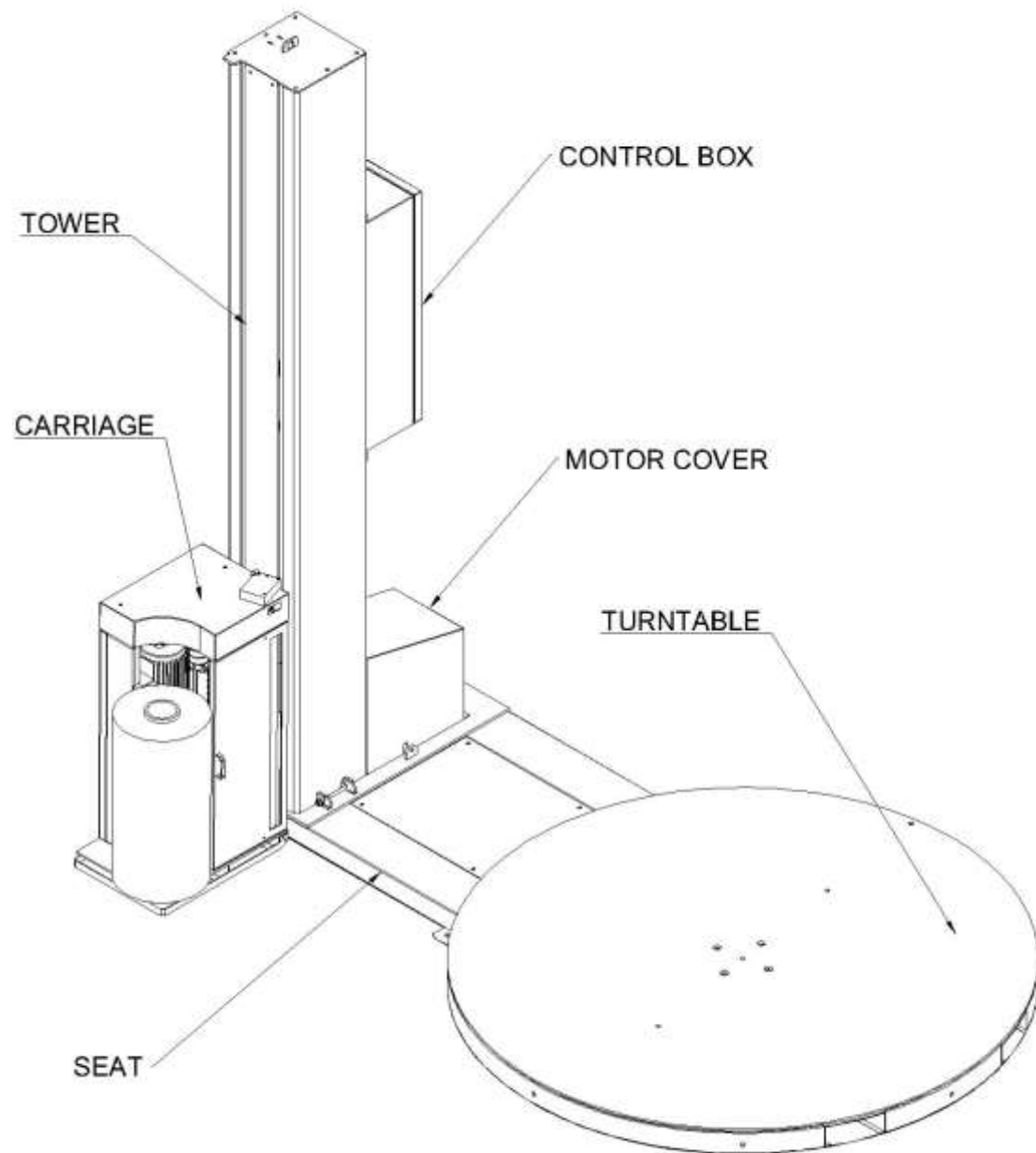
Standard options:

- 2.6 meters wrapping height
- 3.0 meters wrapping height
- Ramp

2.2 MACHINE DIMENSION



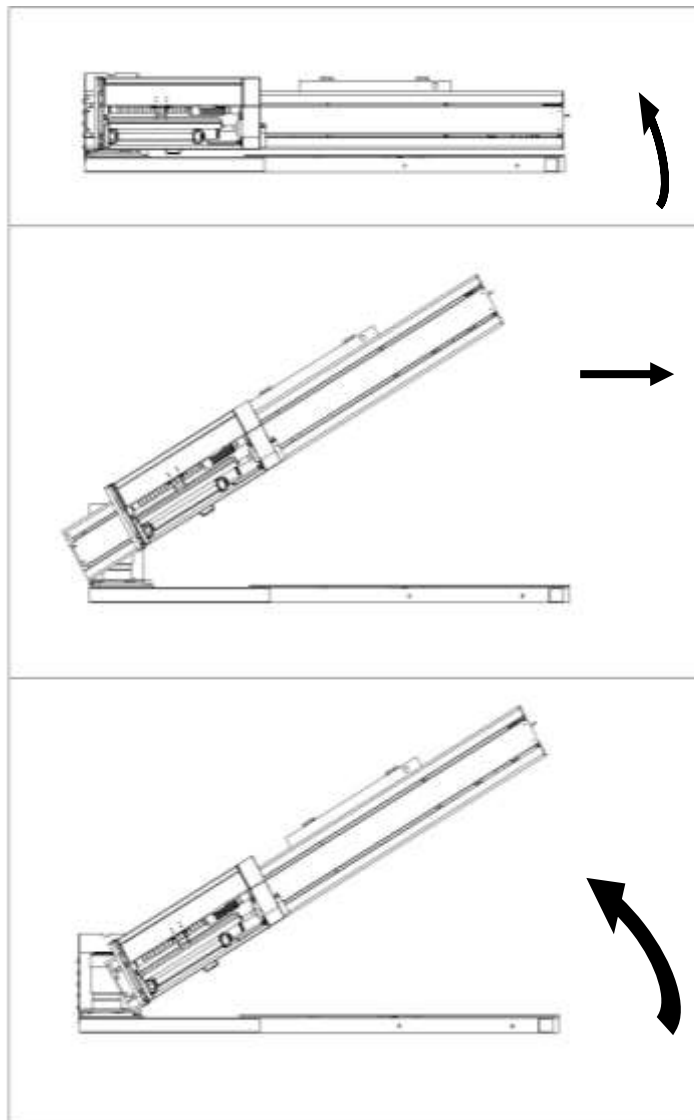
2.3 MACHINE DESCRIPTION



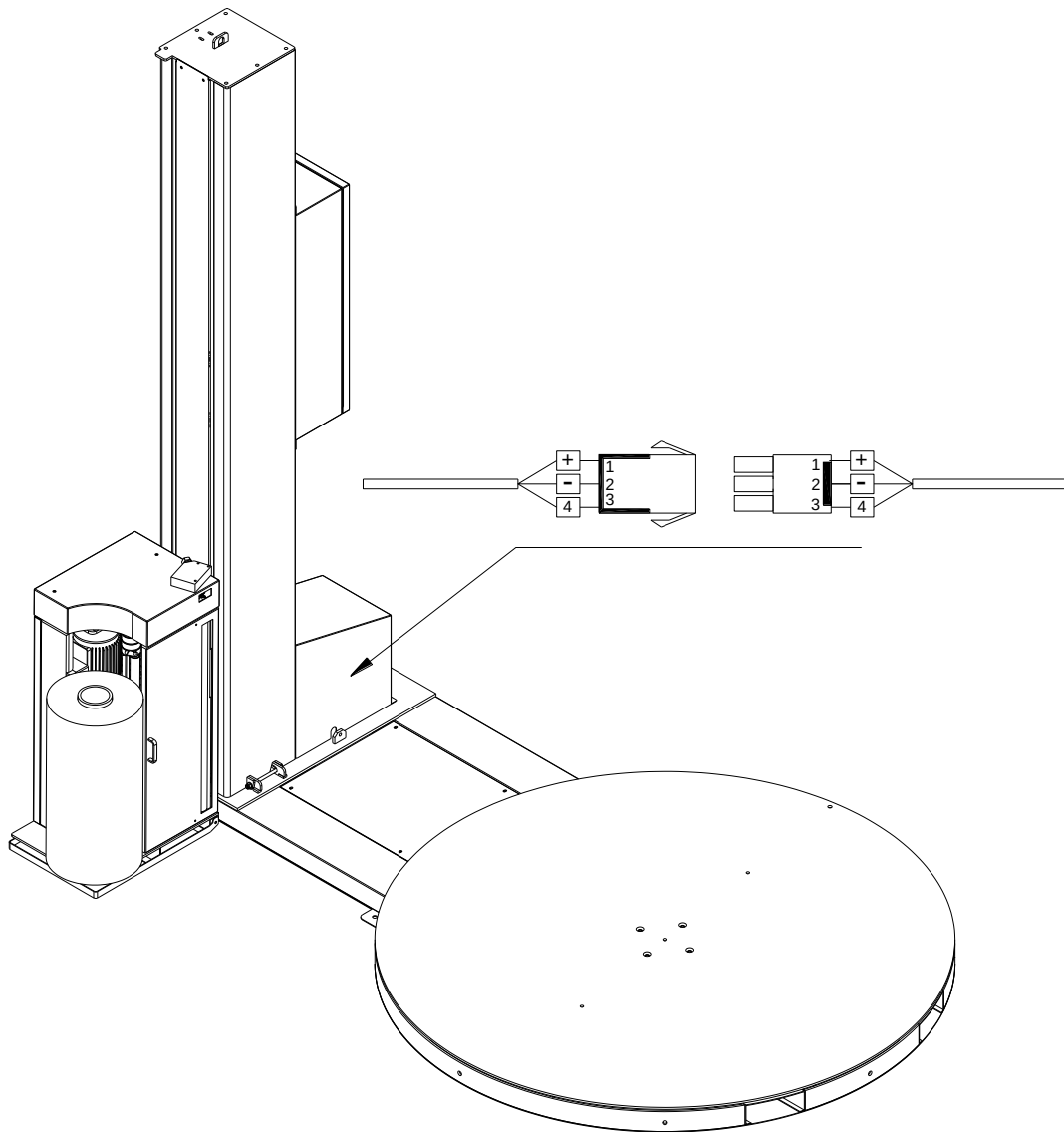
3. OPERATION DESCRIPTION

3.1 INSTALLATION

- 1) Apart the wooden package. Avoid damaging the machine.
- 2) a) Loosing 4 screws at the end of masts °
(Do not unscrew the sliding shaft, leave inside the track).
b) Lift up the mast (Step 1).
c) Sliding the mast towards turntable, until the sliding shaft move into locking position (Step 2).
d) Mast is in position to be fully lifted and tighten all screws (Step 3).



Connect the motor plug to the main control, by referring to the diagram below. Machine is ready to be connecting to the power cable with the socket by an 110V/230V power.



3.2 REMINDER OF INSTALLATION

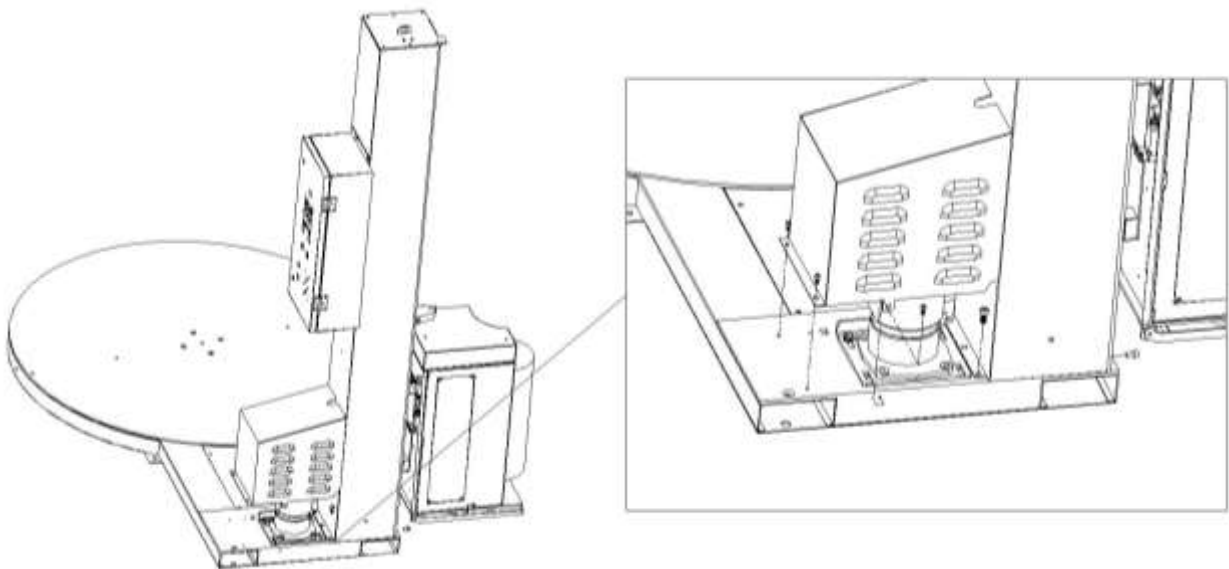
Please pay attention on:

