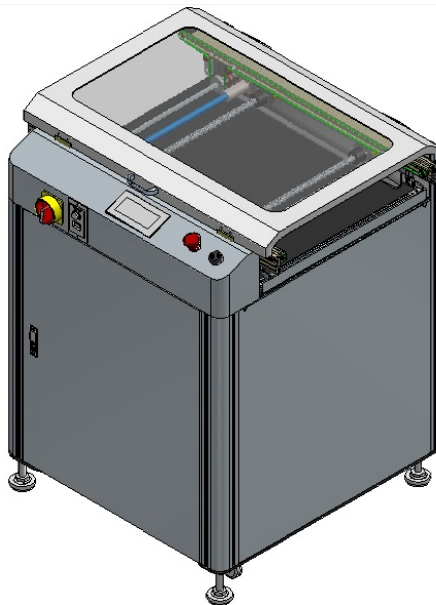


LINK CONVEYOR



#6 Seongseoro 75-Gil, Dalseo-Gu, Daegu-city, Korea
Tel : +82-53-585-9366 / Fax : + 82-53-585-9367
e-mail iljin@iljinfa.co.kr
www.iljinfa.co.kr

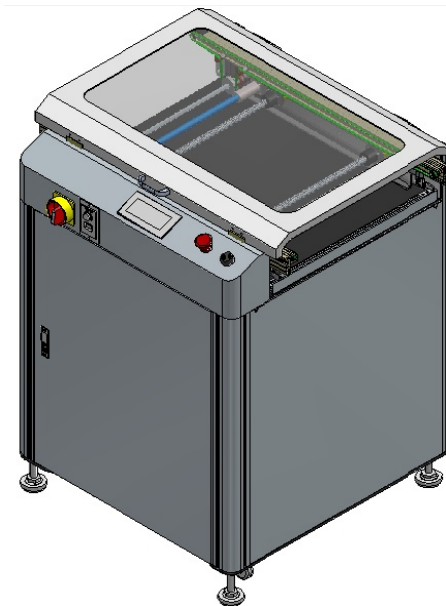
CONTENTS

1. Introduction
2. Safety Instructions
3. Installation
4. Equipment Operation
5. Trouble Shooting
6. Maintenance
7. Part list
8. Electric Diagrams

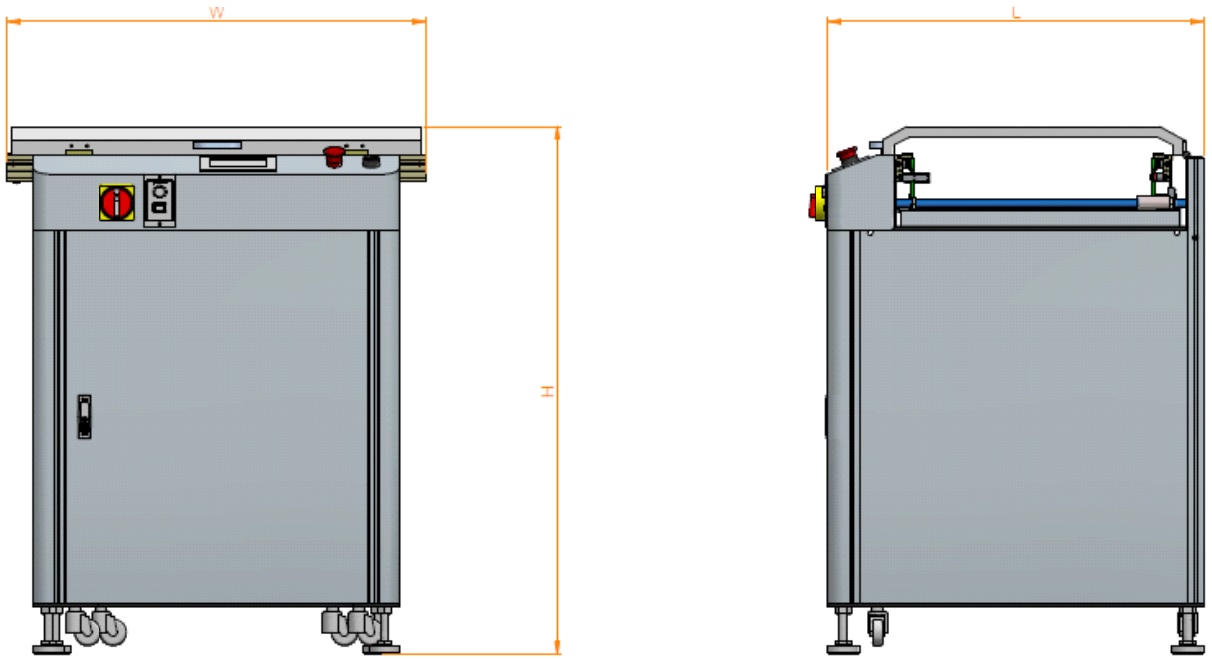
1. Introduction

1) Product Information

This equipment has connective function between equipment to connect with SMT production line effectively.



2) Specification

Assembly Drawing						
						
MODEL	TYPE	Max PCB(LXW)	Min PCB(LXW)	DEMENSION (LXWXH)	POWER	WEIGHT(Kg)
ACC-60S	S	330 X 250	50 X 50	600 X 600 X 910	0.1KVA	80
ACC-60Y	Y	440 X 250		600 X 680 X 910		90
ACC-60L	L	530 X 375		600 X 740 X 910		100
ACC-60XL	XL	530 X 460		600 X 810 X 910		110
ACC-602XL	2XL	610 X 460		600 X 810 X 910		120

Electrical data			
Voltage	☐	1-phase 220V PE(+/-10%)	
	☐	1-Phase 110V PE (+/- 10%)	
Frequency	☐	50 Hz	☐ 60Hz
Max fuse	☐	5A	
Consumption	☐	0.1Kw	☐ 0.3Kw ☐ 0.5Kw
I	☐	1A	☐ 2A ☐ 3A
Control type			
Control Type	☐	PC	☐ PLC
PLC	☐	Panasonic	☐ Mitsubishi ☐ Omron
Operation screen	☐	SW	☐ TOUCH
Power	DC 24V		
Air Pressure			
Air Pressure	0.5 Mpa±0.5Mpa(4.5~5.0kgf/cm ²)		
Conveyor system			
Flow Direction	Fixed Rail	☐ Front	☐ Rear
	Flow Direction	☐ Left>>Right	☐ Right>>Left
Rail length	mm		
Height above ground	mm (+/- 30mm)		
Belt Length	mm		
Width Control	☐	Auto	☐ Manual
Environmental conditions			
Max. ambient temperature	10 - 35 °C		
Max. ambient humidity	30 – 80%		
Paint finish			
Standard	WH020		
Name and Type			
Manufacturer.	ILJIN Co., Ltd		
Name	Link Conveyor		
Model	ACC - *** SERIES		

2. Safety Instructions

1) Operation Precautions

For safe working, please notice and follow these precautions listed below prior to the operation of the equipment.

2) Safety Precautions

These safety precautions are to prevent unexpected danger or damage by using equipment safely and correctly. Follow these instructions in order to prevent unexpected accidents or trouble in advance.



ELECTRICAL HAZARD

Warning-sticking on the Electric Panel

Before starting any maintenance, TURN OFF and LOCKOUT



GENERAL CAUTION

Warning-sticking on the cover or door of operating parts.

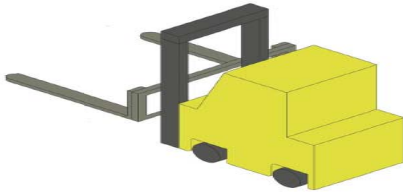
The interlocking devices protect the operators from hazards during operation.

