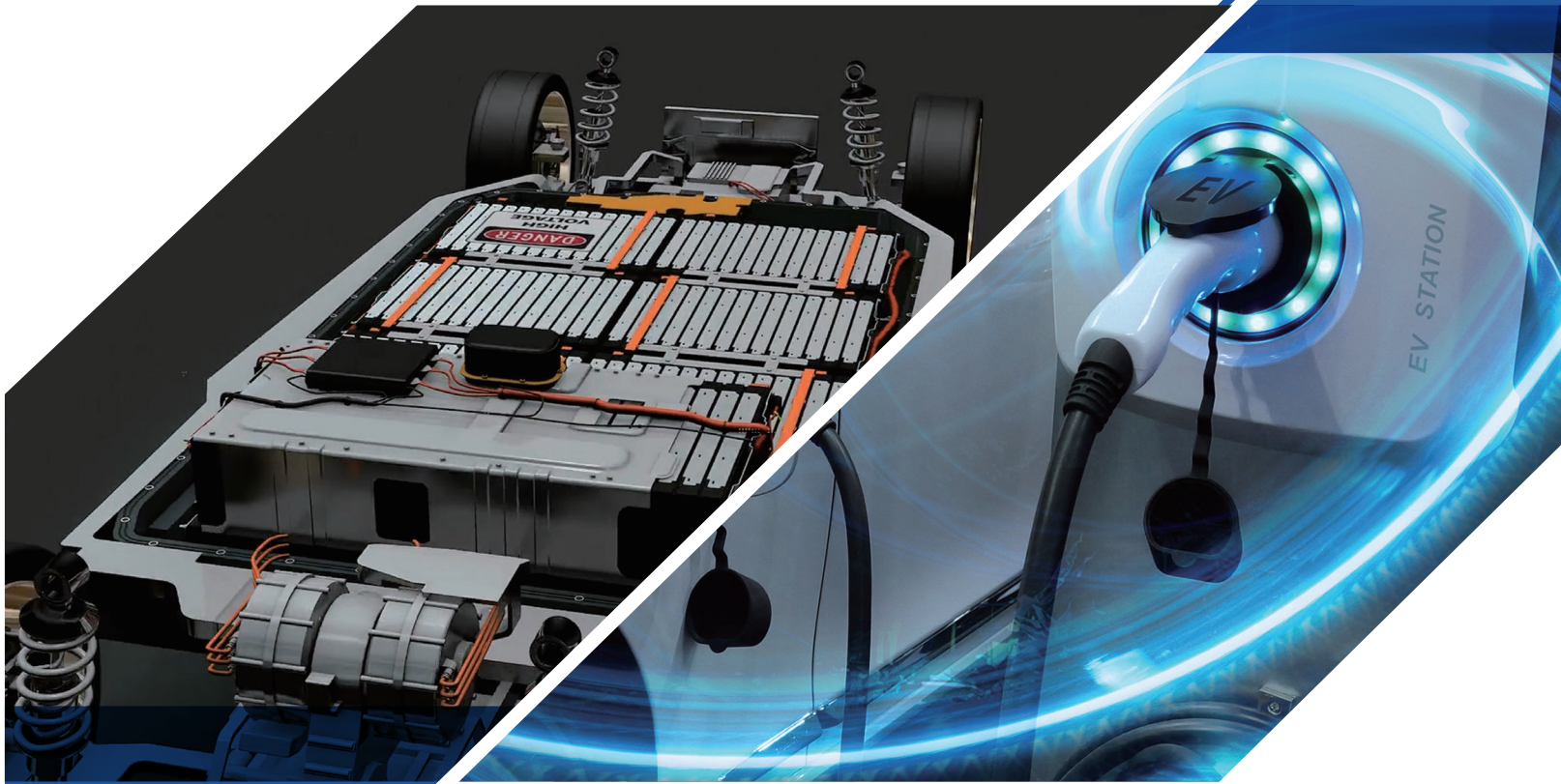




**SEJONG Technology co.,Ltd**

145-45, Sandong-ro, Eumbong-myeon, Asan-si, Chungcheongnam-do, South Korea

**TEL:** +82-41-546-2188 **Fax:** +82-41-546-2189



# SEJONG TECHNOLOGY

Secondary Battery / EV Battery

· Prismatic · Cylindrical · Pouch Type · Module Line

[www.sejongt.co.kr](http://www.sejongt.co.kr)



**SJ SEJONG TECHNOLOGY**

**SEJONG Technology co.,Ltd** has been producing battery equipment since its establishment in 2009. Sejong Technology equipment assure excellence in performance and safety based on more than 12 years of experience in manufacturing with technological development achievements  
Sejong is continuously supplying to the world's major battery manufacturers

The Main equipment manufactured by Sejong Technology is as follows.

- Tape machine for battery insulation
- Final Inspection machine for battery safety
- Automatic packaging machine for outbound
- Specification Tester for Battery performance
- Module / Packaging assemble line for Cylindrical battery