Tower Installation

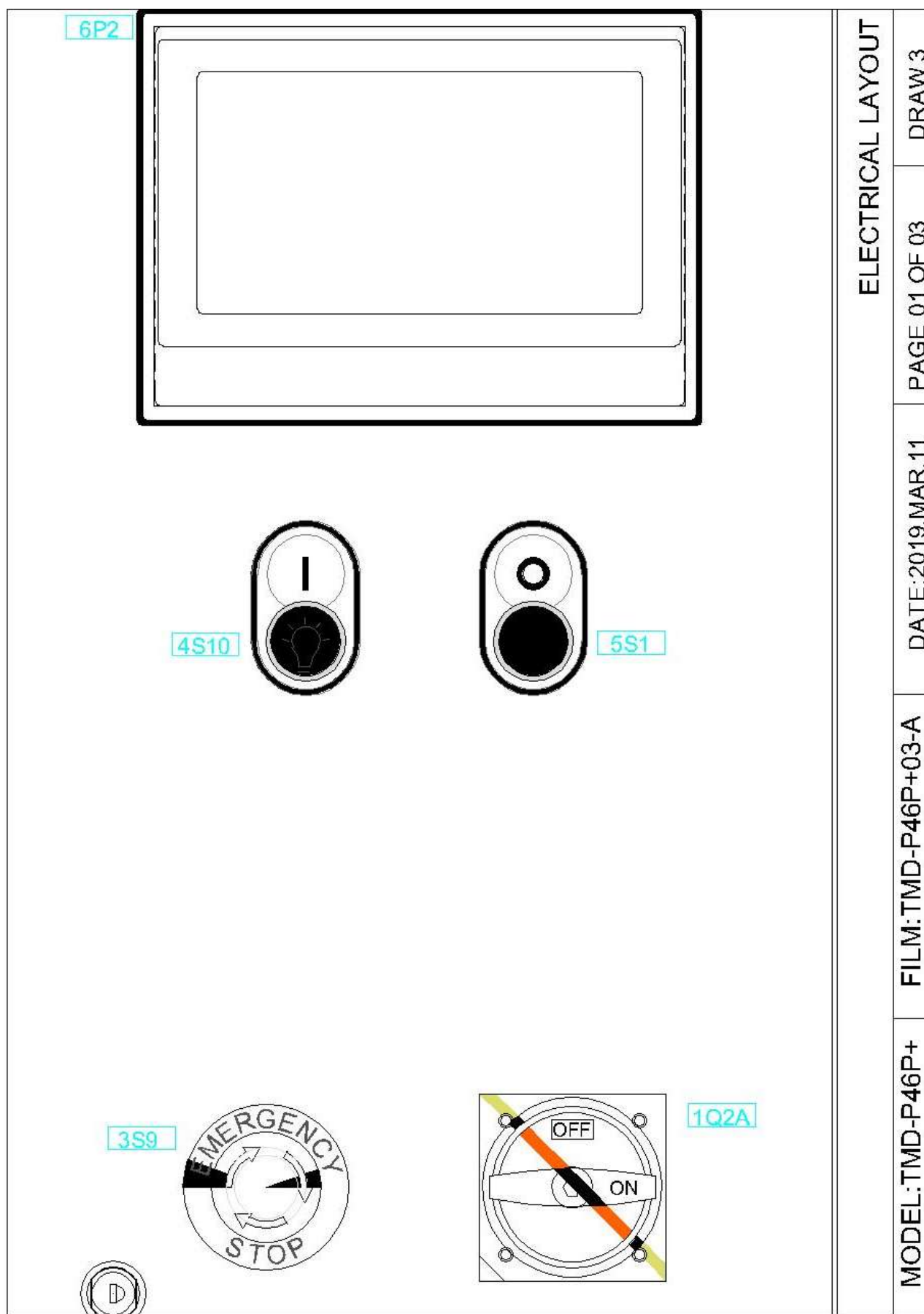
When installing the tower, the engineers must make sure all 4 screws are properly installed underneath the tower. 1 by carriage side, and 3 by the motor sides.

Motor Cover

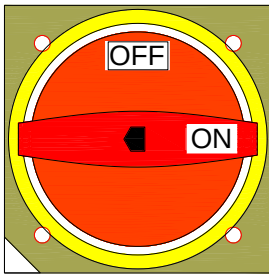
After all the connections are complete, please carefully install the motor cover to cover up all the wire connections and the motor on the base of the machines.



3.3 OPERATION OF CONTROL PANEL

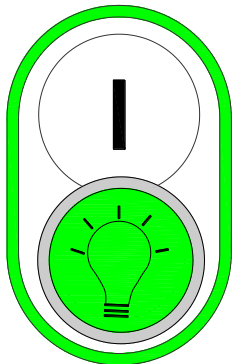


3.4 OPERATION DESCRIPTION



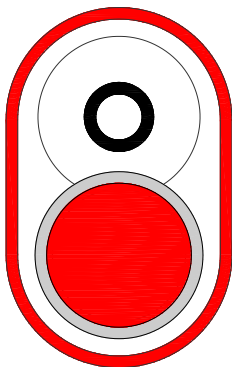
A. MAIN POWER

To switch ON and OFF the power



B. START

Press the button to get automatic or manual program running.



C. PAUSE

During the wrapping cycle, if the machine is required to be stopped, press **C** button to pause the machine and press **B** button to resume back to operation.

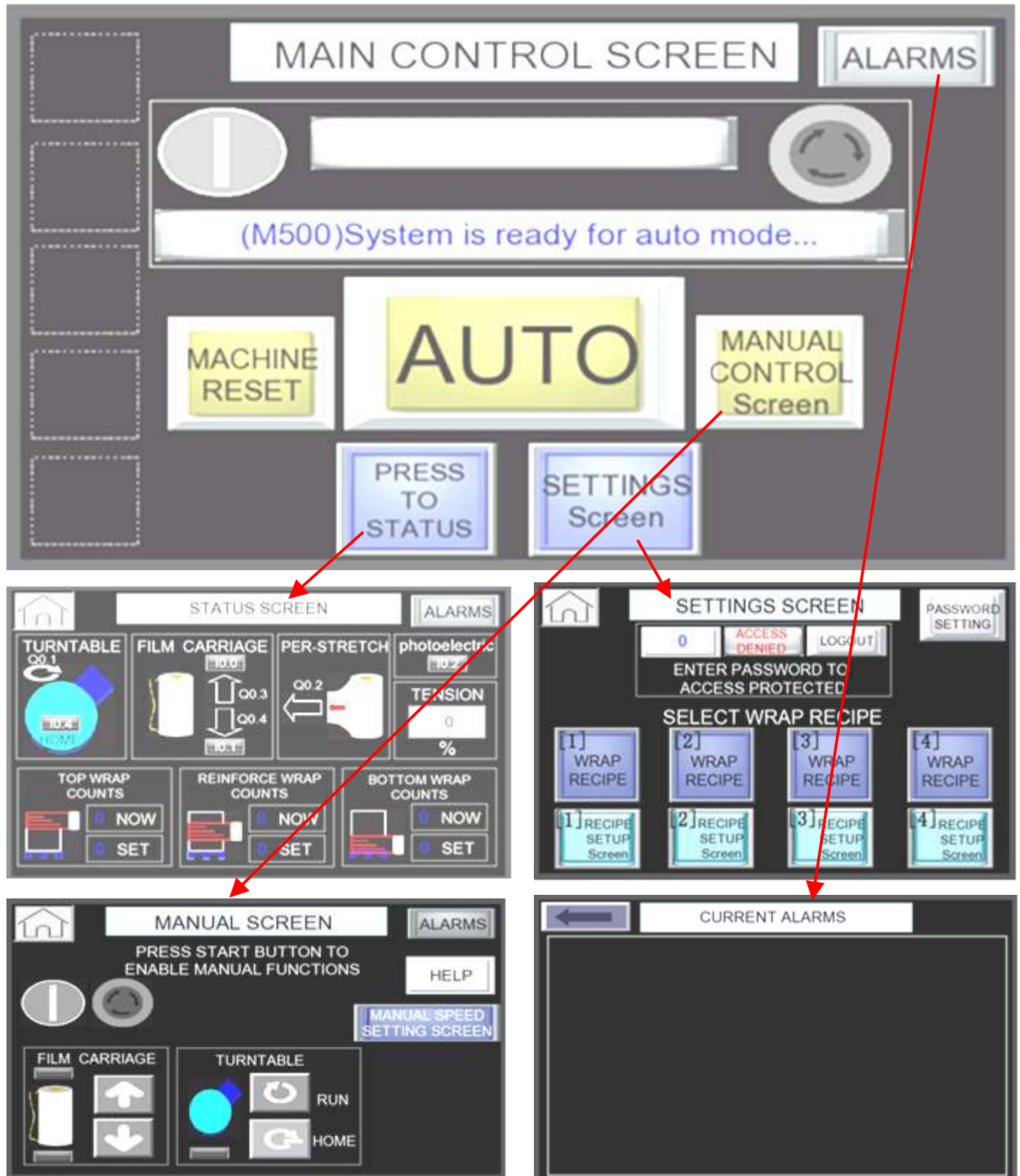


D. EMERGENCY STOP

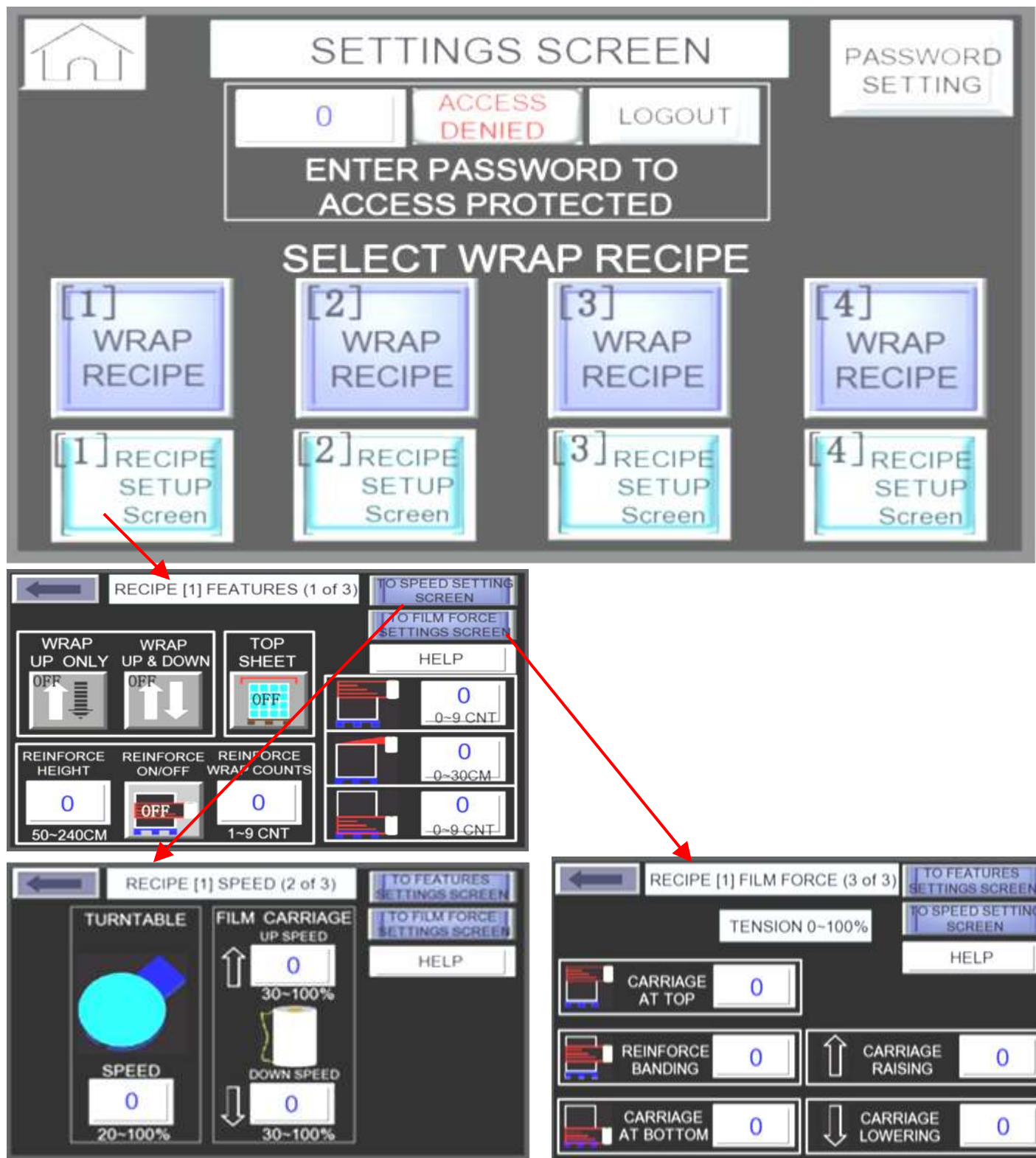
Press the button for emergency stop. For safety consideration, the turntable will not be stopped instantly as the EMG. STOP switch is pressed. As the turntable power is switched off, the break will be released too. Turntable will be stopped in $10^{\circ} \sim 70^{\circ}$. It depends on the weight load.