3) Other Precautions

- Never convert main machine or control device to maintain safety.
- If system error occurs, examine current state and deal with it thoughtfully and correctly.
- Take measures or put under guidance to make sure that any part of body (including clothes) would not be in the operating range of machine during operation.
- Take measures on other equipment against making NOISE and avoid malfunction.
- Do not operate equipment with the wet hands, or you may get an electric shock.
- Please make sure that water or oil never touches the electric parts.
- Do not operate the equipment out of standard operating condition (such as temperature around, humidity, power, and air pressure).
- Do not operate the equipment where there are combustible gas, pollution, heavy dust and vulnerable to be wet.
- Consult with the person in charge if something not listed on this manual occurs.

3. Installation

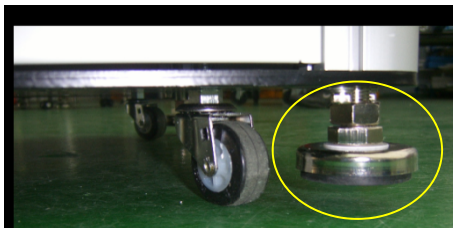
1) Transport



With the forklift

The machine may only be lifted in the middle of the center of gravity to prevent tipping!

Transport the machine to the intended set-up site.

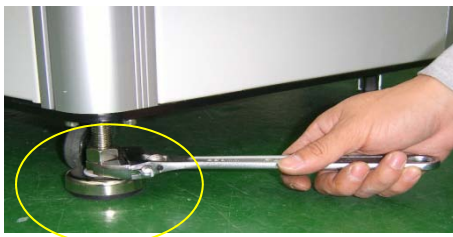


With the caster

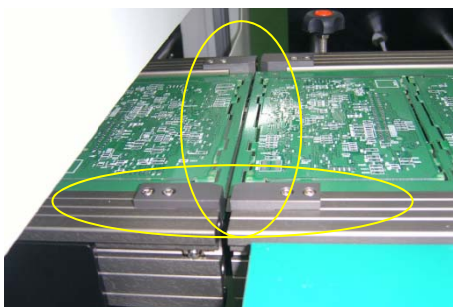
Carry the machine after lifting Feet of the machine till the wheel touches bottom.

Transport the machine to the intended set-up site.

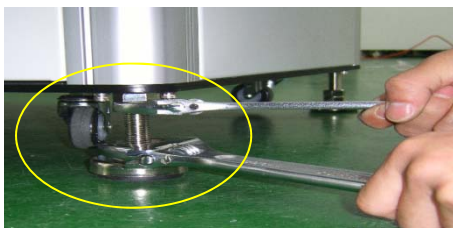
2) Adjusting the machine



Adjust the machine feet using a precision water Level.



In case of adjusting level between the machine, PCB must be carried without any trouble in accordance with width, length, horizontal level of PCB



Adjustment, Completed

Lift the Nut of Feet up to the top after adjusting the machine level, so that the Feet can be fixed stably.

3) Storage

When storing equipment, the environment must be aware of exactly what the state.
The information below is for the safe storage of the equipment are restricted content:

Temperature:

- When you use: Celsius from 0 ° to + 30 ° F (86 ° to +32 ° in)
- When storing: degrees from 0 ° to + 30 ° F (86 ° to +32 ° in)
- The maximum permissible moisture content: 50%

4. Equipment Operation

1) Operating Description



Main Switch

On (I) : supply equipment power
Off(O) : cut off equipment power



Buzzer

Beep when the equipment is in trouble.



Speed Controller Unit

Controller the state of run/stop, and conveyor speed.
Controlling various speed range(LOW ~ HIGH) is possible.

- STOP : Stop the function of control unit.
- RUN : Operate the function of control unit



Emergency stop

This switch is used to stop all operations during manual or automatic drive



Width Control Unit (Only Manual type)

This is used when controlling the width of conveyor by hands.

Signal Tower



The machine state is shown through the indicator light.

- Flashing red indicates a machine error message.
- The yellow light indicates "Machine manual" state.
- The green light indicates "Machine running" state.



a. Power

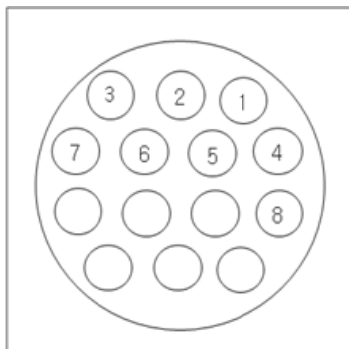
b. Interface

Power, Interface Connector

- Connect power after machine setup.
- Connect Interface after checking front and rear process.

Interface Connector Layout

We used SMEMA INTERFACE for connecting the equipment.



Connector [AMP : 206044-1]

SMEMA IN	
PIN	Signal
1	PCB request (Contact) to Prev Machine
2	PCB request (Contact) to Prev Machine
3	PCB ready(+) signal from Prev Machine
4	PCB ready(-) signal from Prev Machine
5	
6	
7	Ng signal(+) from SPI or AOI
8	Ng signal(-) from SPI or AOI

SMEMA OUT	
PIN	Signal
1	PCB request(+) signal from Next Machine
2	PCB request(-) signal from Next Machine
3	PCB ready(+) signal to Next Machine
4	PCB ready(-) signal to Next Machine

2) Touch screen

The Screen attached to equipment is convenient Touch Screen. It has the role of switch for equipment operation and indicator for errors. Please use finger and avoid using nail or sharp things to treat it, or it may lead screen damage.



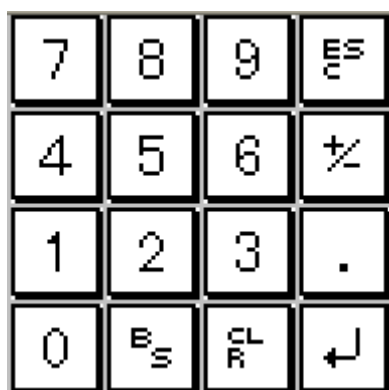
☞ On State

If Background of switch is black and character is white, it is in the state of switching on..



☞ Off State.

If Background of switch is white and character is black, it is in the state of switching off.



☞ In the state of waiting for figure insert.

It is used for setting up situation and it appears when waiting for figure input. When this screen appears, please insert the figures included in the possible range and press down ENTER key which is located in the lower right side.

First Stage Screen

If supply the power into equipment, this screen occurs.

It is possible to choose Automatic or manual driving, and adjust equipment.

Link Conveyor		Count Initial
Rail Width	***.*	Model
Current Count	****	
Auto	Start	Manual

 **Rail Width ***.***

Displays current width of rail.

 **Current Count ******

Display the count of PCBs which have been came in from rail and pushed to rail.

 **Auto**

- AUTO LAMP OFF : possible to change the state to manual driving.
- AUTO LAMP ON : In the state of waiting for automatic driving.

 **Start**

- START LAMP OFF : In the state of waiting for automatic driving.
- START LAMP ON : In the state of starting for automatic driving.

 **Count Initial**

Make the unloading quantity "0".

It has an effect only after pressing it over 0.5 second to avoid malfunction.