**Patent**

Secondary Battery – Prismatic / Compact Pouch



**Display**

**Overseas Patent**



SEJONG TECHNOLOGY

## Company facts



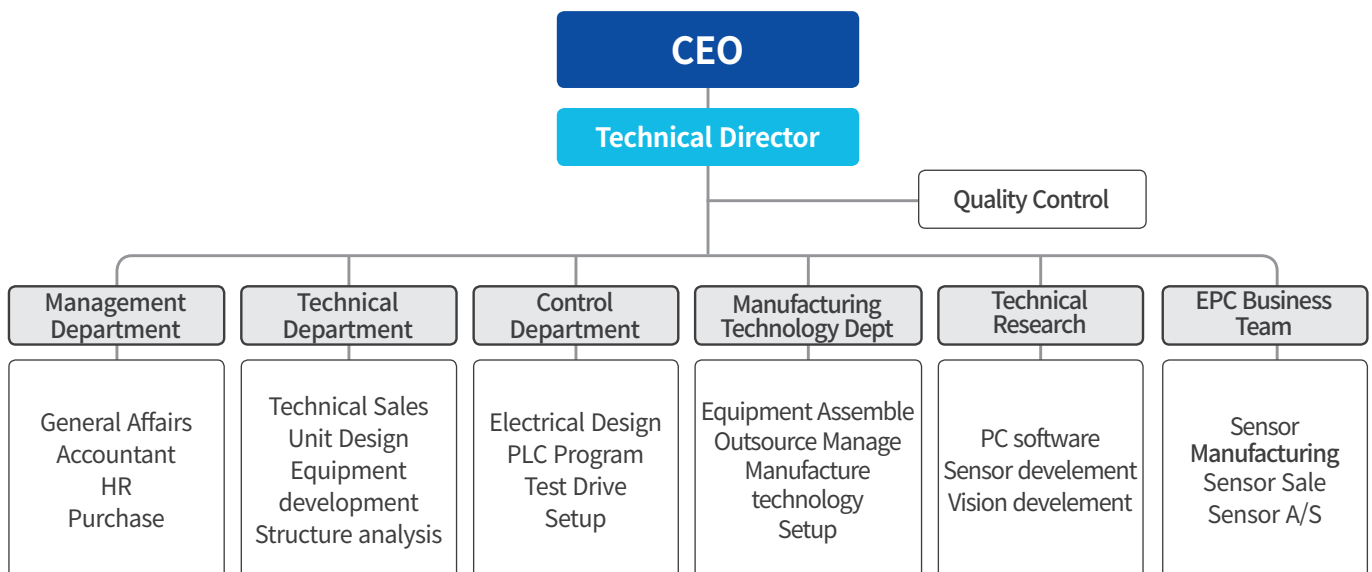
### Sejong Tech. HQ

Corporate Name	SEJONG Technology co.,Ltd
Location	145-45, Sandong-ro, Eumbong-myeon, Asan-si, Chungcheongnam-do, South Korea
Tel.	041)546-2188 041)546-2189(FAX)
Home Page	www.sejongt.co.kr
Email	contact@sejongt.co.kr
Date of Est.	2008/04/08 (yyyy/mm/dd)
CEO	Siwon Lee

### Europe Branch SJT HUNGARY Kft

Location	God, Hungary
Open	April 2020
Support	2 Engineers
Function	Technical Service Support Warehouse

## Organization

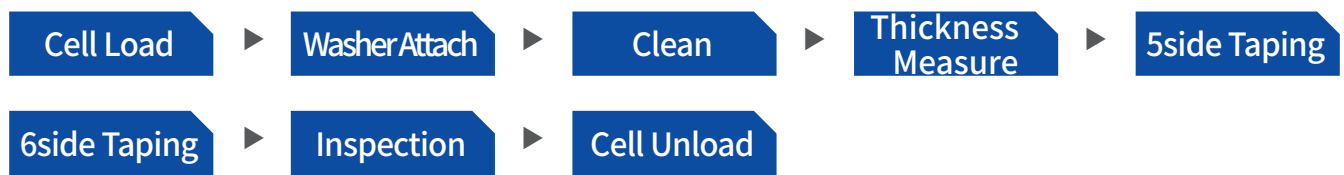




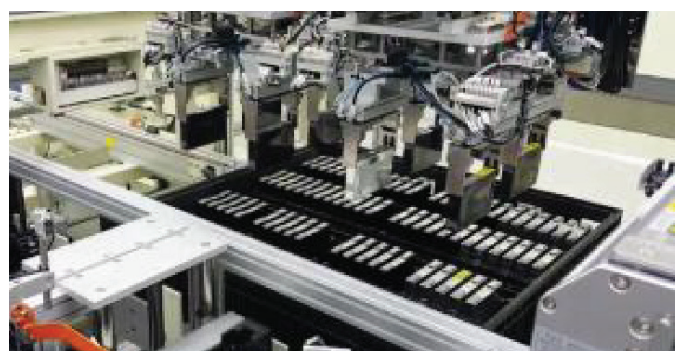
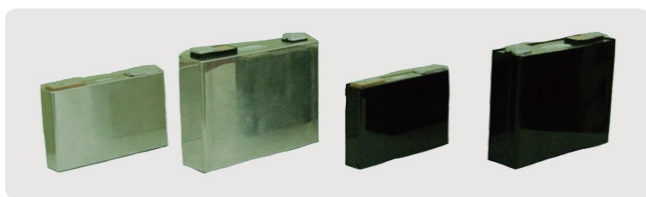
# Prismatic Cell

## Insulation Taping Machine (Module Inline Type)

### Process



### BATTERY



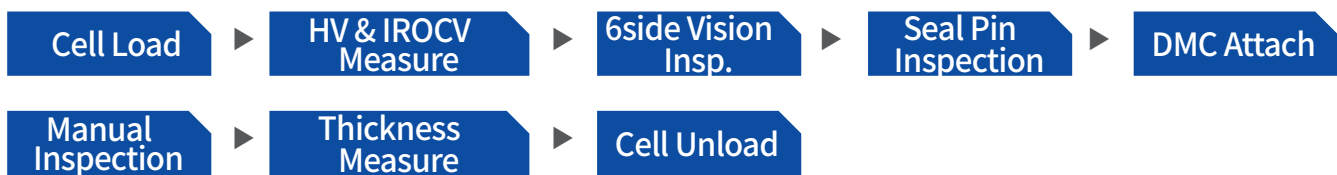
Manufacture Type	34Ah, 37Ah, 120Ah	Control Type	PLC+PC
Manufacture CAPA	12PPM	Line Efficiency	Over 95%
Equipment Size	8m x 8m x 2m(H)	OK Rate	Over 98%
Cell Transfer	Shuttle + Conveyor	Pneumatic	5.5Kg / cm <sup>2</sup>
Cell Protection	Puck Pocket Type	Power	3 phase 220V
J/C Part	Tape Feeder External Automatic	Production Delivery	4 months (Delivery Basis)

※ Note : Possible to manufacture on customer spec requirement.