E. HUMAN MACHINE INTERFACE

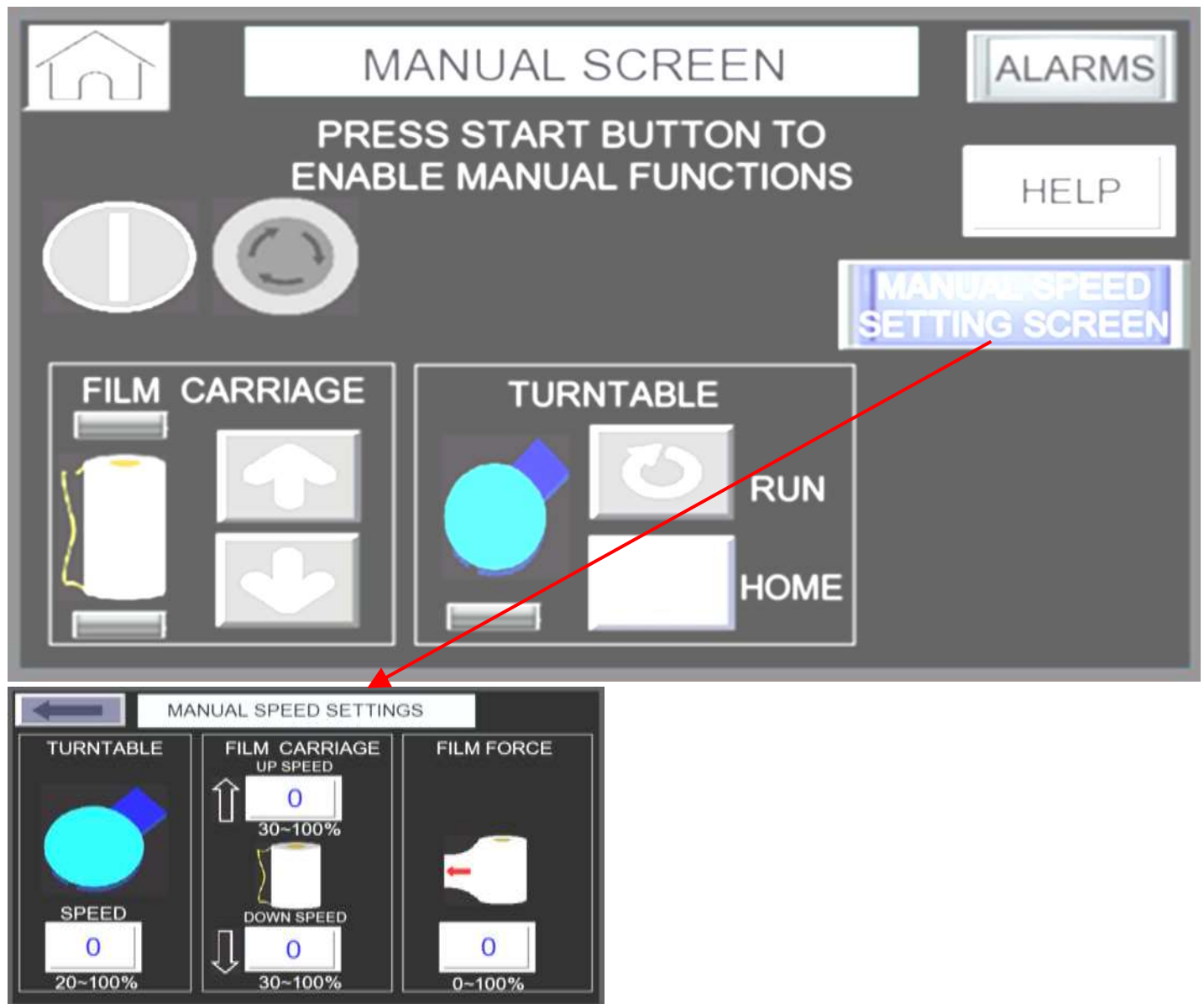
HOME PAGE



WRAP SETUP



MANUAL MODE



3.5 PIN CODE

1. PIN:1234
2. Press "0000" to enter setting menu without PIN code.
3. Forgot PIN code: Contact your dealer for new PIN.

3.6 OPERATION CYCLE

1. Select A,B,C or D mode. Refer to HELP menu for further details.
2. Clear ALARM which shows on touch screen.
3. Select AUTO
4. Place pallet load onto turntable.
5. Install film roll according to film threading diagram (3.6 CARRIAGE UNIT)
6. Press START

3.7 CARRIAGE UNIT

Illustration of film threading

1. Open the safety door first.
2. Follow the threading diagram below with the direction of cling inside or outside.
3. Close the carriage safety door

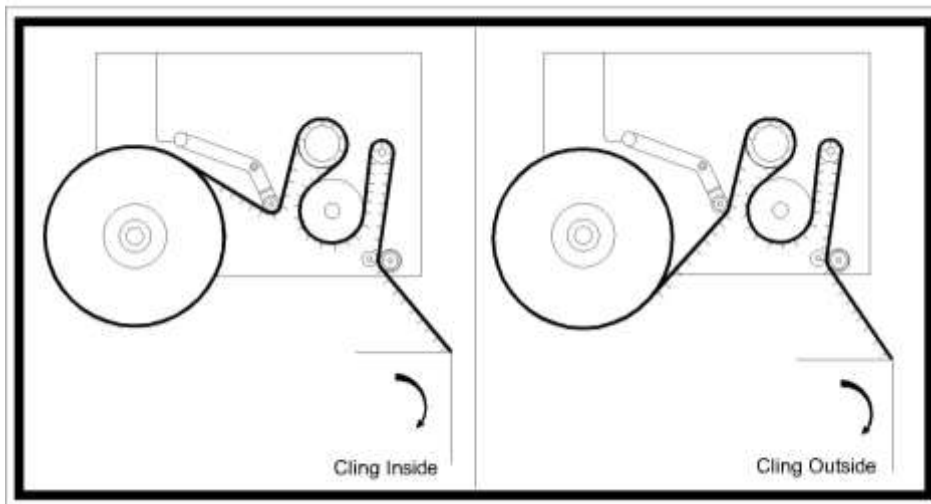
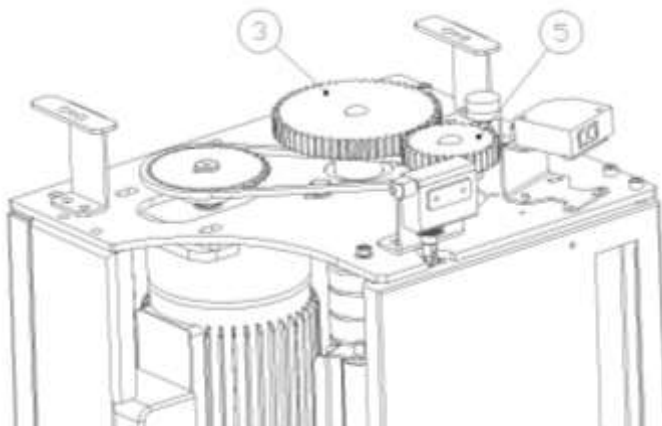


Illustration of Film Stretch Ratio Gear Change

1. Before replacing gear, please make sure machine is off and power is unplugged.
2. Loose the screws from gear “(3)” and “(5)”, and pull up to remove.
3. Replace gear with the preferred gear ration (see 6.3 CARRIAGE) and tighten the screws to secure gears.



4. ELETRICAL

4.1 ELECTRIC CAPACITY

Pre-stretch motor	0.2 KW
Turntable motor	0.75 KW
Carriage Motor	0.4KW
Control & wiring box	DC 24V
Power consumption	1.37 KW
Power requirement	1.5 KW