 **Model**

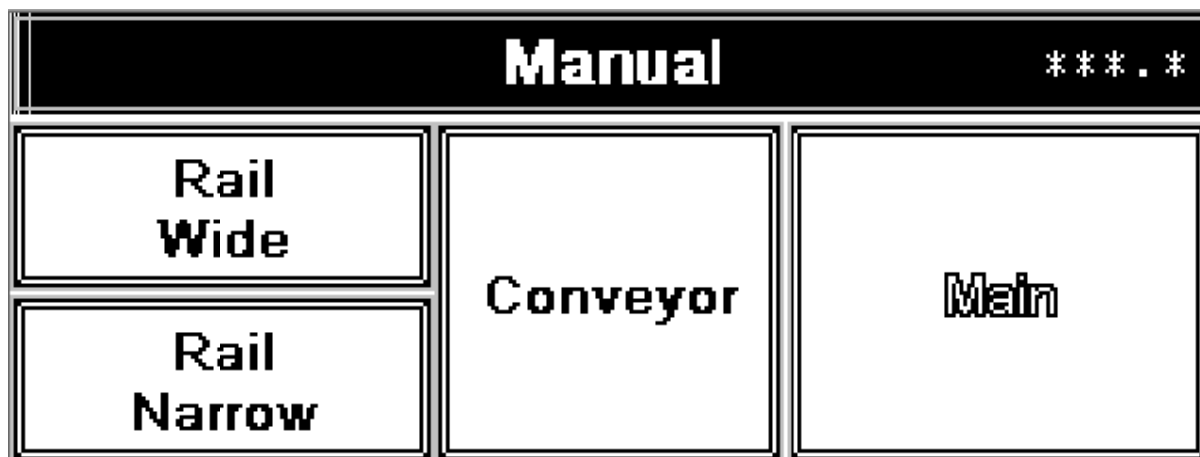
Move to model screen.

 **Manual**

Move to Manual operation screen.

Display for Manual Driving

If pressing "**Manual**" switch, this screen occurs.
It is possible to choose Manual driving and adjustment.



Displays current width of rail.



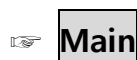
Make the width of Rail Conveyor wide.



Make the width of Conveyor narrow.



Make conveyor turned ON/OFF.



Call first stage screen.

Width Operation

If you press **[Model]** switch, this screen occurs.
Conveyor Rail width control is possible in this screen.

Width Adjustment Main	Model "A"	***.*
	Model "B"	***.*
	Model "C"	***.*
	Model "D"	***.*
Target width ***.* Width offset -*.*		

Width Adjustment

Start Auto width adjustment for selected Model.

Model "A" *.* ~ Model "D" ***.***

- Model "A" ~ "D" : Select Model
- ***.* : Display Conveyor width of corresponding Model
(Input Range 50~460)
- In case inputting Conveyor width, Press ***.* once

Target width *.***

Display target width of Conveyor Rail.

Width offset*.*

Display Offset width of Conveyor Rail

Main

Call first stage screen.

Screen for Error

If error occurs during operating, this screen occurs.



Buzzer Stop

- LAMP OFF : BUZZER ON
- LAMP ON : BUZZER OFF

Reset

If pressing down this switch after clearing the error, you can move into first stage screen.

5. Trouble Shooting

Emergency Stop (except for CE type)

- Details : Emergency stop
- Cause : Emergency stop switch has been pressed.
- Troubleshooting : Cancel emergency stop switch and press RESET switch.

Conveyor In, Conveyor Into

- Details : Error occurs during PCB entrance.
- Cause : Rail width or level is different between equipment, or PCB is caught in the Conveyor.
- Troubleshooting : Remove the PCB in the conveyor.

Conveyor Out

- Details : Error occurs while pushing PCB.
- Cause : Rail width or level is different between equipment, or PCB is caught in the Conveyor.
- Troubleshooting : Remove the PCB in the conveyor.

Conveyor 2 PCB

- Details : Error occurs while Conveyor goes forward/backward.
- Cause :: PCB is detected in the SENSOR of the entrance or pushing part of Conveyor.
- Troubleshooting : Removing PCB in the entrance or pushing part of Conveyor.

Door Interlock!

- Details: Door Interlock
- Cause: The door has been opened.
- Troubleshooting: Close the door and press reset.

Adjustment Width Interlock!

- Cause: Interruptive material has been detected during width adjustment of Rail Conveyor.
- Troubleshooting: Remove the interruptive material or check the sensor malfunction.

Adjustment Width Over!

- Details: PCB Detection in the exit part during width control of Rail Conveyor
- Troubleshooting r : Remove the cause

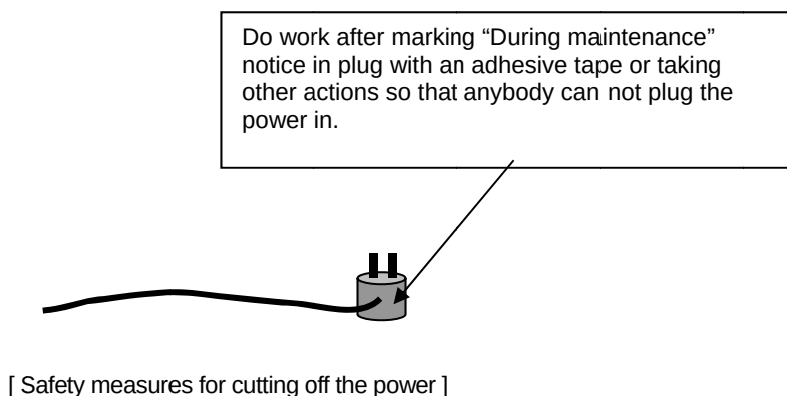
Adjustment Width Time Over!

- Details: Time over of width control Rail Conveyor(30 seconds)
- Troubleshooting r : Remove the cause

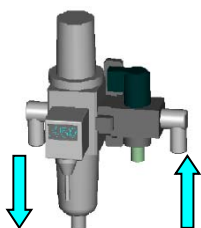
6. Maintenance

1) Precaution for maintenance and repair

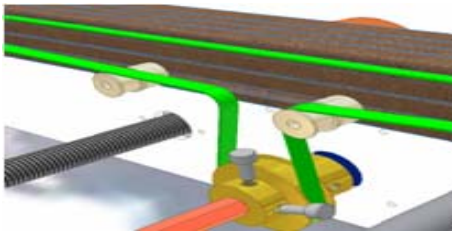
- a) During maintenance and repair, please make sure that the power shuts down before working in order to prevent dangerous accidents like an electric shock.
- b) Follow this safety measures in case someone plugs in without knowing that equipment is in the maintenance process.



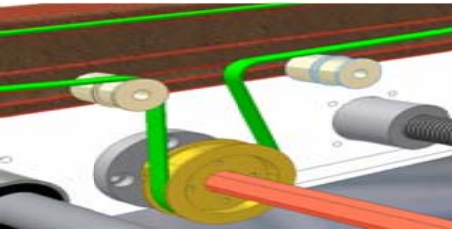
- c) In the case of maintenance and repair of the AIR device, cut off the main operation pressure of the AIR SERVICE unit. And conduct maintenance and repair after removing the air left over in the unit.



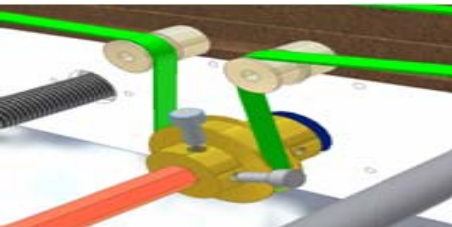
2) How to replace belt



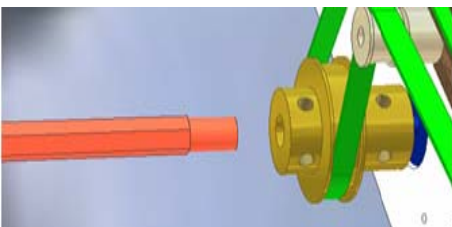
- a) Loosen the bolt of applicable fixed Bearing between 2 Tension Roller Bearings