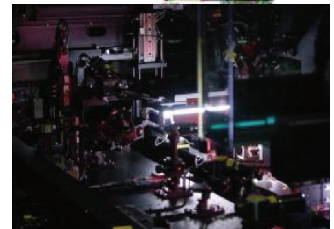
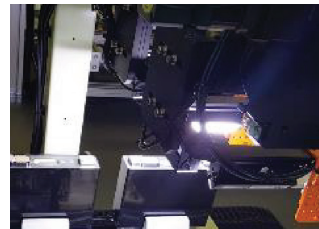
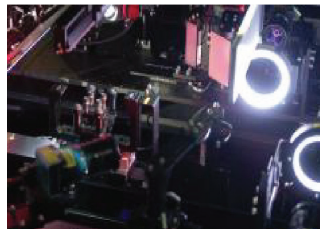
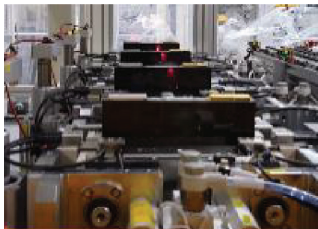
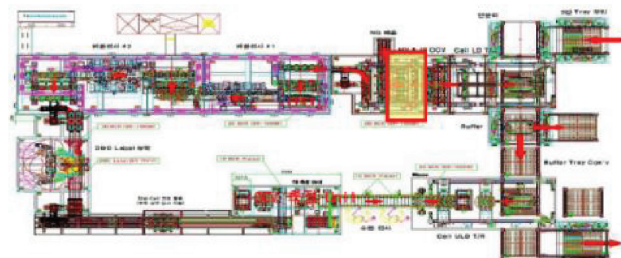
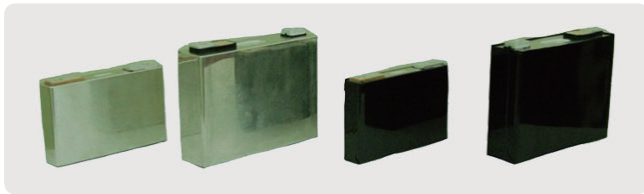
# Prismatic Cell

## Feature & 6side Final Inspection

### Process



### BATTERY



Product Application	EV Prismatic Cell	Cell Protection	Puck Pocket Type
Main Function	HV/IROCV/Seal Pin Insp. DMC Label/Vision Insp.	J / C Type	Full Automatic
Production Type	34Ah, 37Ah, 62.5Ah, 120Ah	Machine Efficiency	Over 95%
Production CAPA	15PPM	OK Rate	Over 98%
Equipment Size	17m x 8.5m x 2m(H)	Pneumatic	6Kg / cm <sup>2</sup>
Sales Record	Shuttle +Conveyor	Power	3 phase 220V 120Kw
Production Delivery	5 Months (Delivery Basis)		

※ Note : Possible to manufacture on customer spec requirement.

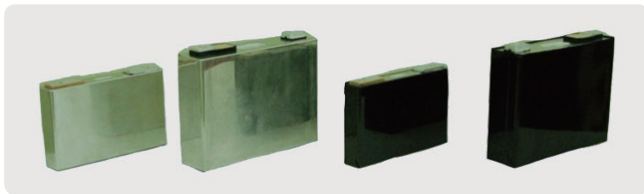


# Prismatic Cell

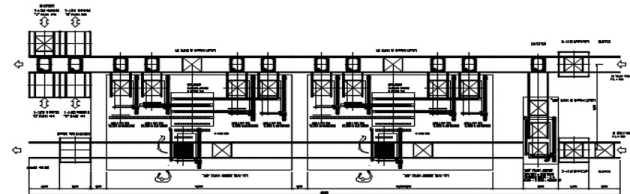
## Grading & NG sorter MC



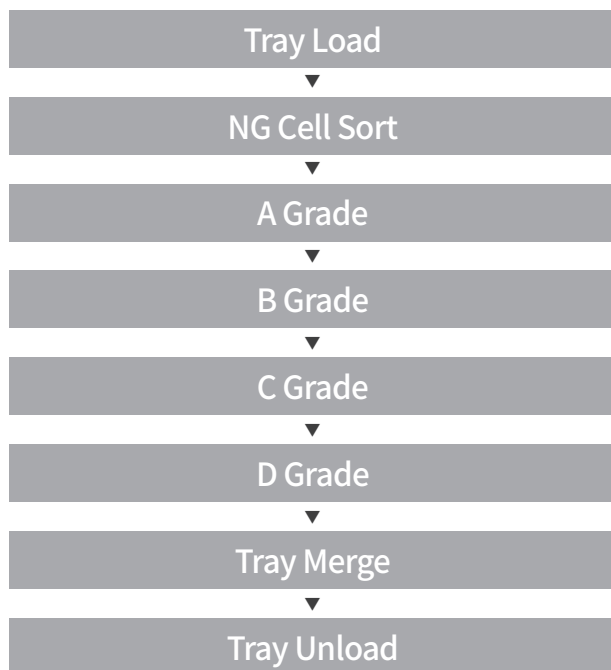
### BATTERY



### EQ Picture



### Process



### Specification

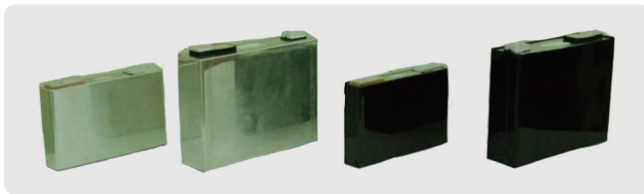
List	Content	List	Content
Production Type	34Ah, 37Ah, 62.5Ah, 120Ah	Control Type	PLC + PC
Production Capa	40PPM	Machine Efficiency	98% ↑
Equipment Size	40m x 10m x 2m(H)	OK Rate	99% ↑
Tray Transfer	4Axis robot	Pneumatic	6Kg / cm <sup>2</sup>
Tray Protection	Cell Chuck Type	Power	3 phase 220V
J / C Type	Automatic	Production Delivery	5 Months

※ Note : Possible to manufacture on customer spec requirement.