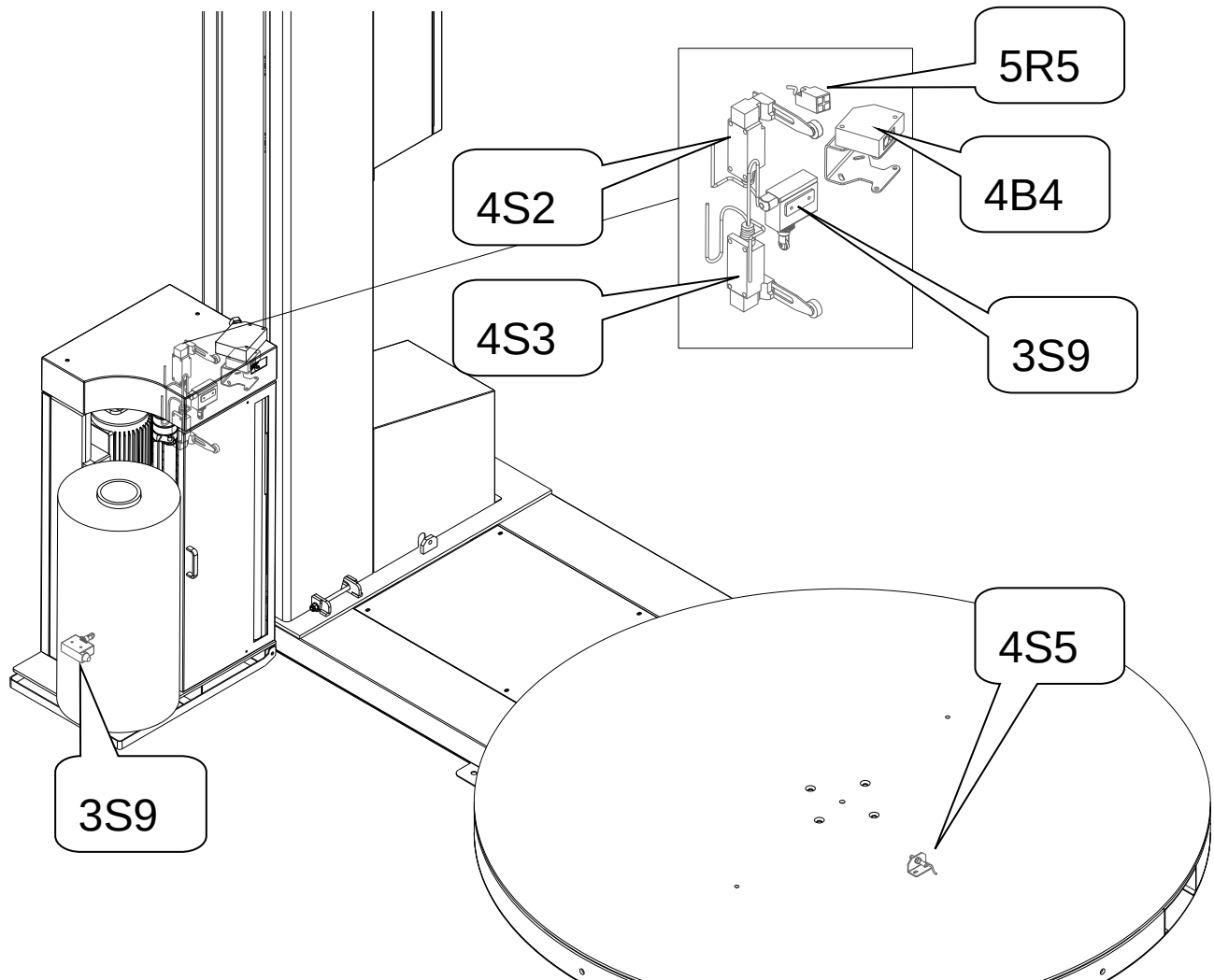
Power Cable ----- 1.5 mm²

Machine input ----- 230V 1-PHASE

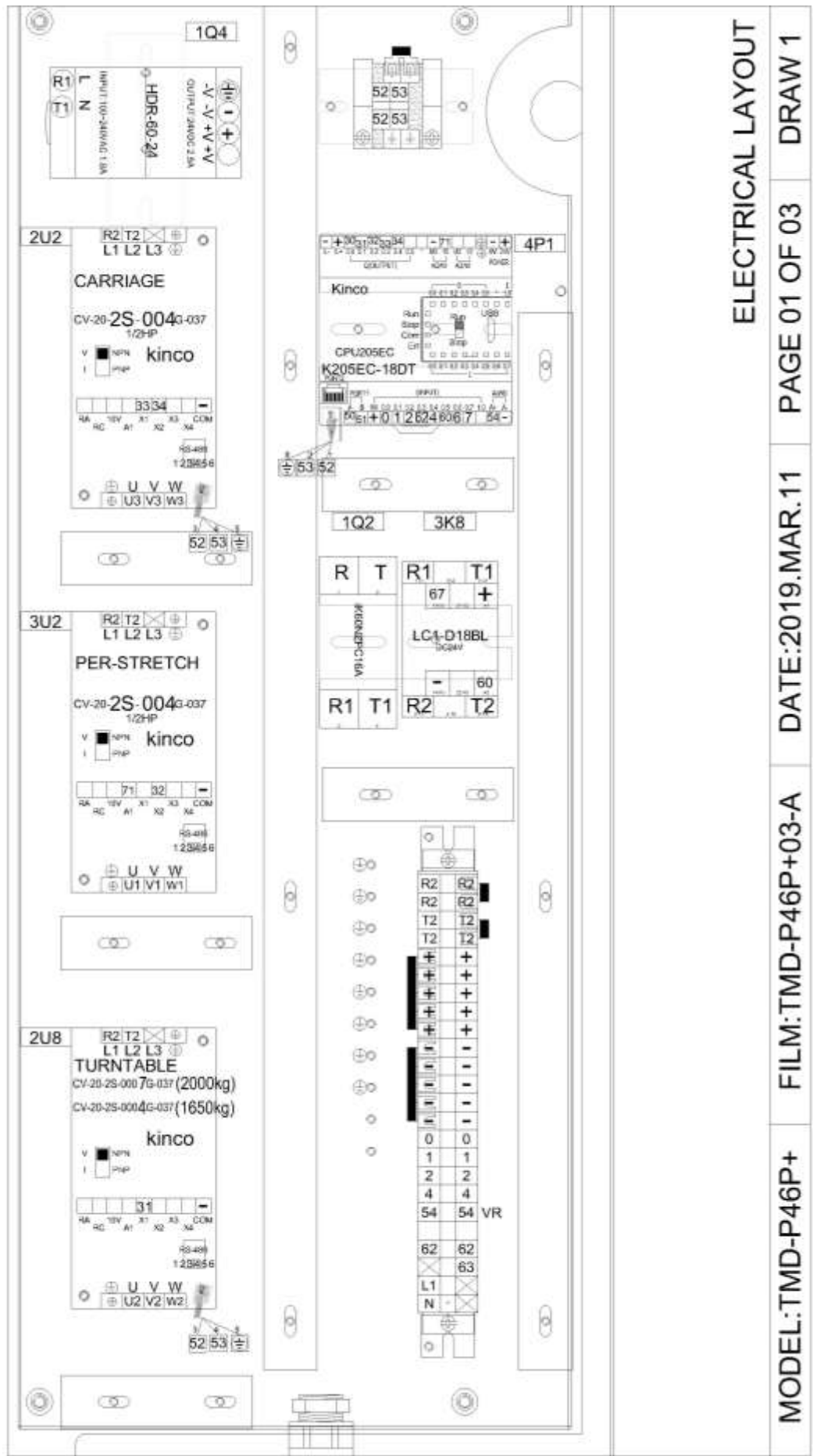
4.2 ELECTRIC PARTS LIST

SENSOR / LIMIT SWITCH LOCATION

KEY NO	PART NO	DESCRIPTION	Q'TY
3S9B	P0311-060001400	SAFETY SWITCH FILM CARRIAGE (ML-7312)	1
3S9C	P0311-060001400	CARRIAGE DOOR LIMIT(ML-7312)	1
4S2	P0311-060001210	TOP LIMIT (TZ-8108)	1
4S3	P0311-060001210	BOTTON LIMT (TZ-8108)	1
4B4	P0302-020000200	PHOTO EYE (A3R-2MX)	1
	P0319-10P46PT08	PHOTO EYE (A3R-2MX) W/ PLUG	1
4S5	P0302-010001200	TURNTABLE HOME SENSOR (PM12-04N-3M)	1
	P0319-10P46PT15	TURNTABLE HOME SENSOR (PM12-04N-3M) W/ PLUG	1
5R5	P0318-010000500	FILM FORCE VR RV24YN20S B502(5K Ω)	1



4.2(2) ELECTRIC PARTS LIST



ELECTRICAL LAYOUT

DRAW 1

PAGE 01 OF 03

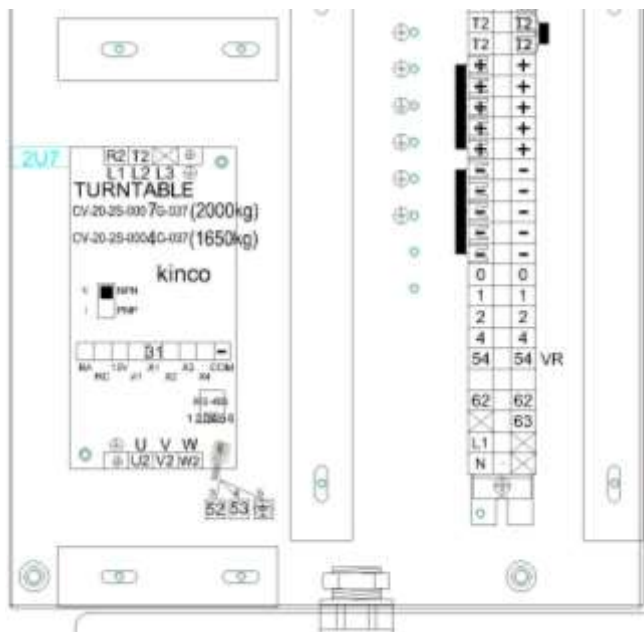
DATE:2019.MAR.11

FILM:TMD-P46P+03-A

MODEL:TMD-P46P+

4.2(3) ELECTRIC PARTS LIST

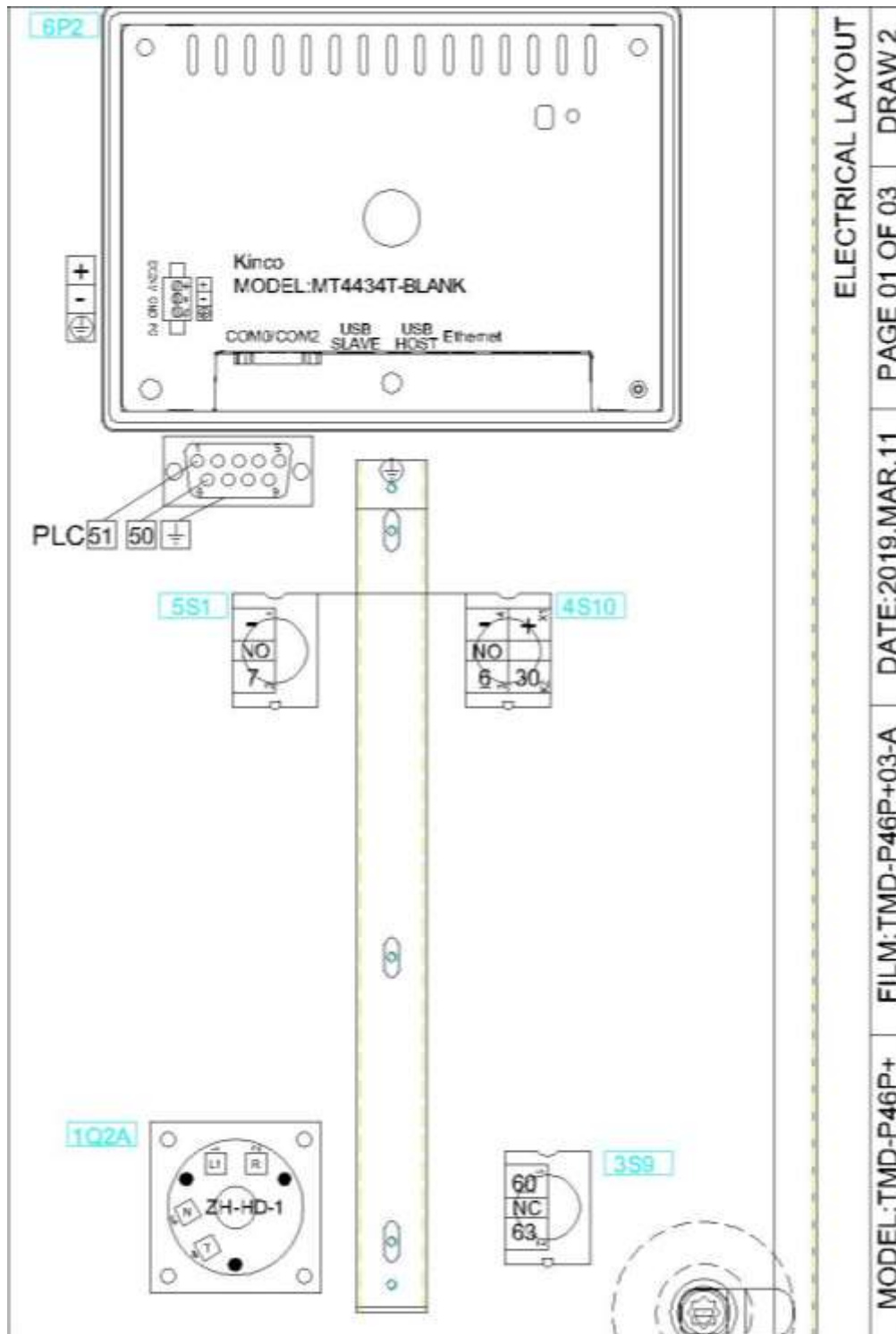
KEY NO	PART NO	DESCRIPTION	Q'TY
1Q2	P0305-010001200	POWER FUSE (IK60N2PC16A)	1
1Q4	P0307-010002200	POWER 24Vdc (HDR-6024 24Vdc-2.5A)	1
2U2	P0315-010003200	CV20-2S-0004G-037 INPUT:220V~240V 0.4kw	1
	P0315-010003400	CV20-1S-0004G-037 INPUT: 110V 0.4kW	
2U7	P0315-010003200	CV20-2S-0004G-037 INPUT:220V~240V 0.4kw	1
	P0315-010003400	CV20-1S-0004G-037 INPUT: 110V 0.4kW	1
3U2	P0315-010003200	CV20-2S-0004G-037 INPUT:220V~240V 0.4kW	1
	P0315-010003400	CV20-1S-0004G-037 INPUT: 110V 0.4kW	
3K7	P0306-010000400	POWER CONTACTOR (LC1D18BL,DC24V)	1
4P1	P0308-010005400	PLC K205EC-18DT DC24V	1