- 2) Loosen the bolt of applicable Bearing between 2 Tension Roller Bearings

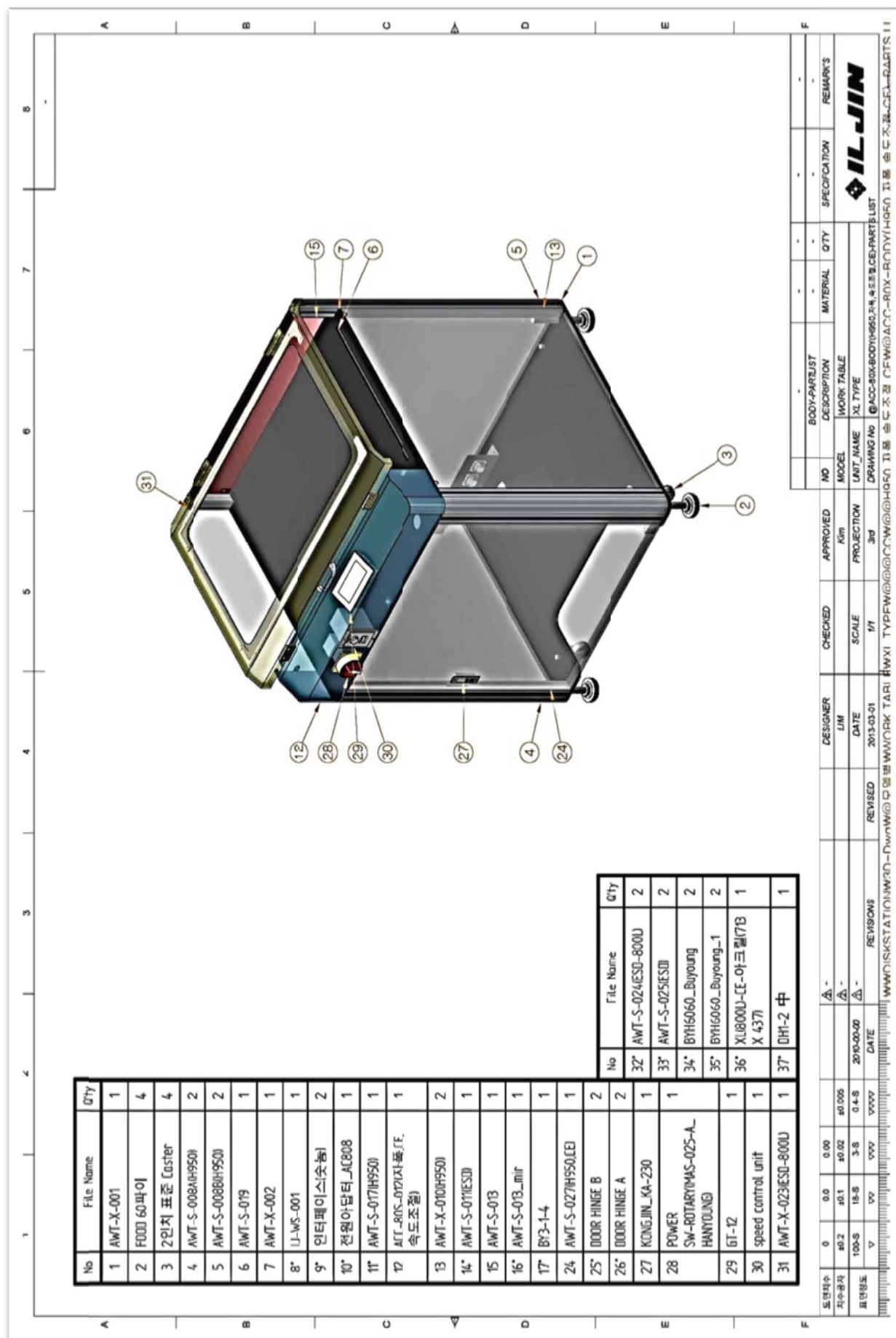


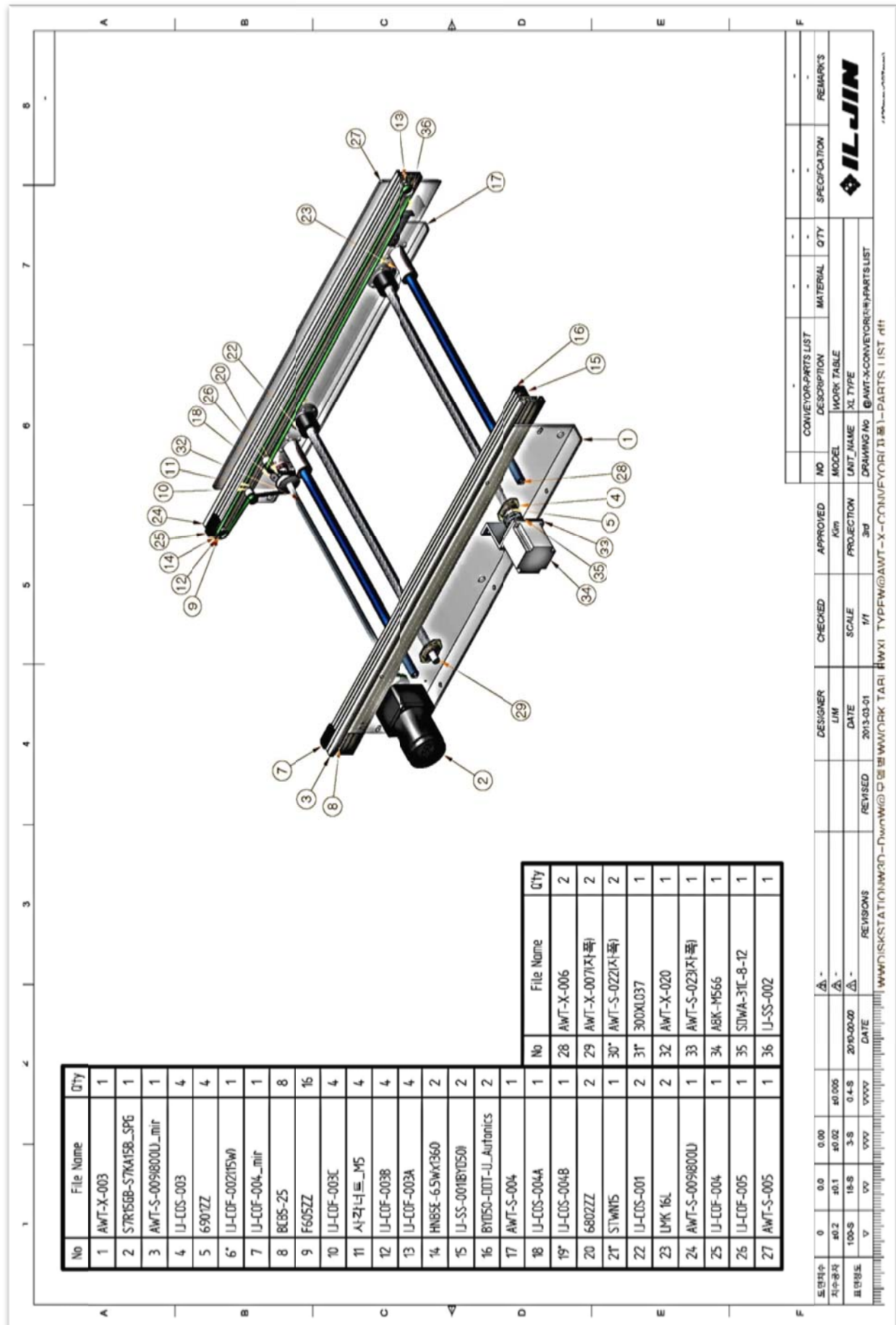
- 3) Loosen the bolt fixed with hexagonal pole attached Motor Pulley.



- 4) Disassemble hexagonal pole replace Belt.
After replacing, assembling must be performed in reverse order.