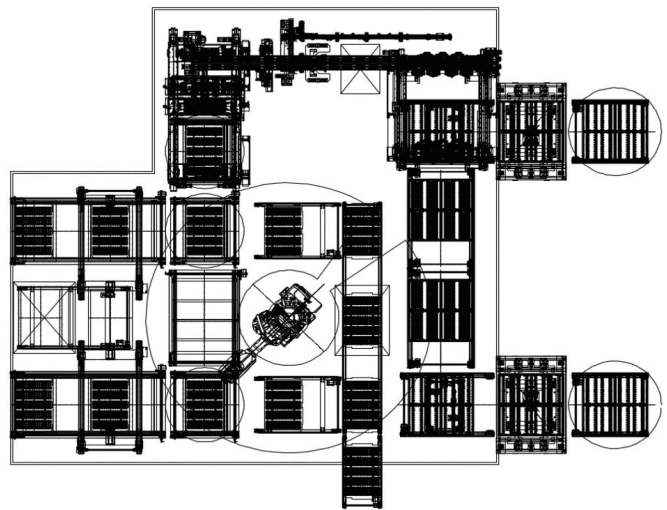
# Prismatic Cell

## Packing (returnable) MC

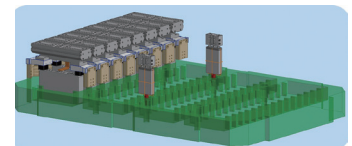
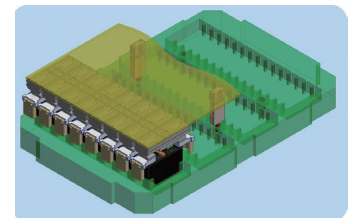
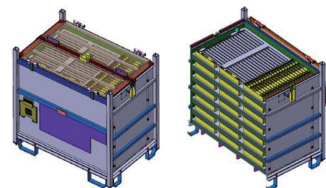
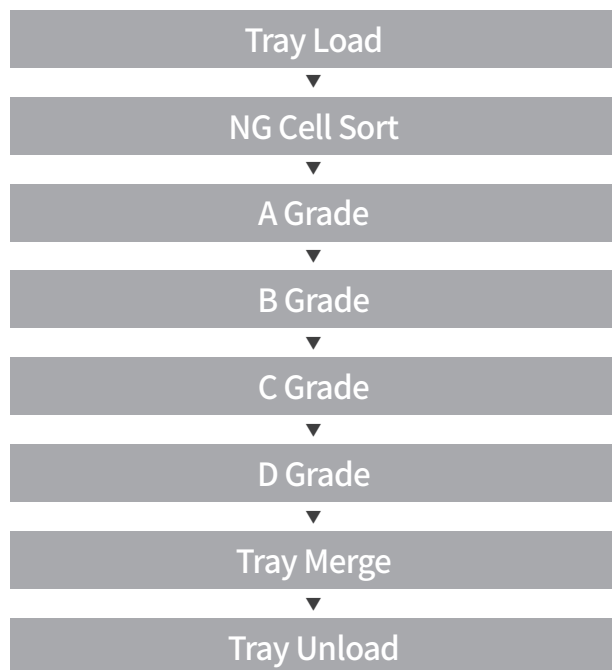
### BATTERY



### EQ Picture



### Process



### Specification

List	Content	List	Content
Production Type	34Ah, 37Ah, 62.5Ah, 120Ah	Control Type	PLC + PC
Production Capa	17PPM	Machine Efficiency	98% ↑
Equipment Size	12m x 10m x 2.5m(H)	OK Rate	99% ↑
Tray Transfer	4Axis robot	Pneumatic	6Kg / cm <sup>2</sup>
Tray Protection	Cell Chuck Type	Power	3 phsase 220V
J / C Type	Automatic	Production Delivery	5 Months

※ Note : Possible to manufacture on customer spec requirement.



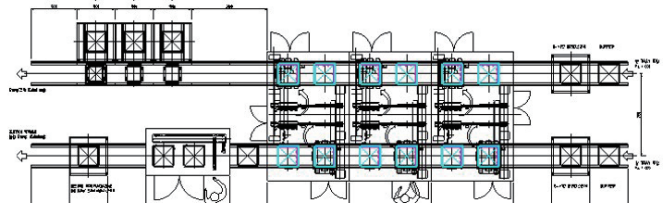
# Cylindrical Cell

## Grading & NG sorter MC

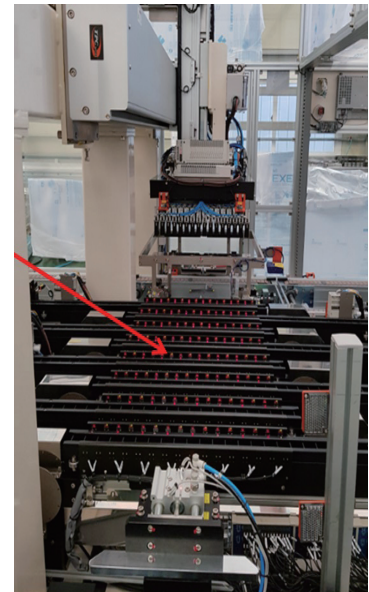
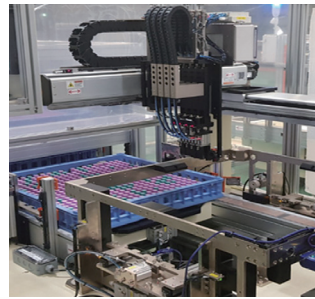
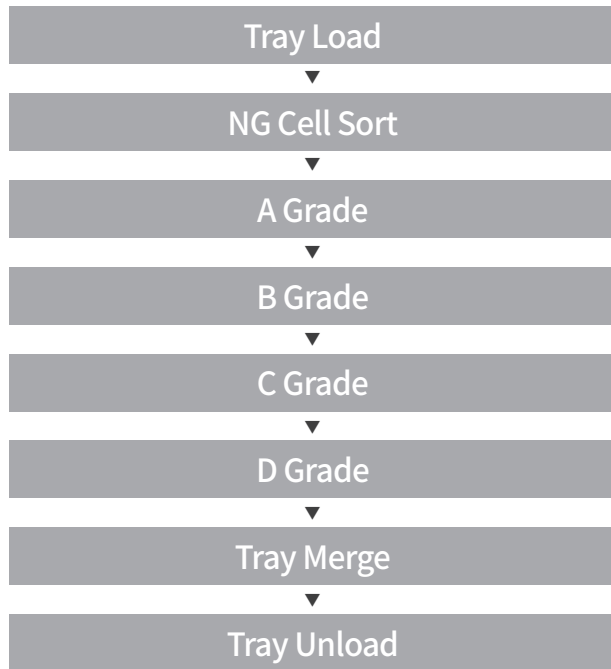
### BATTERY