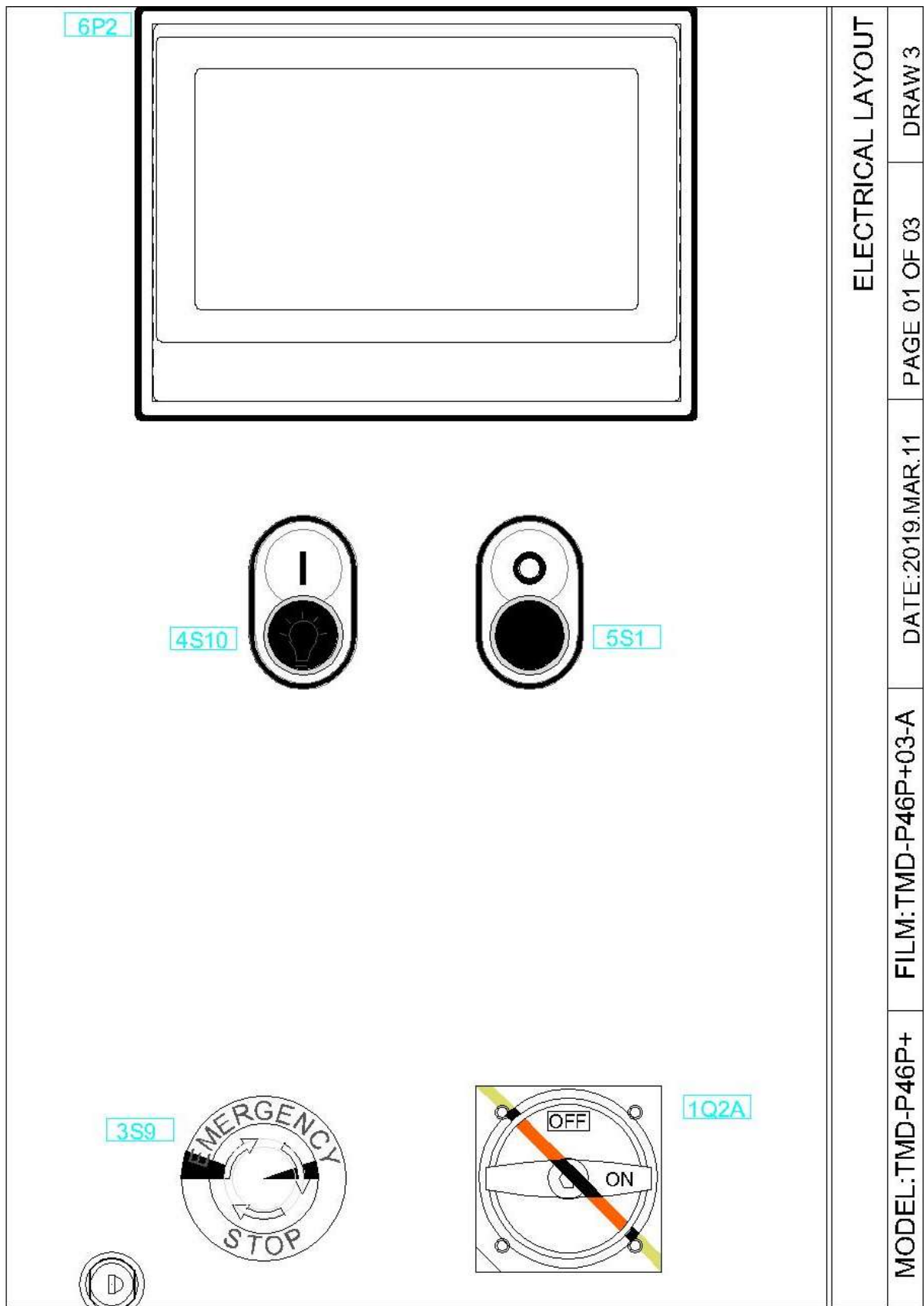


MODEL:TMD-P46P+

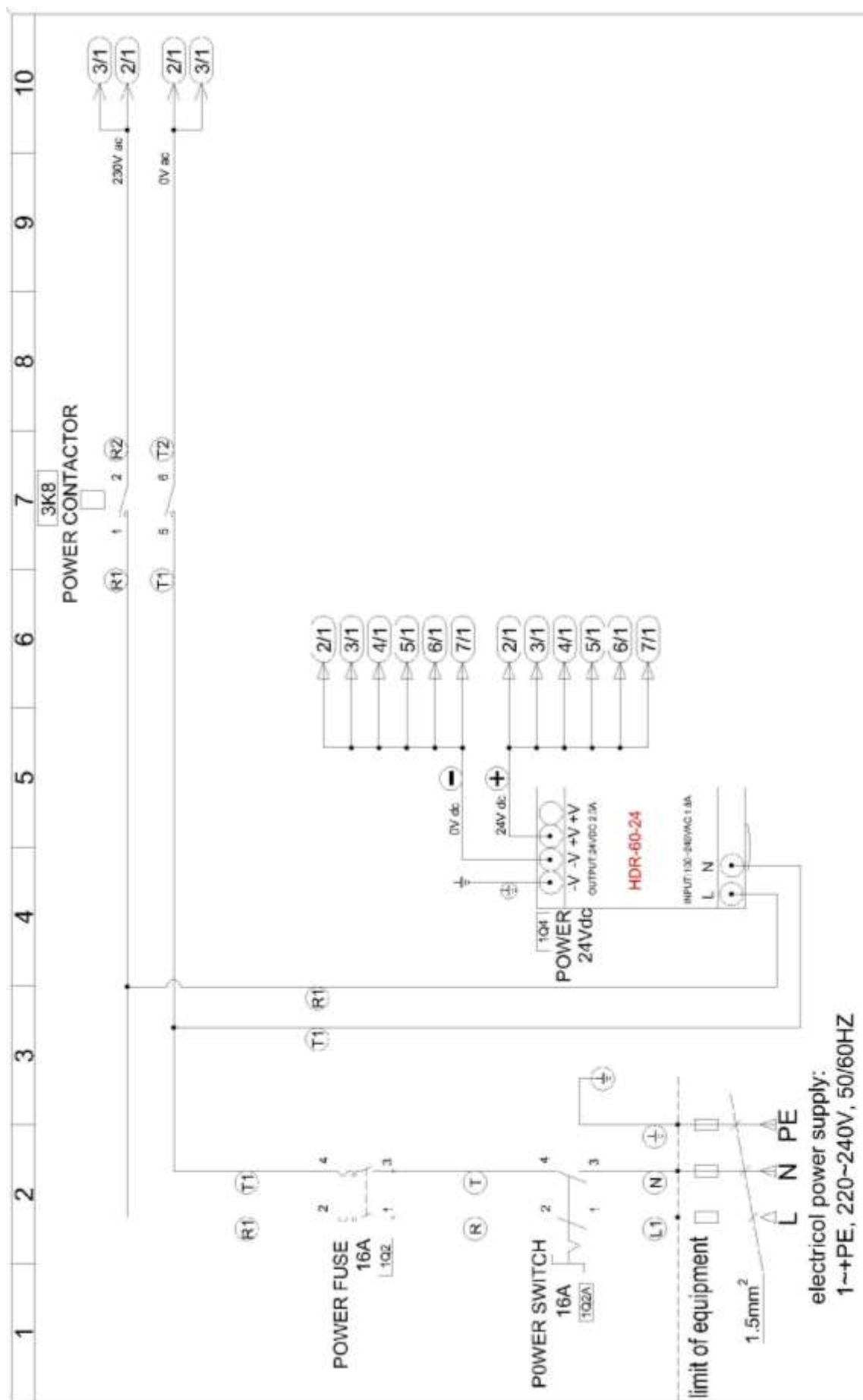
4.2(4) ELECTRIC PARTS LIST

KEY NO	PART NO	DESCRIPTION	Q'TY
1Q2A	P0311-010002800	POWER SWITCH (ZH-HD-48-BY)	1
3S9	P0313-020002800	EMERGENCY STOP (SKB2ES524-1B R) COVER+ CONTACT	1
4S7	P0313-020002900	START BUTTON (SKB2EW33B1) COVER+ CONTACT+ LAMP	1
4S8	P0313-020002600	STOP BUTTON (SKB2EA41-1A R) COVER+ CONTACT	1
6P2	P0327-010000700	TOUCH SCREEN (MT4434T(EN))	1



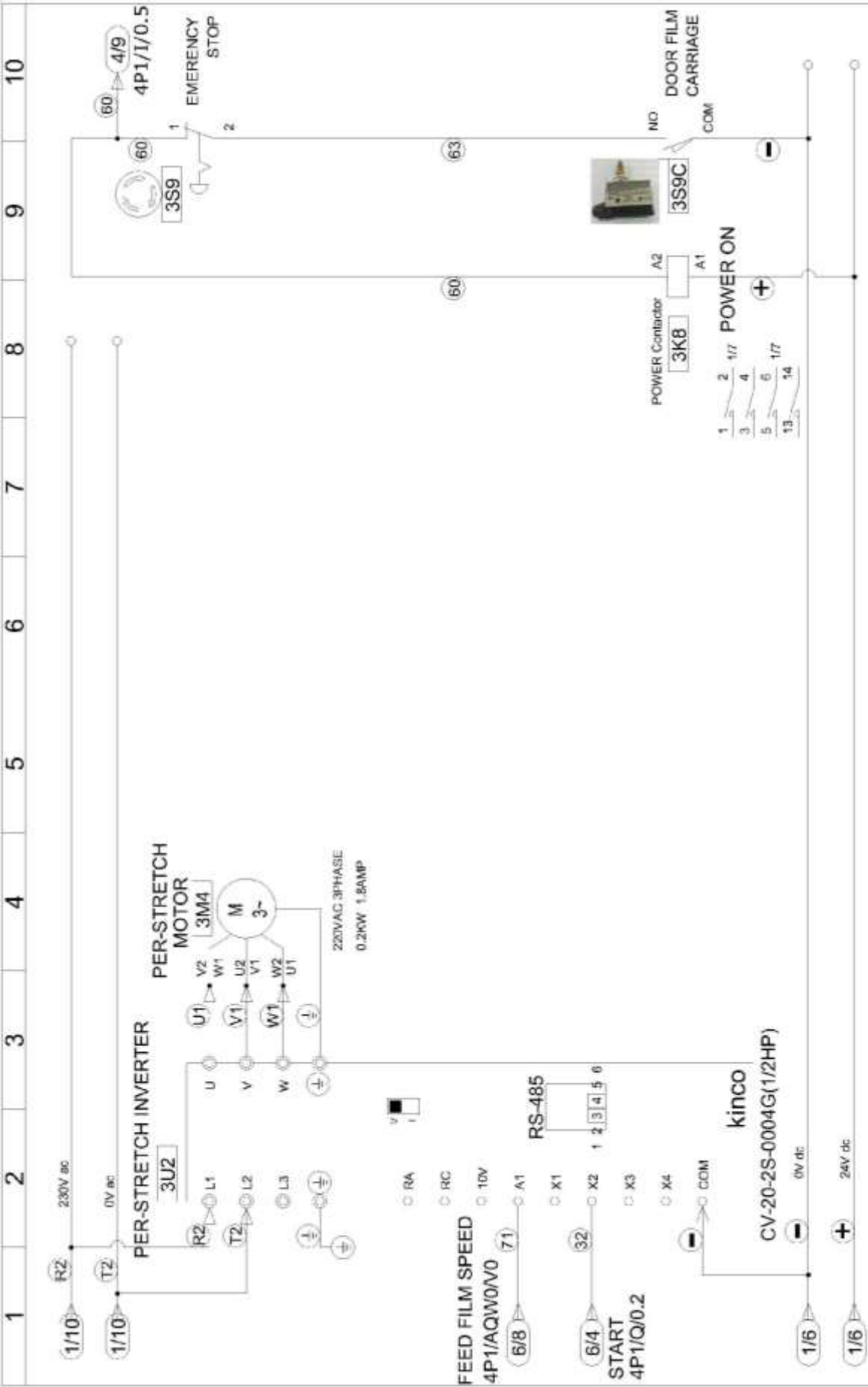


4.3 CIRCUIT DIAGRAM

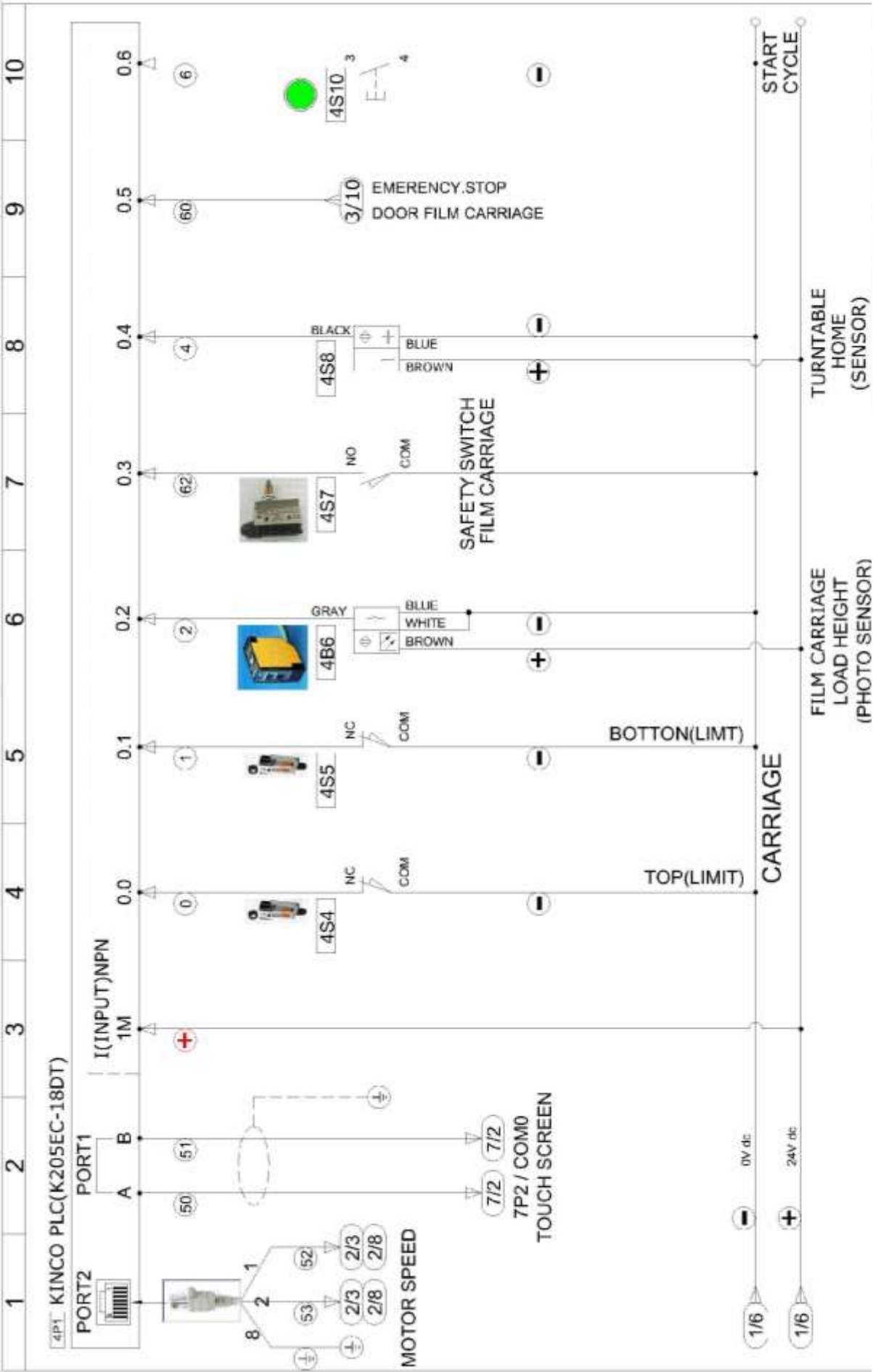


The diagram illustrates a dual-motor control system for a turntable and carriage. It features two inverters, 2U2 and 2U8, which are powered by a 230V AC source. Each inverter controls a 3-phase motor (M) with specifications: 220VAC 3PHASE, 0.4KW, 2.0AMP. The turntable motor (M) has a 2M10 rating. The carriage motor (M) has a 2M4 rating. The diagram shows the motor windings (U, V, W) and the connection to a kinco RS-485 interface. The interface includes a START button (6/3) and a MOTOR SPEED potentiometer (4/1). The kinco interface is connected to a 24V DC source.