7. Part list

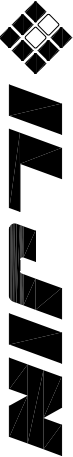




8. Electric Diagrams

01	Purchase List (Electrical Panel Part)					
	NO	Name	Maker	Model	Q'ty	Comment
	1	Main Breaker	LGIS	BS3ZC-6A	1	
02	2	Circuit Protector	Honeywell	GCP31A-5A	1	
03	3		Honeywell	GCP31A-3A	1	
	4	Switching power supply	Meanwell	NES-100-24	1	
04	5	Program Logic Control	Panasonic	FP0R-C32T	1	
05	6	Redly	Honeywell	SZR-LY2-N1	*1	
	7	Redly Soket	Kacon	KLY2	*1	
06	8	Terminal Block	Autonics	AFS-H40	1	
	9		Dong-a	DA1N-15A	18	
07	10	Step Motor Driver	Autonics	MD5-ND14	1	
	11	Bus Bar	ILJin	E Bar	1	
08	12					
	13					
09	14					
	15					
10	16					
	17					
11	18					
	19					
12	20					
	21					
13	22					
	23					
14	24					
	25					
15	26					
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16	28					
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17	30					
	31					
18	32					
	33					
19	34					
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22	40					
23	Conveyor Motor 1 Drive : 3EA Conveyor Motor 2 Drive : 4EA					
24						
25						

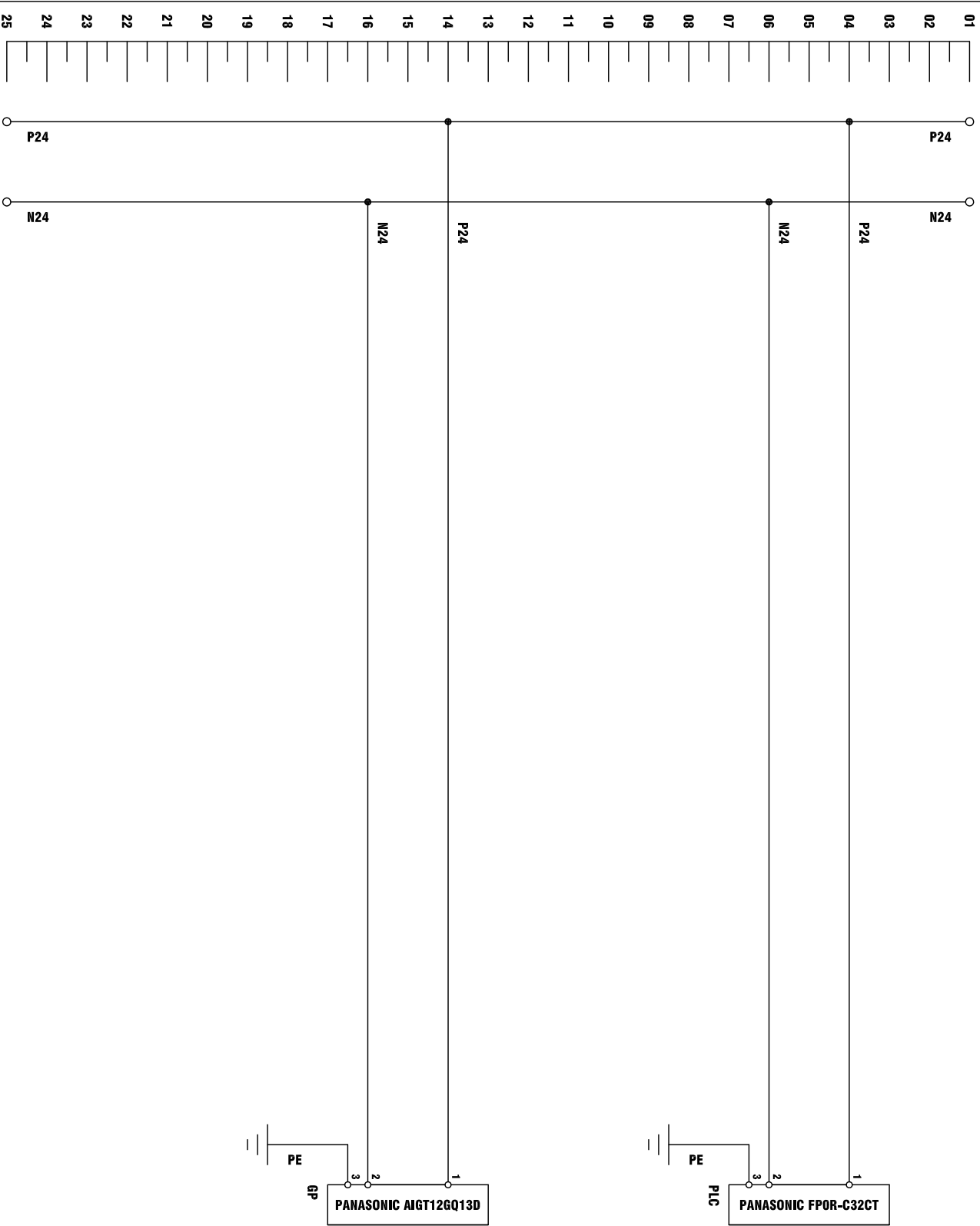
01	Purchase List (Local Part)					
	NO	Name	Maker	Model	Q'ty	Comment
02	1	Power Cable	Kuma Keur	KKP-4819R	1	
	2		Kuma Keur	SS-7B	1	
03	3	SMEMA Connector	AMP	206044-1	2	
	4		AMP	206070-8	2	
04	5		AMP	206043-1	2	
05	6	Graphic Panel	Panasonic	AICT12CQ13D	1	
	7	Switch	Honyoung	MAS-025-A	1	
06	8	Buzzer	Autonics	B2NB-BID	1	
	9	Sensor	Autonics	BYD50-DDT-U	2	
07	10		Sunx	PM-K64	2	
	11		Honyoung	UP18S-6NC	1	
08	12					
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	45					
25	46					

TITLE	STANDARD TOUCH CE TYPE		DRAWN	DESIGN	CHECK	APPROVED	DATE	
PART	Purchase List		FILE NAME					
PAGE	1 / 13		LINK CONVEYOR					