### EQ Picture



### Process



### Specification

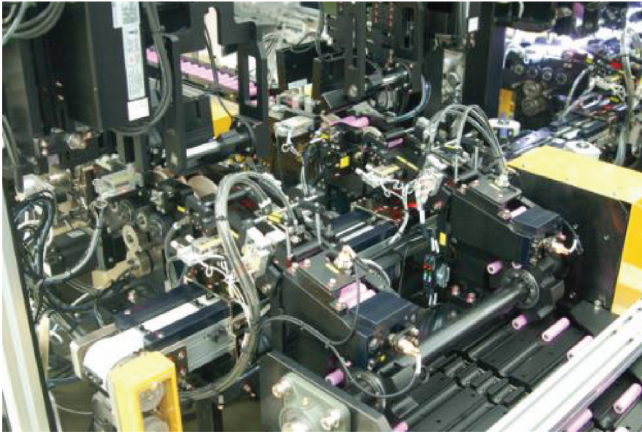
List	Content	List	Content
Production Type	18650, 21700	Control Type	PLC + PC
Production CAPA	300PPM	Machine Efficiency	98% ↑
Equipment Size	40m x 10m x 2m(H)	OK Rate	99% ↑
Tray Transfer	4Axis robot	Pneumatic	6Kg / cm <sup>2</sup>
Tray Protection	Cell Chuck Type	Power	3 phase 220V
J / C Type	Automatic	Production Delivery	5 Months

※ Note : Possible to manufacture on customer spec requirement.

# Cylindrical Cell

## Vision Inspection

### BATTERY



### Specification

Product Application	Cylindrical Cell(18600, 21700)	Cell Protection	Coated Gripper
Main Function	Area : Top, Bottom, Sides Inspection List : Dent, Scratch, Contamination, Foreign Substance	J / C Type	Automatic
Sales Record	Samsung SDI	Control Type	PLC + PC
Production Type	18650, 21700	Machine Efficiency	Over 95%
Production CAPA	330PPM	Reliability	Over 99%
Equipment Size	12m x 6m x 2m(H)	Pneumatic	5.5Kg / cm <sup>2</sup>
Cell Transfer	Pocket Converyor	Power	3 phase 220V 60Kw
Production Delivery	4 Months (Delivery Basis)		

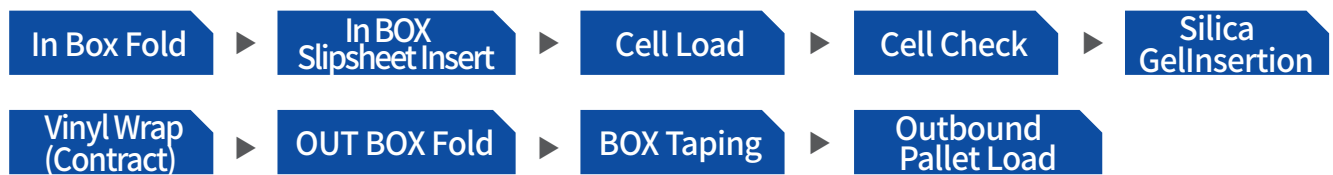
※ Note : Possible to manufacture on customer spec requirement.



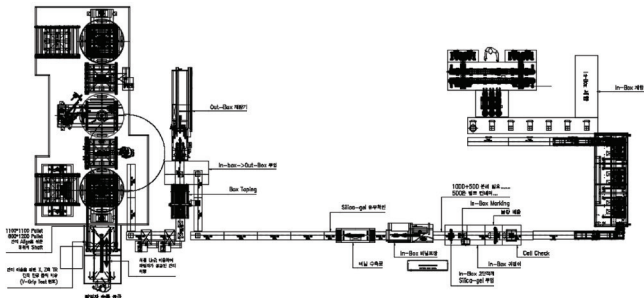
# Cylindrical Cell

## Cylindrical Cell Shipment Packaging Automation

### Process



### BATTERY



Product Application	Cylindrical Cell / Polymer Cell	Cell Protection	Coated Gripper
Main Function	Automated Delivery Packaging 18650 : Corrugated cardboard 21700 : PP Tray	J / C Type	Automatic
Sales Record	Samsung SDI	Control Type	PLC + PC
Production Type	18650, 21700	Machine Efficiency	Over 95%
Production CAPA	330PPM	Reliability	Over 99%
Equipment Size	20m x 12m x 2.5m(H)	Pneumatic	5.5Kg / cm <sup>2</sup>
Cell Transfer	Suspension Bridge	Power	3 phase 220V 80Kw
Production Delivery	4 Months (Delivery Basis)		

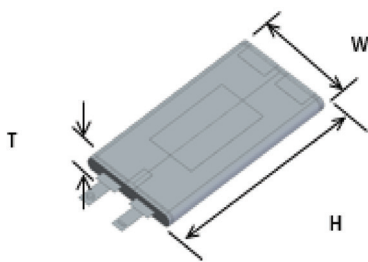
※ Note : Possible to manufacture on customer spec requirement.