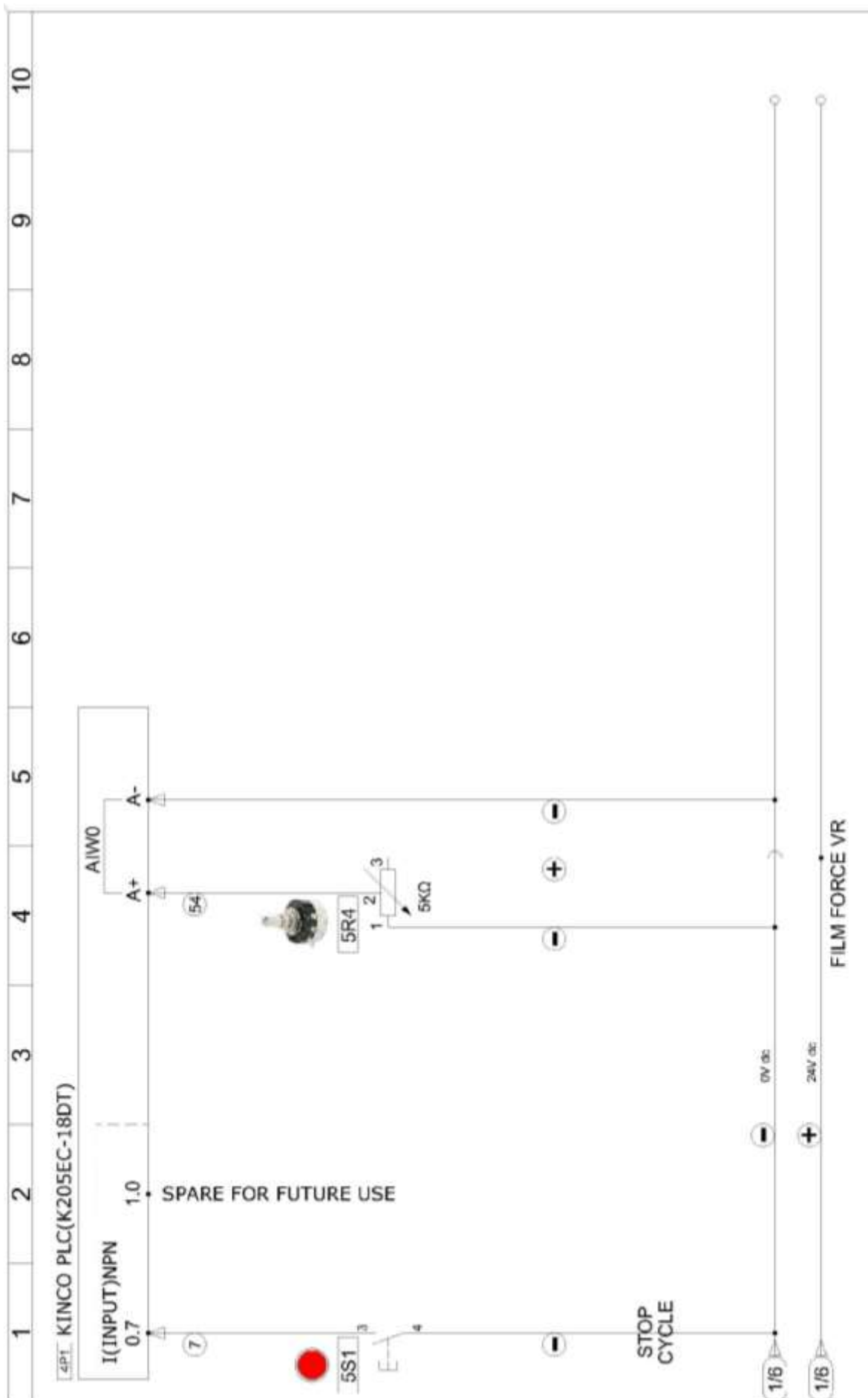
4.3(3) CIRCUIT DIAGRAM



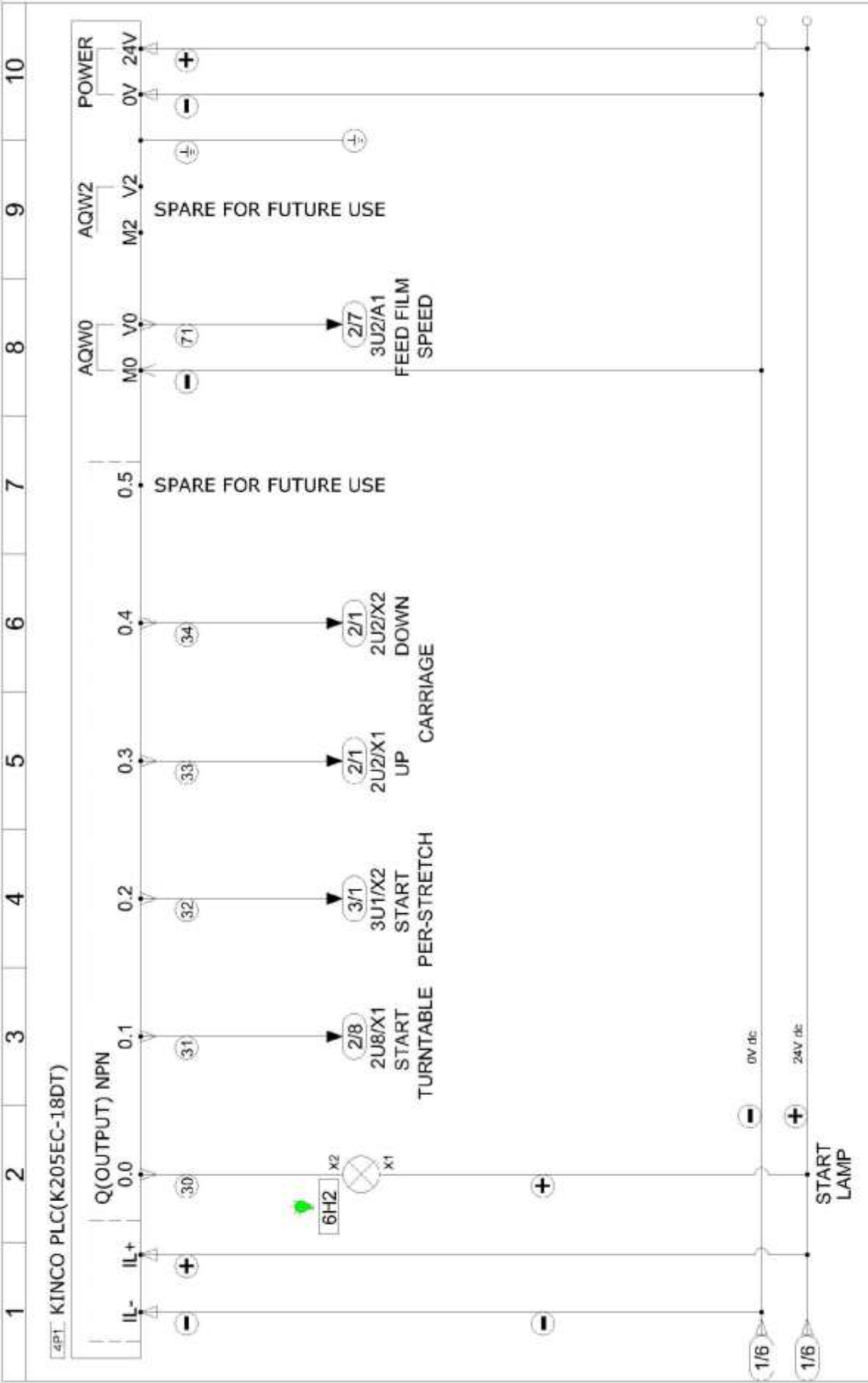
4.3(4) CIRCUIT DIAGRAM



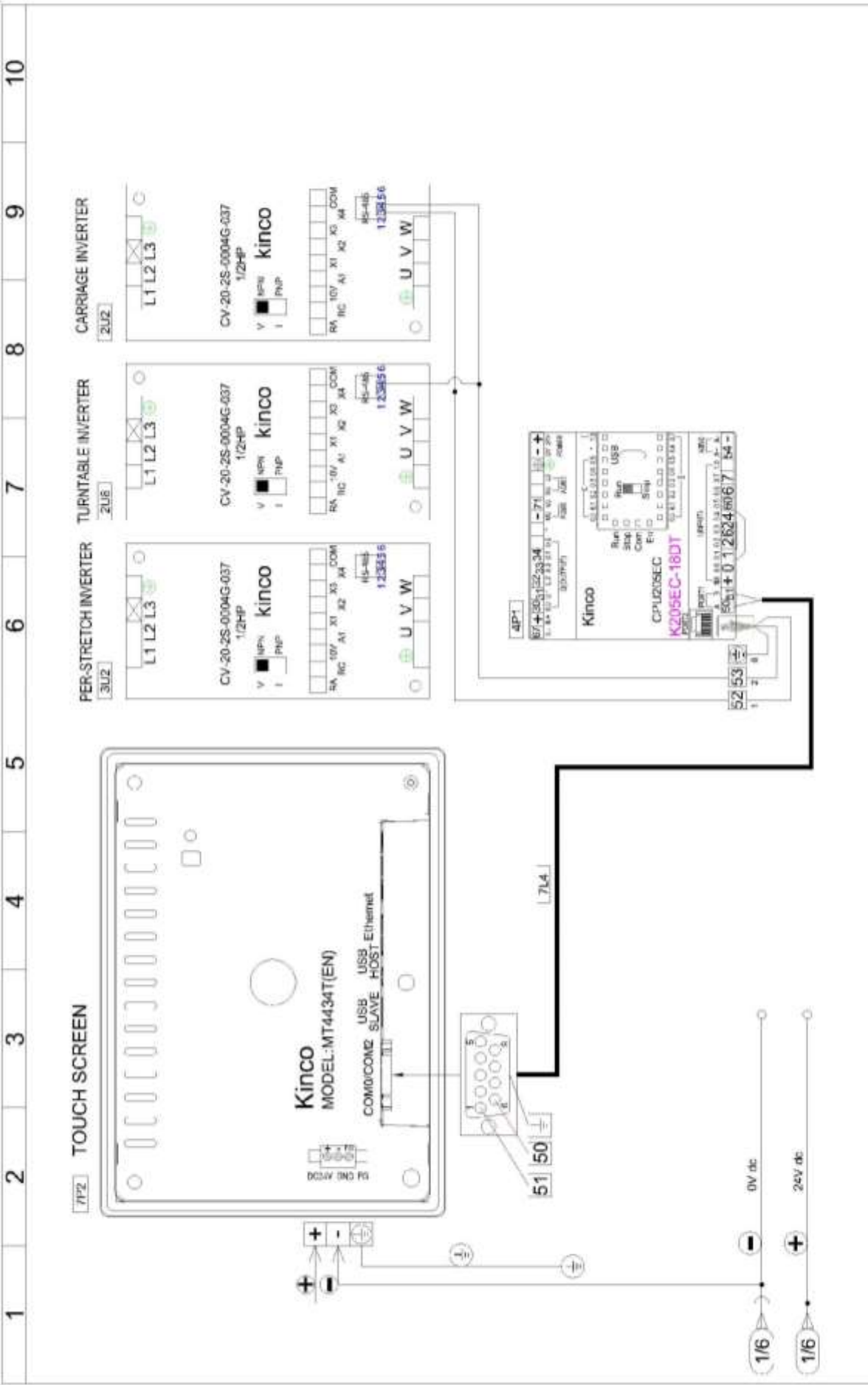
4.3(5) CIRCUIT DIAGRAM



4.3(6) CIRCUIT DIAGRAM



4.3(7) CIRCUIT DIAGRAM



5. TROUBLE SHOOTING

5.1 GENERAL ADJUSTMENT

Turntable belt adjust

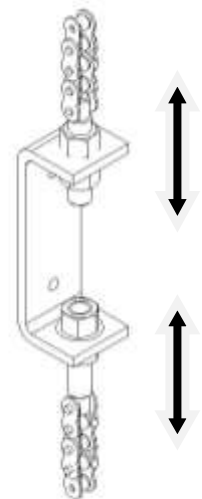
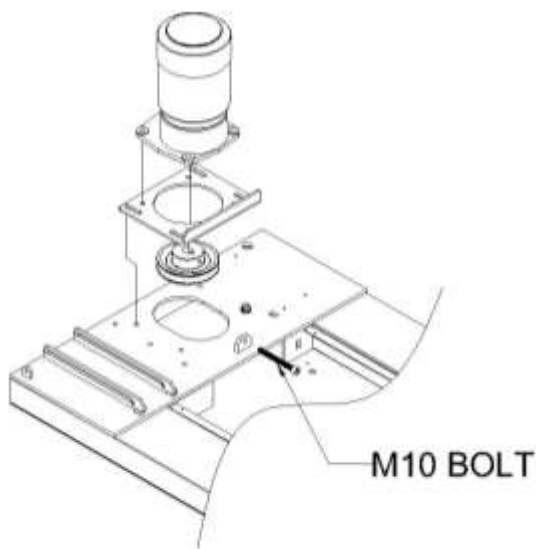
Please see the illustration below and then loosen the motor seat M10 screw 4 pcs.

Turn the (M10) on the seat until get enough tension. Turn and tight the motor seat screw 4 pcs again.