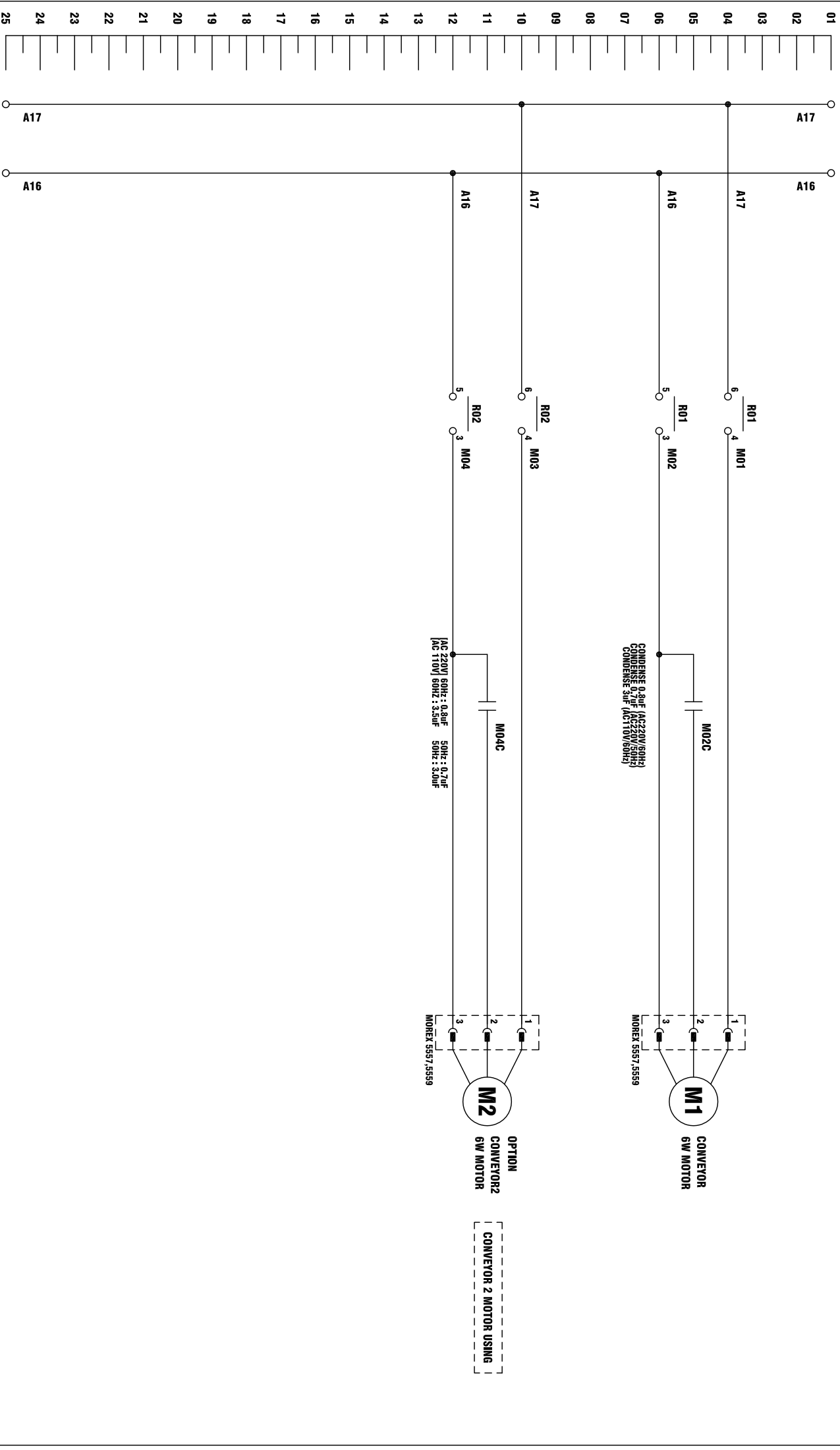
01	Link Connector [Auto Width]
02	1
03	9
04	6
05	6
06	6
07	2
08	3
09	4
10	7
11	8
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17	11
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Port List			
NO	Name	Maker	Model
1	Main Breaker	LGIS	BS32C-6A
2	Circuit protect	Honeywell	GCP31A-5A
3		Honeywell	GCP31A-3A
4	Program Logic Control	Panasonic	FF0R-C32CT
5	Switching power supply	Meanwell	NES-100-24
6	Ready	Honeywell	SZR-LY2-N1
7	Terminal Block	Autonics	AFS-H40
8		Dong-a	DA1N-15A
9	Step Motor Driver	Autonics	MD5-ND14
10	Bus Bar		
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Conveyor driven speed control type capacitors mounted does not.			