# Pouch Type

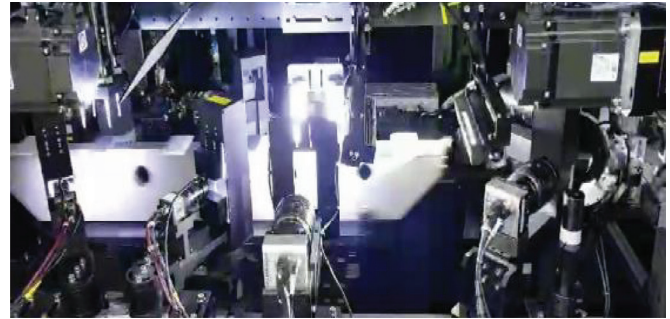
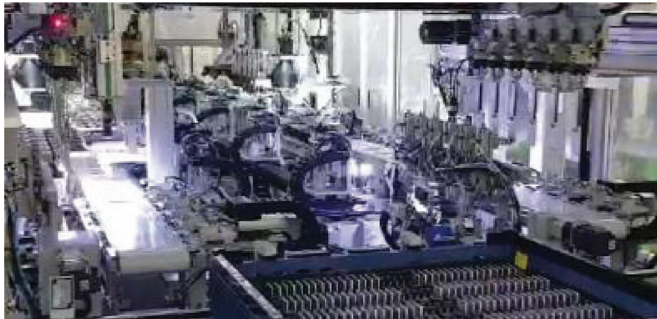
## Polymer Cell Dimension Measurement / 6side Vision Inspection

Insp. Area	Top, Bottom / Front, Back / Left, Right / Corner Edges
Insp. Type	Dimension Measure, Thickness, Scratch, Dent, Electrolyte, Contamination

### BATTERY



T	W	H
3~10	30~120	40~120



Application Product	Polymer Cell	J / C Type	Automatic
Sales Records	Samsung SDI	Control Type	PLC + PC
Max Inspection Size	10m x 120m x 120(MAX)	Machine Efficiency	Over 95%
Production CAPA	60PPM	Reliability	Over 99%
Equipment Size	20m x 6.5m x 2m(H)	Pneumatic	5.5Kg / cm <sup>2</sup>
Cell Transfer	Shuttle	Power	3 phase 220V ±10%
Cell Protection	VACUUM PICK UP	Production Delivery	4 Months (Delivery Basis)

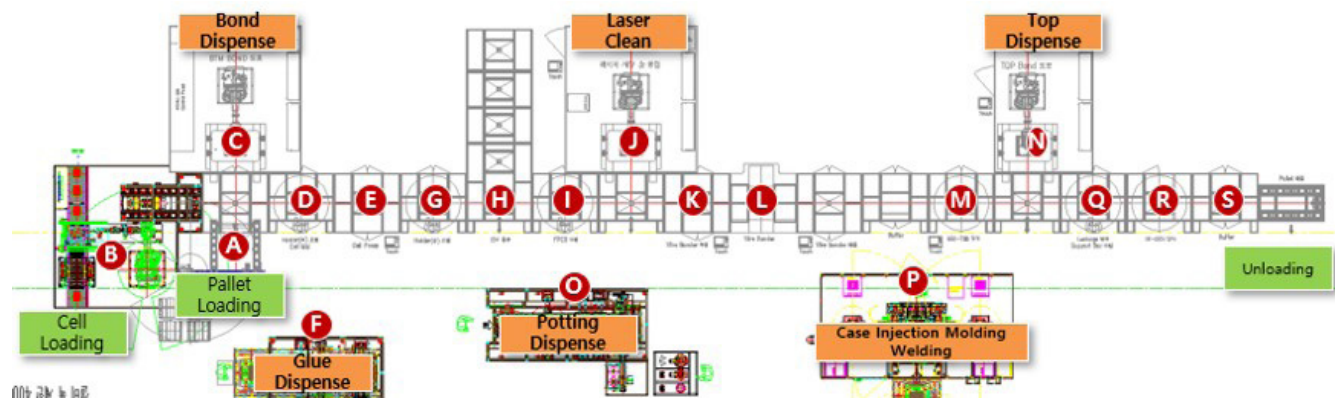
※ Note : Possible to manufacture on customer spec requirement.



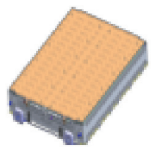
# Module Line

## EV Cylindrical Cell Module Assemble Line

### EQ Picture & Layout



### Module



### Specification

List	Content	List	Content
Production Type	32S26P (21700) 38S26P (21700)	Control Type	PLC + PC
Production Capa	180sec / module	Machine Efficiency	98% ↑
Equipment Size	40m x 6.5m x 2m(H)	OK Rate	99% ↑
Main Process	Wire bonder	Pneumatic	6Kg / cm <sup>2</sup>
Cell Protection	VACUUM PICK UP	Power	3 phase 220V ± 10%
J / C Type	Automatic	Production Delivery	6 Months (Delivery Basis)

※ Note : Possible to manufacture on customer spec requirement.