Carriage unit driving chain adjusts:

Adjust the carriage to proper position and take off the cover tower

Adjust the M10 screw (Up and down) to proper tension



5.2 TROUBLE SHOOTING 1/2

Machine trouble	Cause	Solution
Machine can not work	Power supply for motor is tripped Screen lamp not ON. Foot safety is broken.	Activate the power switch. Check micro- processor board. Release the safety s/w.
Turntable can not turn	Microprocessor board broken Motor stop turning	Change microprocessor board Check error message from inverter and refer to
Turntable can not Stop at home position.	Turntable proximity S/W is not working.	Check the proximity S/W sense. If it is no problem adjust the sensing plate.
CARRIAGE unit cannot move.	Microprocessor board broken Motor stop turning.	Change microprocessor board 1.Check the proximity S/W sense. If it is no problem adjust the sensing plate. 4.3(4) ELECTRIC DIAGRAM (4S2)(4S3)
During AUTO RUN the CARRIAGE unit goes up and over the package height	Photo eye gets sense from another material except package. Photo sensor gets sense from another light source.	1.Move away other objects Avoid the light source. 2. Check the photo eye 4.3(4)ELECTRIC DIAGRAM (4B4)
During AUTO RUN but CARRIAGE cannot goes up.	1.Photo eye broken Photo sensor cannot sense a black color package. 2. Photo eye broken Photo eye cannot sense a package. 3. Turntable proximity sensor is not working	1. Change photo eye. Avoid a black color package or use manual operation. 2. Check the photo eye 4.3(4)ELECTRIC DIAGRAM (4B4) 3. Check sensor 4.3(4) ELECTRIC DIAGRAM (4B4)

5.2 TROUBLE SHOOTING 2/2

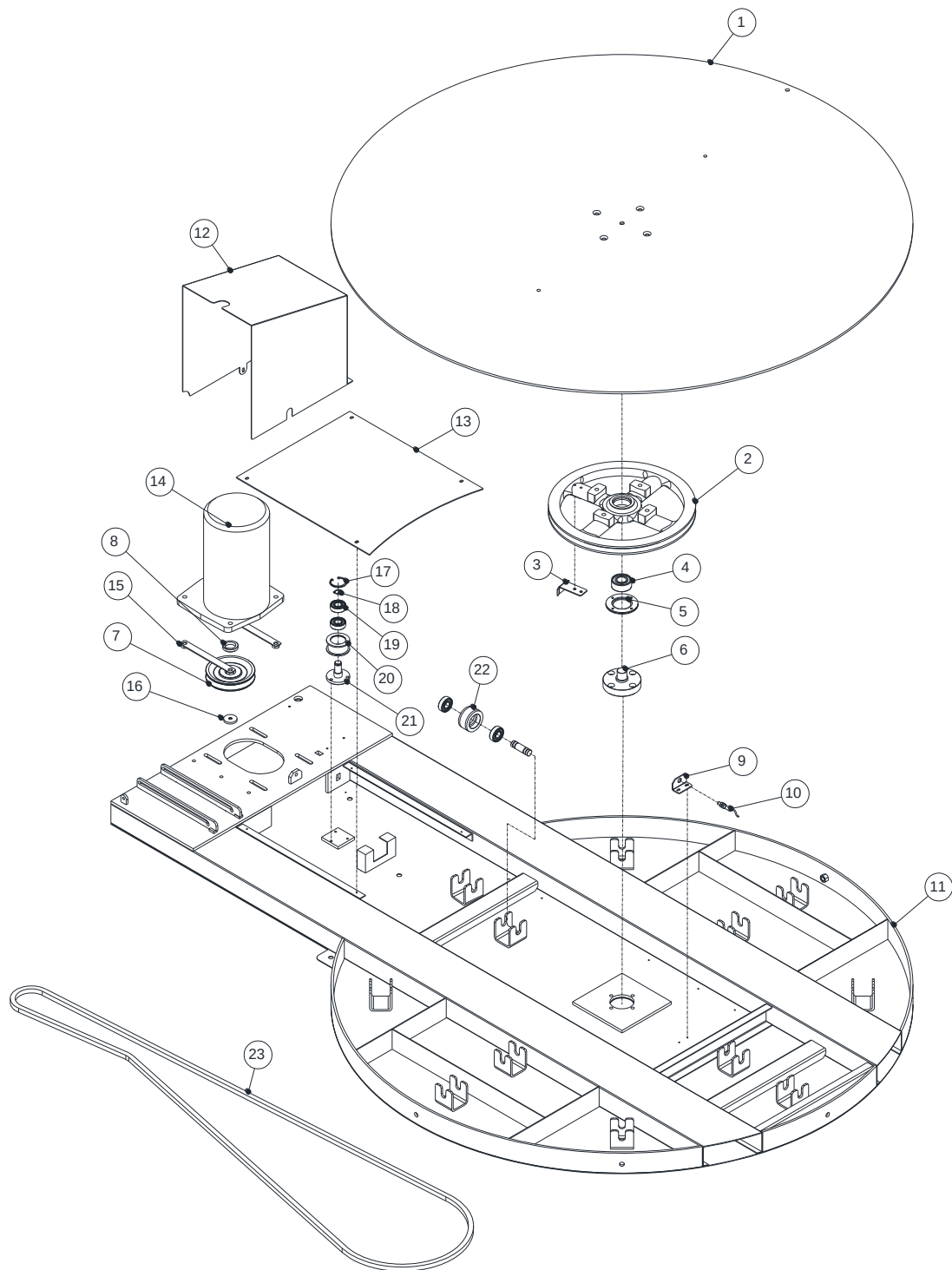
Machine trouble	Cause	Solution
Pre-stretch motor cannot work	1. MOTOR PRE-STRETCH SENSOR FAULTY 2. PRE-STRETCH INVERTER FAULTY	1.CHECK PRE-STRETCH SENSOR 4.3(4)ELECTRIC DIAGRAM(4S4) 2.CHECK PRE-STRETCH INVERTER 4.3(2)ELECTRIC DIAGRAM(2U2)

5.3 ERROR CODE LIST

Code	Description
(M500)	System is ready for auto mode...
(M502)	Await system ready
(M503)	FILM OUT OR BROKEN
(M504)	TURNTABLE SENSOR DIDN'T DETECT
(M505)	UPPER AND LIMIT SWITCH BOTH ACTIVED
(M506)	CARRAIGE TRAVEL UPWARD EXCEED LIMIT
(M507)	CARRIAGE TRAVEL DOWNWARD EXCEED LIMIT
(M508)	SAFETY SWITCH FILM CARRIAGE
(M509)	CARRIAGE DOOR/EMERENCY.STOP

6. PART LIST

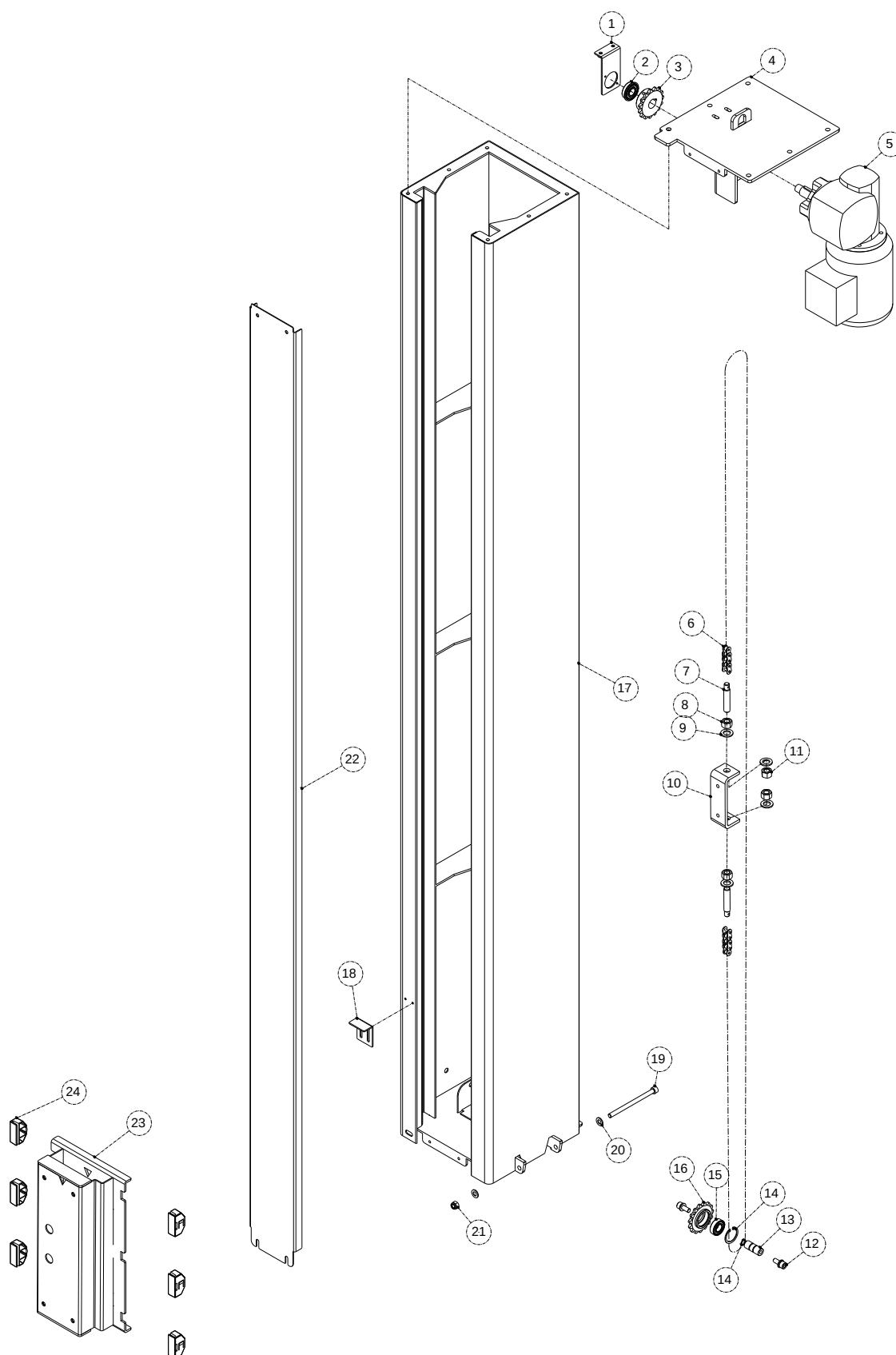
6.1 SEAT



PART LIST FOR PP-1500

KEY NO	PART NO	DESCRIPTION	Q'TY
1	P01-001780A	1.5M TURNTABLE	1
	P01-0452000	1.65M TURNTABLE	1
2	P0703-000030A	PULLEY	1
3	P01-000040A	SENSOR PLATE	1
4	P1104-125205ZZ0	BEARING 5205ZZ	1
5	P01-000130A	BELT PULLEY SHAFT	1
6	P02-0303200	BELT PULLEY BEARING SEAT	1
7	P0703-0000100	MOTOR BELT PULLEY 5"	1
8	P02-0000200	RING	1
9	P01-0000300	SENSOR SEAT	1
10	P0319-10P46PT15	PROXIMITY SENSOR(PM12-04N-3M)	1
11	P01-044030A	1.5M TURNTABLE SEAT 1.5M	1
	P01-045190A	1.65M TURNTABLE SEAT 1.65M	1
12	P01-044060A	MOTOR COVER	1
13	P01-0440400	COVERING PLATE	1
14	P0501-0014200	GEAR REDUCE MOTOR 1/2HP 3-PH AC200V/380V 1/50	1
15	P01-0000500	FIXED PLATE	2
16	P01-0066100	WASHER	1
17	P1105-0242B	C-CLIP R-42	1
18	P1105-0117B	C-CLIP S-17	1
19	P1104-026203ZZ0	BEARING 6203ZZ	2
20	P06-0000600	BELT PULLY BEARING SEAT	1
21	P02-0000100	BELT PULLY BEARING SHAFT	1
22	P06-0003410	SUPPORTING WHEEL+ SUPPORTING WHEEL SHAFT(1.5M)	12
	+ P02-000700A	SUPPORTING WHEEL+ SUPPORTING WHEEL SHAFT(1.65M)	14
23	P0902-0007500	BELT B-139 – 1.5M	1
	P0902-0007100	BELT BX-143 – 1.65M	1