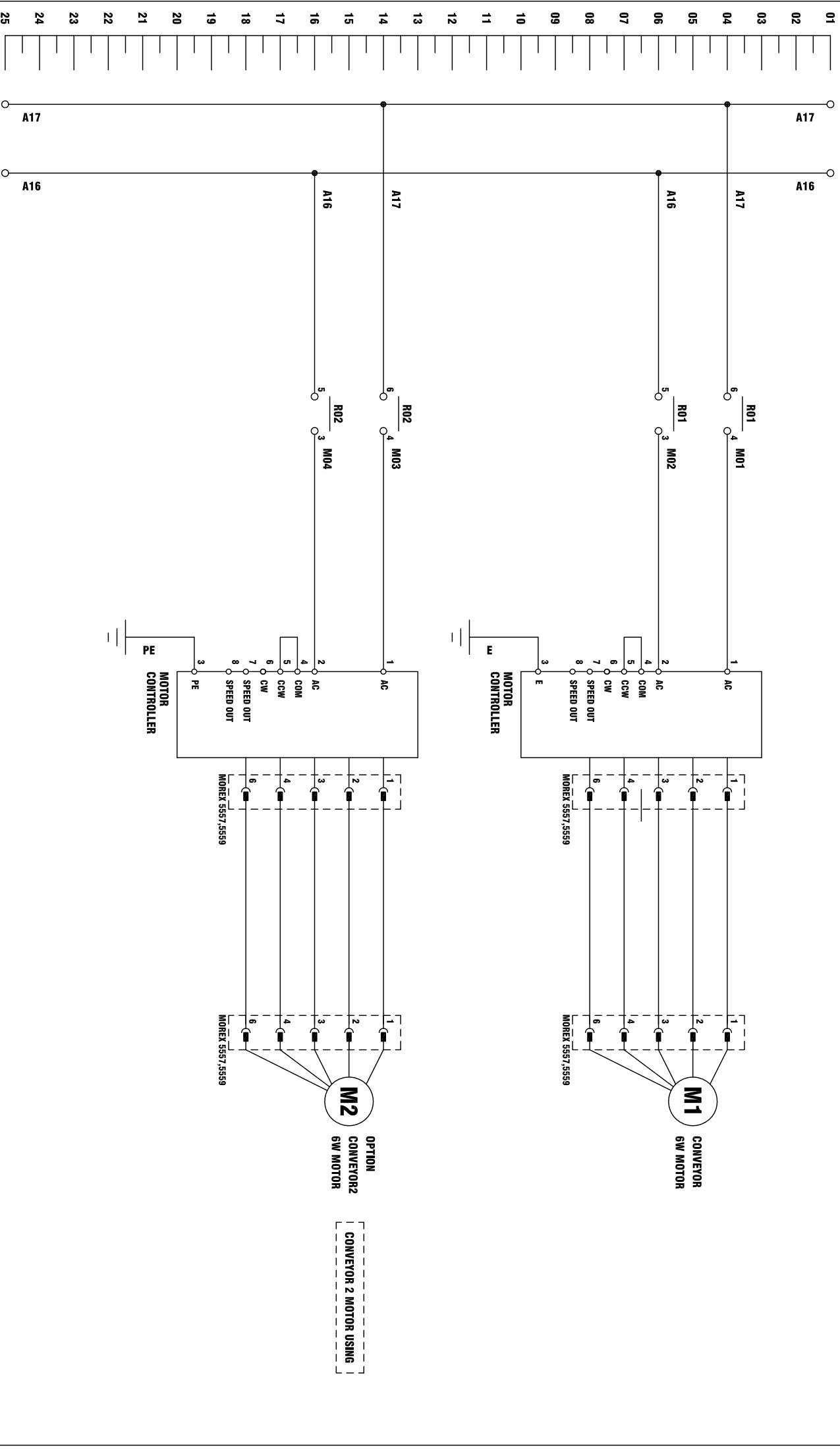




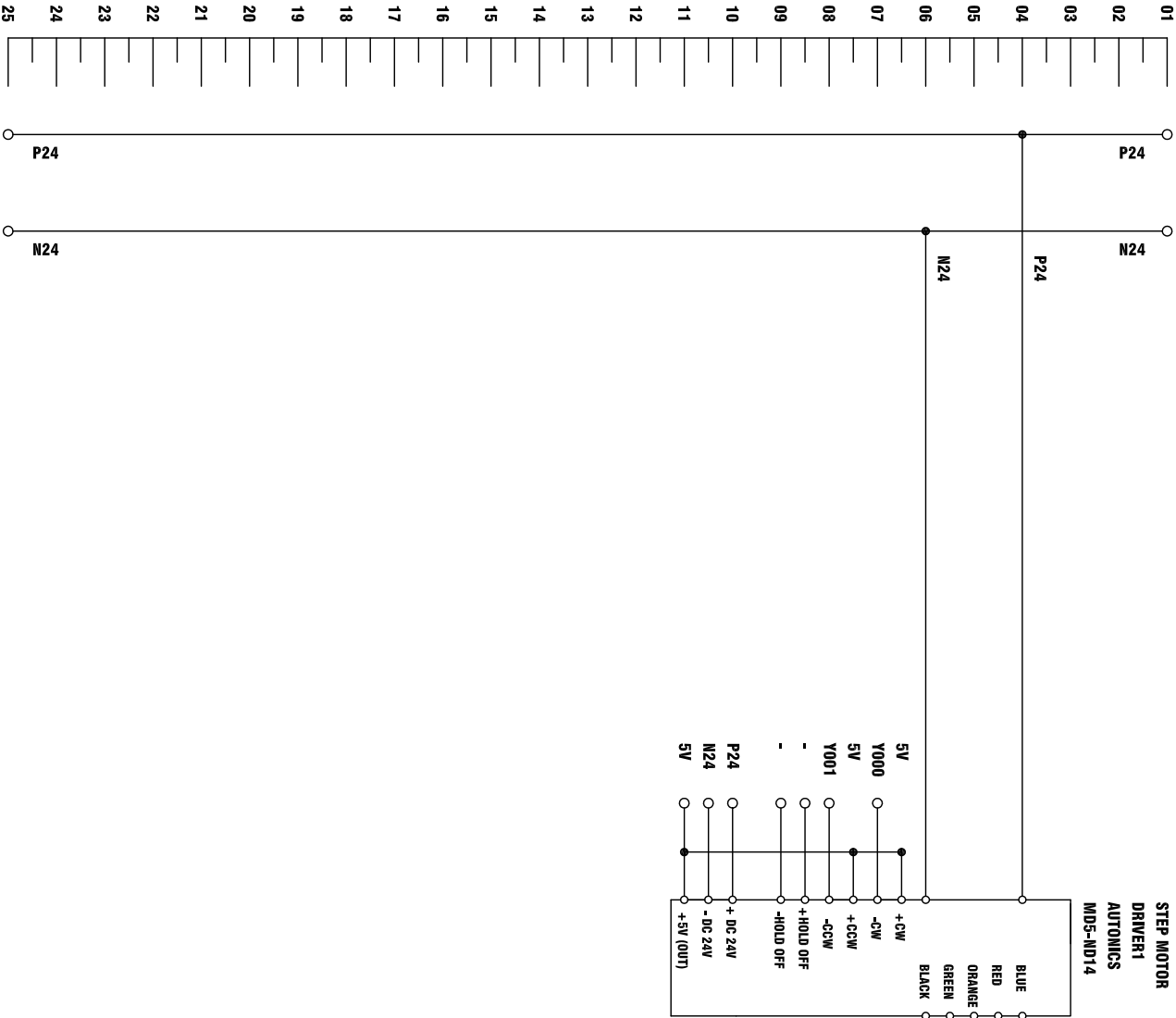
TITLE		STANDARD TOUCH CE TYPE		DRAWN	DESIGN	CHECK	APPROVED	DATE
PART	Power Supply	FILE NAME						
PAGE	5 / 13	LINK CONVEYOR						



TITLE		STANDARD TOUCH CE TYPE		DRAWN	DESIGN	CHECK	APPROVED	DATE
PART	AC Motor	FILE NAME						
PAGE	6 / 13	LINK CONVEYOR						

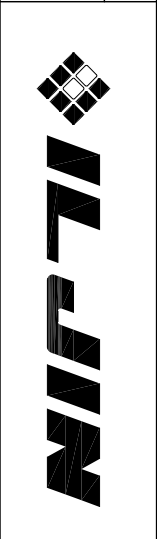


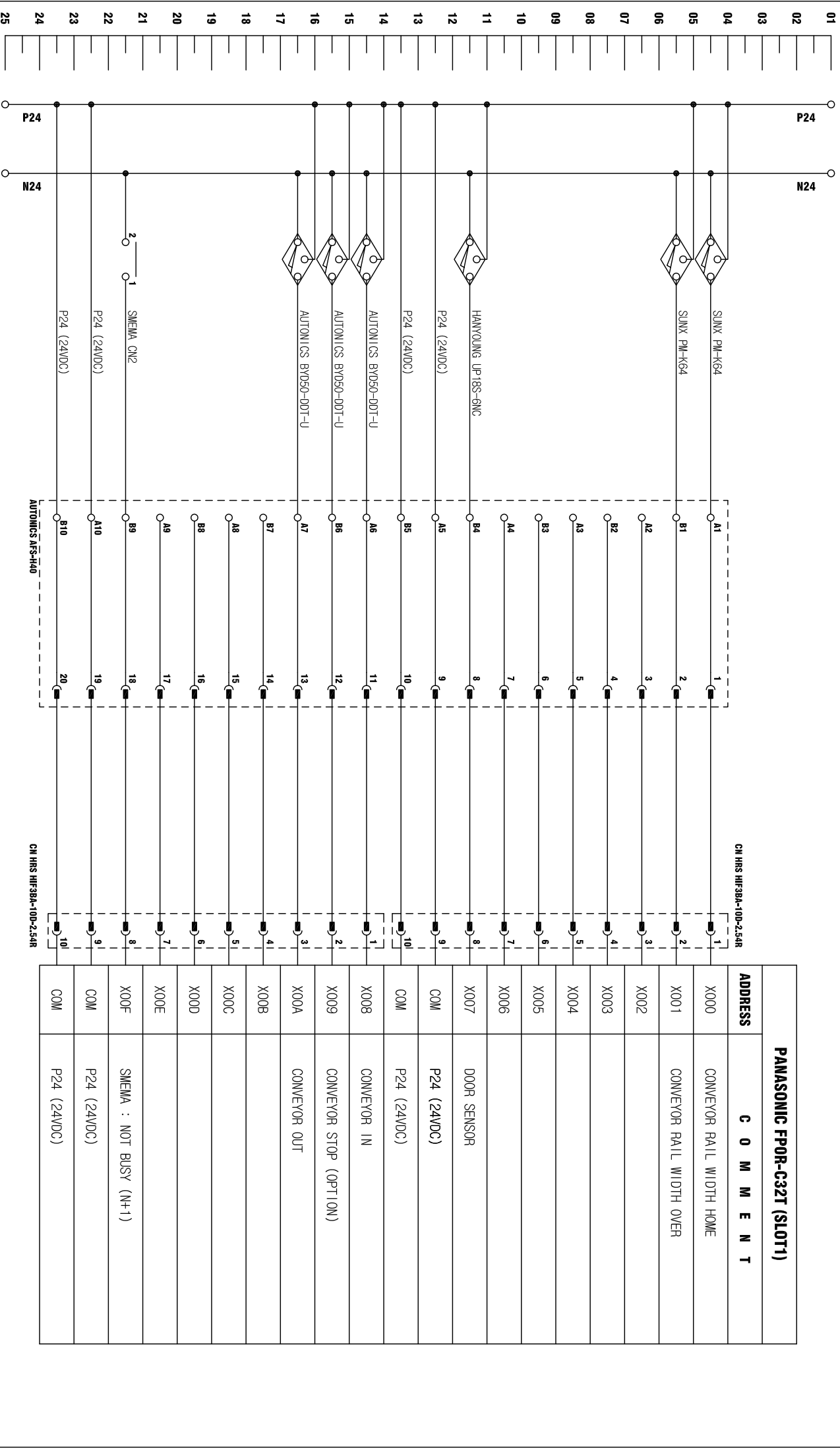
TITLE		DRAWN	DESIGN	CHECK	APPROVED	DATE
PART	AC Motor(OPTION)	FILE NAME				
PAGE	7/13	LINK CONVEYOR				



CABLE LIST			
		CN MOREX (5557 6P M)	CN MOREX (5559 6P F)
		PIN,NOCOMMENTOP CABLE 0.5SQ X 6C	
1	1	BRACK	BLACK
2	2	RED	RED
3	3	YELLOW	ORANGE
4	4	GREEN	GREEN
5	5	BLUE	BLUE
6	6	WHITE	-