## Sales Records

Sales recode						
Year	Wrapping MC for Prismatic	Inspection MC for Prismatic	Inspection MC for Cylindrical	Packing MC for Cylindrical	Inspection MC for Pouch	Module Assemble Line
2013	2	1				
2014	2	2				
2015	2					
2016	5	4				
2017	5	5			1	
2018	9	9	1	1	2	
2019	4	3				1
2020	2	4				1
2021		4	1			
Total	31	32	2	1	3	2

### Our customer



**SAMSUNG SDI**



**CLARIOS**

**northvolt**



**Volkswagen**



**VALMET AUTOMOTIVE**



**LG Chem**



**ITM (주)아이티엠반도체**  
ITM SEMICONDUCTOR CO.,LTD.

# Edge Measure Sensor (Parallel Laser Type)

## MERCURY Series

### EPC MES07-FC(4CH)



	Measure Scope 7mm
	Repeatability $\pm 1\mu\text{m}$
	Precision $\pm 2\mu\text{m}$
Analogue	Analog Output 0~5V / $\pm 5\text{V}$ 0~10V / $\pm 10\text{V}$
	RS422 / CUNET / ETHERNET
	Contamination Detect Alarm
	Detection Edge Ignore Function

## Feature

### Linear Image Sensor Type

CMOS sensor is used with light receiving element. Compared to PD with light receiving element, it does not get affected by contamination. Contamination may lower the amount of light receive but it does not affect the measure point.

Contamination detection alarm function may be set to different levels of contamination.

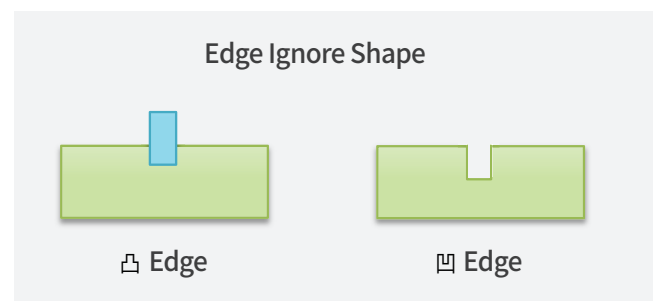
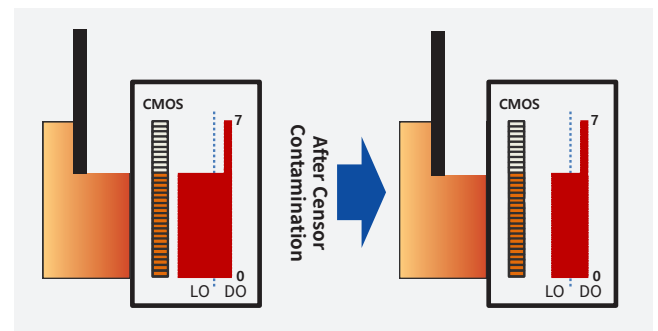
### Detection Ignore Function

Edge Ignore Function is to prevent possible analog output change if there is a tab at the edge of terminal/etc. It can hold the analog output.

The function can set a delay time of ignore and the size of detection.

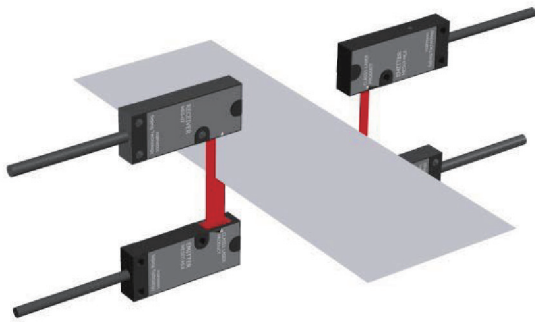
Delay Time : 0.5ms ~ 127ms

Size of Ignore : 0 ~ 7mm ( 0 : No function )



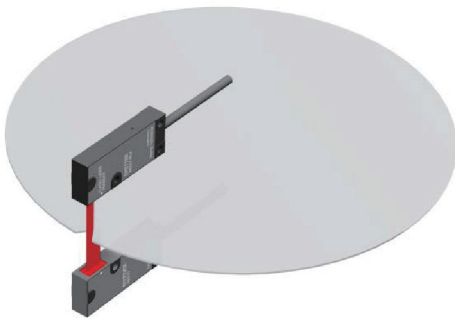
## Application Example

### Film / Sheet Curve & Width Measure

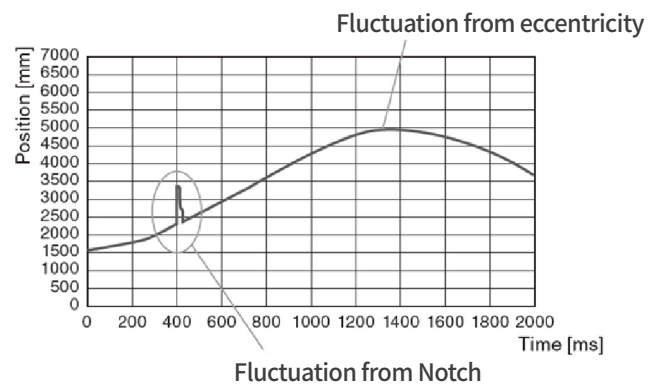


Two sensor heads make calculations to each other and can calculate the curve and the film width simultaneously.

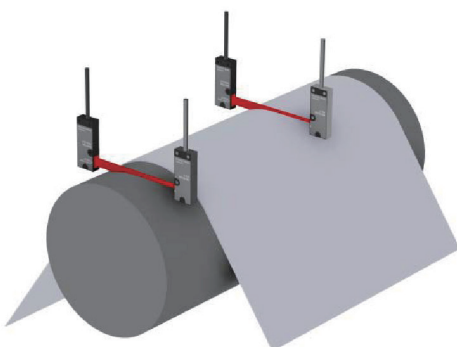
### Wafer Eccentricity and Notch Position Measure



Capable of stable measurement of the high transparent wafer glass eccentricity and notch position.