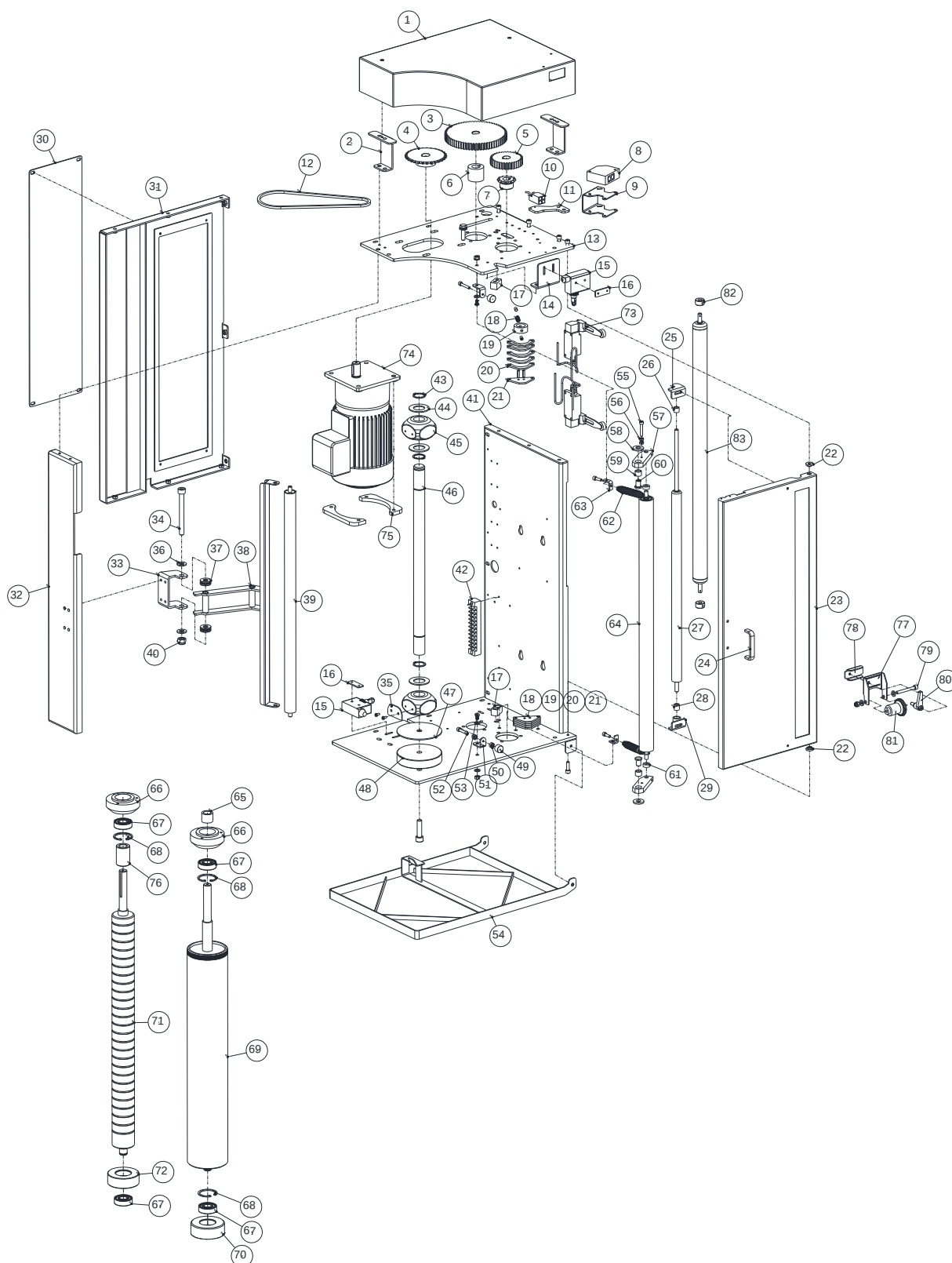
6.2 TOWER



PART LIST FOR PP-1500

KEY NO	PART NO	DESCRIPTION	Q'TY
1	P01-0441100	SPPED REDUCER BEARING SEAT	1
2	P1104-076202ZZ0	BEARING 6202-2NR(CWB)	1
3	P0702-0009500	SPROCKET WHEEL (UPPER)	1
4	P01-0443200	TOWER COVER	1
5	P0502-0003100	MOTOR GEAR RDUCER 1/2HP 3PHASE AC220V/380V 1/50	1
6	P0901-0010400	CHAIN – 2.2M, #40*326	1
	P0901-0010600	CHAIN – 2.6M, #40x398	1
7	P02-0007500	CHAIN SCREW SHAFT	2
8	P1102-0112AZ	NUT M12	2
9	P1103-011224D5Z	WASHER M12	4
10	P01-0018700	CHAIN ADJUST SEAT	1
11	P1102-0106BZ	NUT M6	2
12	P1101-0908020AN	SCREW M8x20L	2
13	P02-0289000	SPROCKET WHEEL SHAFT	1
14	P1105-0235B	C-CLIP R-35	1
15	P1104-026002ZZ0	BEARING 6002ZZ(CWB)	1
16	P0702-0000200	SPROCKET WHEEL (LOWER)	1
17	P01-044070A	TOWER – 2.2M	1
	P01-0452100	TOWER – 2.6M	1
18	P01-0458900	LIMIT STOP	1
19	P1101-0508120AN	SCREW M8x120L	1
20	P1103-010816C5Z	WASHER M8	2
21	P1102-0108BZ	NUT M8	1
22	P01-0440800	TOWER COVER – 2.2M	1
	P01-0452200	TOWER COVER – 2.6M	1
23	P01-044090A	SLIDE CART	1
24	P06-004730A	SLIDE BLOCK	6

6.3 CARRIAGE



PART LIST FOR PP-1500

KEY NO	PART NO	DESCRIPTION	Q'TY
1	P01-0443300	CARRIAGE COVER	1
2	P01-0443400	CARRIAGE COVER BRACKET	2
3	P06-004780A	GEAR 67T(P26P-300%)	1
	P06-0052700	GEAR 62T(P26P-200%)	1
4	P06-0047600	PRE-STRETCH MOTOR GEAR (29T)	1
5	P06-0047700	GEAR 27T(P26P-300%)	1
	P06-0052800	GEAR 32T(P26P-200%)	1
6	P06-0049900	GEAR BUSHING	1
7	P0702-0000500	SPROCKET 12T	1
8		IN 4.2(1)ELECTRIC PARTS LIST	
9	P01-042170A	PHOTO SENSOR BRACKET	1
10		IN 4.2(1)ELECTRIC PARTS LIST	
11	P01-0453600	SENSOR SEAT	1
12	P0901-0002100	CHAIN #35x57	1
	+P0901-0001900	CHAIN LINK	1
	+P0901-0005500	CHAIN CONNECT LINK	1
13	P01-044370B	CARRIAGE TOP FRAME	1
14	P01-0443600	LIMIT SWITCH BRACKET	1
15		IN 4.2(1)ELECTRIC PARTS LIST	
16	P01-0006700	FIX PLATE	2
17	P06-0002800	BLOCK	2
18	P1201-0000200	SPRING	2
19	P06-0003100	RING	2
20	P01-0013900	BLOCK	10
21	P01-0014000	PLATE	2
22	P02-0005300	RING	2
23	P01-0444000	SAFETY DOOR FRAME	1
24	P1112-0001000	DOOR HANDLE	1
25	P01-0444100	ROLLER BEARING SEAT (UPPER)	1
26	P1104-05HK08100	BEARING HK0810	1

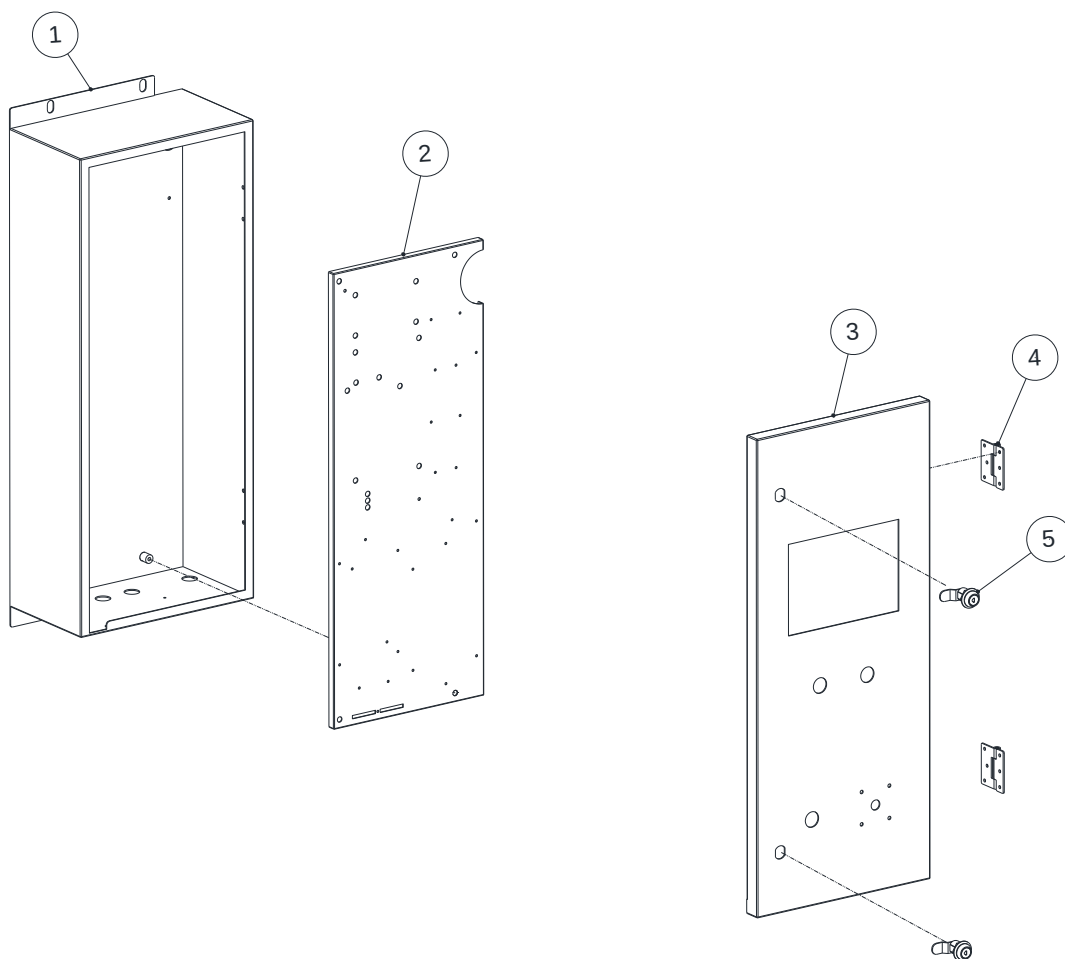
PART LIST FOR PP-1500

KEY NO	PART NO	DESCRIPTION	Q'TY
27	P08-000160A	IDLE ROLLER	1
28	P1104-17HF08120	BEARING HF0812	1
29	P01-044420A	ROLLER BEARING SEAT (LOWER)	1
30	P01-0452800	CARRIAGE SERVICE DOOR	1
31	P01-044380A	CARRIAGE SAFETY COVER (REAR)	1
32	P01-0444700	CARRIAGE SAFETY COVER (SIDE)	1
33	P01-001350A	ARM SEAT	1
34	P1101-1010110CZ	SCREW M10x110L	1
35	P01-0441400	FILM MANDREL BRAKE STOP	1
36	P1103-01102002Z	WASHER M10x20x2t	2
37	P1104-11511000	BEARING 51100	2
38	P01-044480A	ROLLER SWING ARM	1
39	P08-0001400	ROLLER SHAFT ASSY	1
40	P1102-0110BZ	NUT M10	1
41	P01-044390C	CARRIAGE MAIN FRAME	1
42	P0304-010005600	CONNECTOR HOUSING, 12P 15A	1
43	P1105-0224B	C-CLIP R-24	3
44	P01-0441500	WASHER (45x25.5x2t)	3
45	P06-004750A	FILM MANDREL	2
46	P02-0288200	FILM SHAFT SEAT	1
47	P06-0048300	FILM SEAT BASE SHEET	1
48	P02-028830A	FILM SEAT	1
49	P1106-020000100	MAGNETIC (FOR SAFETY DOOR)	2
50	P1102-0105AZ	NUT M5	4
51	P01-0452300	MAGNETIC SEAT	2
52	P1101-0505030AN	SCREW M5*30L	2
53	P1101-0606020AN	SCREW M6x20L	2
54	P01-0444600	SAFETY PEDAL	1
55	P1101-0505030AN	SCREW M5*30L	1
56	P1102-0105AZ	NUT M5	2
57	P02-000490A	SWINGING BAR	2

PART LIST FOR PP-1500

KEY NO	PART NO	DESCRIPTION	Q'TY
58	P02-0003200	RING	2
59	P1104-05HK10100	BEARING HK1010	2
60	P02-0005000	SHAFT	2
61	P02-0025200	SPACER	2
62	P1202-0001600	SPRING	2
63	P01-0011900	SPRING SEAT	2
64	P08-0001500	IDLER ROLLER SET	1
65	P06-0047900	BEARING BUSHING	1
66	P02-0288400	BEARING SEAT	3
67	P1104-026203ZZ0	BEARING 6203ZZ(CWB)	4
68	P1105-0242B	C-CLIP R-42	3
69	P08-000400B	PRE-STRETCH ROLLER	1
70	P02-0295200	BEARING SEAT	1
71	P08-0000310	PRE-STRETCH ROLLER	1
72	P02-0288500	BEARING SEAT	1
73		IN 4.2(1)ELECTRIC PARTS LIST	
74	P0501-0014300	PRE-STRETCH MOTOR 1/4HP, 3-PH AC220V/380V	1
75	P01-0007200	ADJUSTING PLATE	2
76	P06-004800A	PLASTIC TUBE	1
77	P01-0457100	MOLDING SEAT	1
78	P01-0457200	FIX CLIP	1
79	P1101-0508060AN	SCREW M8x60L	1
80	P1112-0001100	HANDLE 6x13#A80/A60TS	1
81	P06-0052400	ROLLER	1
82	P02-0002700	ROLLER FIX RING	2
83	P08-000120C	ROLLER SET	1

6.4 CONTROL BOX



PART LIST FOR PP-1500

KEY NO	PART NO	DESCRIPTION	Q'TY
1	P01-045560A	CONTROL BOX	1
2	P01-0512300	WIRING PLATE	1
3	P01-0512200	CONTROL BOX COVER	1
4	P01-0021600	HINGE (R)	2
5	P1118-010000200	LOCK C-403*1"	2
	P1118-030000100	KEY	2
	P1118-020000100	LOCK PLATE	2