TITLE		STANDARD TOUCH CE TYPE		DRAWN	DESIGN	CHECK	APPROVED	DATE
PART	Step Motor	FILE NAME						
PAGE	8 /13	LINK CONVEYOR						





PANASONIC FP0R-C32T (SL0T1)		
ADDRESS	C O M M E N T	
X000	CONVEYOR RAIL WIDTH HOME	
X001	CONVEYOR RAIL WIDTH OVER	
X002		
X003		
X004		
X005		
X006		
X007	DOOR SENSOR	
COM	P24 (24VDC)	
COM	P24 (24VDC)	
X008	CONVEYOR IN	
X009	CONVEYOR STOP (OPTION)	
X00A	CONVEYOR OUT	
X00B		
X00C		
X00D		
X00E		
X00F	SMEMA : NOT BUSY (N+1)	
COM	P24 (24VDC)	
COM	P24 (24VDC)	

TITLE		DRAWN	DESIGN	CHECK	APPROVED	DATE
PART	FP0R-C32T Input	FILE NAME				
PAGE	9 / 13	LINK CONVEYOR				

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GRAPHIC PANEL (PANASONIC AIGT12G0130)		
PIN NO.	COLOR	COMMENT
1	BROWN	+ (DC 24V)
2	BLACK	- (DC 24V)
3	-	E
4	ORANGE	SD
5	RED	RD
6	-	RS
7	-	CS
8	YELLOW	SG

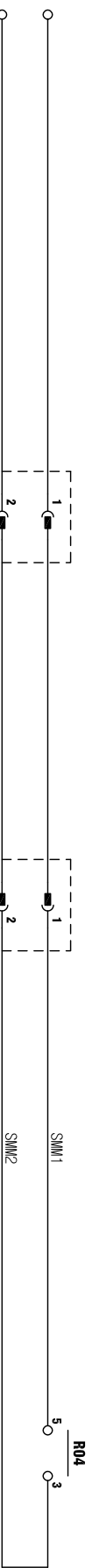
CABLE : 0.3 X 10C

COM PORT (FP0R-C32T)			
PIN NO.	COLOR	ADDRESS	
S	RED	SD	
R	ORANGE	RD	
G	YELLOW	SG	

OP CABLE LIST		
PIN NO.	COLOR	ADDRESS
1	BLACK	N24
2	BROWN	P24
3	RED	SD
4	ORANGE	RD
5	YELLOW	SG
6	GREEN	+V
7	BLUE	EMG
8	VIOLET	P24
9	GREY	Y007
10	WHITE	-

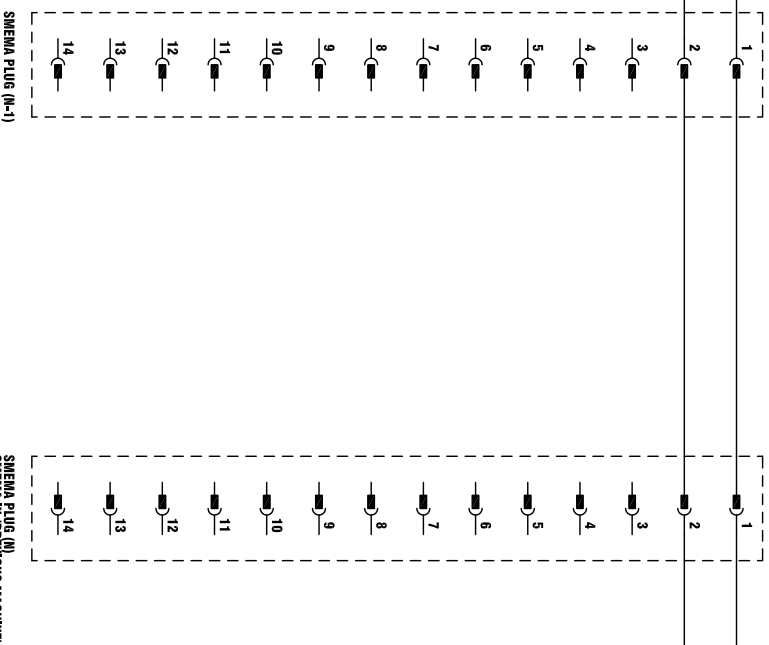
CABLE : KDC AWG 24 X 10C

TITLE	STANDARD TOUCH CE TYPE		DRAWN	DESIGN	CHECK	APPROVED	DATE	
PART	GP Interface							
PAGE	11/13	LINK CONVEYOR						



SMEMA : NOT BUSY

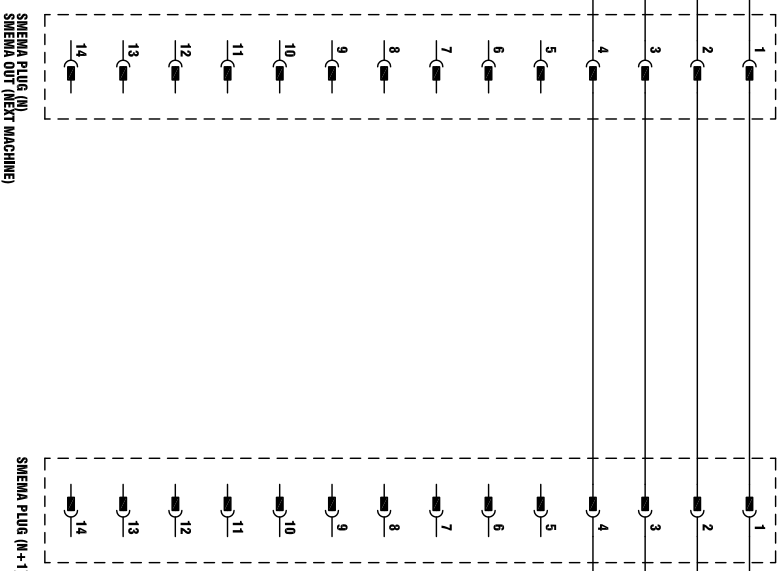
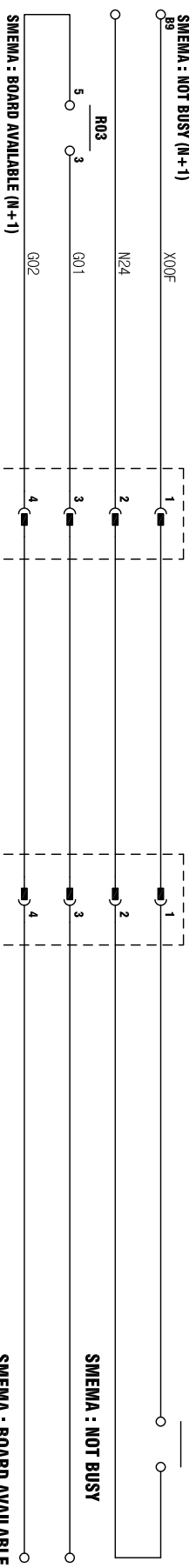
SMEMA : NOT BUSY (N-1)

SMEMA PLUG (N)
SMEMA IN (PREVIOUS MACHINE)

CABLE LIST		
PIN NO.	COLOR	ADDRESS
1	BLACK	SMM1
2	WHITE	SMM2
3	RED	-
4	GREEN	-

TITLE	STANDARD TOUCH CE TYPE		DRAWN	DESIGN	CHECK	APPROVED	DATE
PART	SMAMA (N-1)	FILE NAME					
PAGE	12/13	LINK CONVEYOR					





CABLE LIST		
PIN NO.	COLOR	ADDRESS
1	BLACK	X00F
2	WHITE	N24
3	RED	G01
4	GREEN	G02