### Film / Sheet Thickness Measure

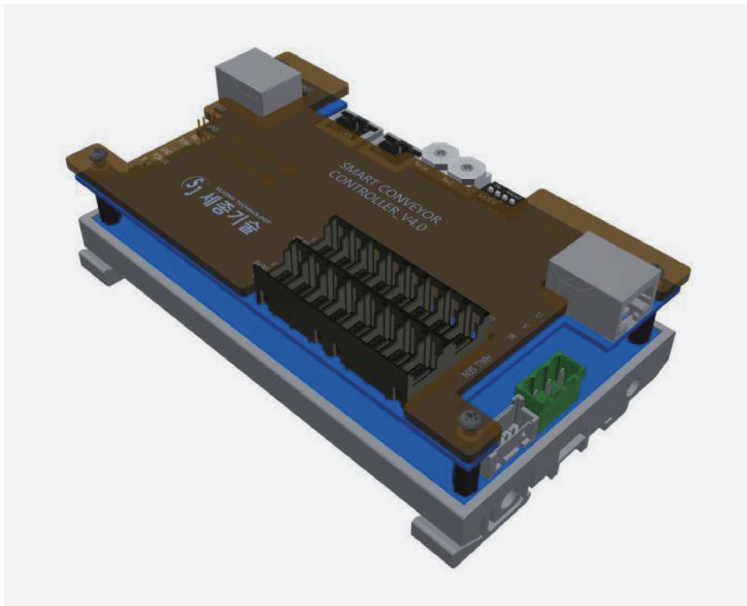









Connecting two sensors to the controller. Measuring the roller and the sheet at the same time, obtaining precise thickness data.



# Smart Conveyor SATURN Series\_ SATURN-SC-BLDC

## Conveyor Controller (EtherCAT)



 EtherCAT	<b>EtherCAT Based Motor Controller</b>
	<b>Speed Control 50~3000RPM</b>
	<b>Simple Wiring (E-CON)</b>
	<b>BLDC MOTOR 100~400W</b>
	<b>Lower Controller Communication CAN</b>
	<b>I/O (8 Input/8 Output)</b>
	<b>Barcode Reader Interface</b>

### Feature

#### EtherCAT Based BLDC Motor Controller

Ethernet (100Mbps, Full - Duplex) based Fieldbus.  
EtherCAT supported BLDC motor driver built in controller.  
EtherCAT supports fast data transfer with device nearby and supports connection with various devices without topology limit.

#### Various Form of Conveyor Support

Supports various form of conveyor. User can control buffer/diverter/dispenser rotate conveyor/etc even without a program only by configuring DIP Switch.

#### BLDC Motor Driver

Controller has built-in BLDC motor driver which controls BLDC motor that is installed on conveyor.  
Available motors are 100-400W and it can control the speed by communication with higher EtherCAT.

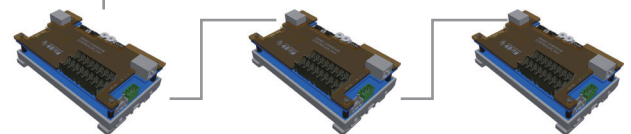
#### Numerous Communication Feature

The controller supports numerous communication feature for sub controllers.  
Through CAN / RS232 communication, it can communicate with sub conveyor controller, extent IO board and BCR reader.

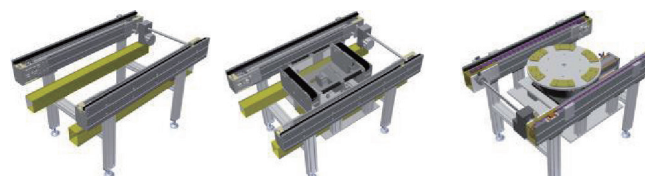


EtherCAT Master

ECAT IN



ECAT OUT



Buffer Conveyor Diverter Conveyor Turn Conveyor

## Specification

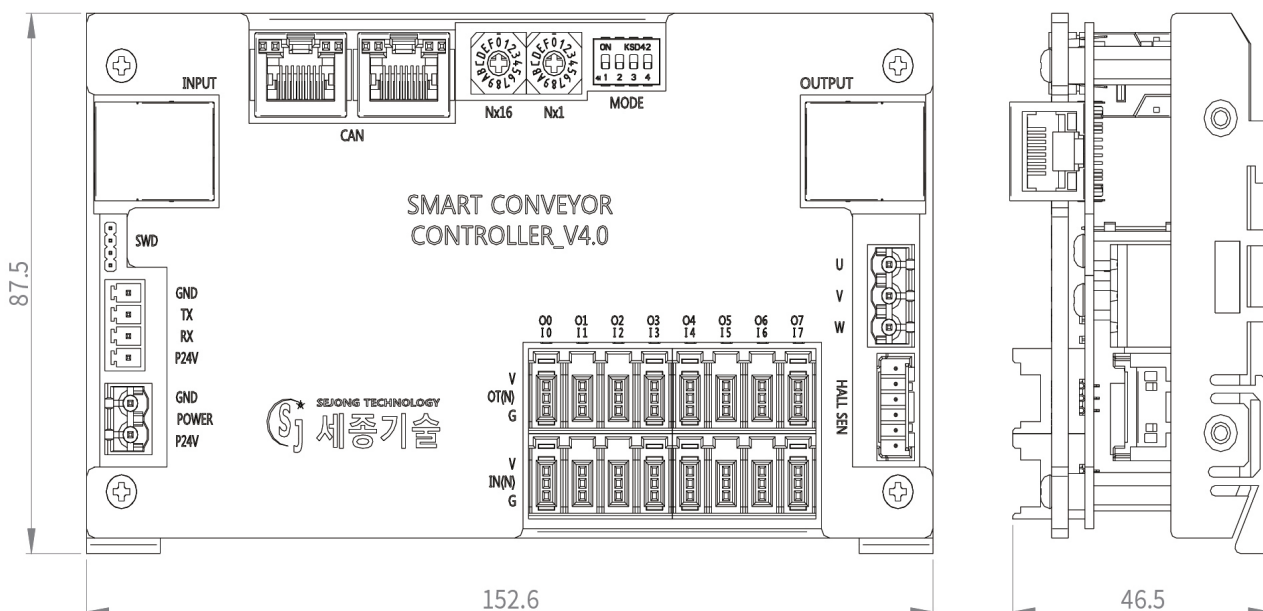
### BLDC Motor Driver Spec

ModuleName	SATURN-SC-BLDC
Voltage Input	AC 90V~264V±10%
Controller Voltage	24VDC±10%
Electricity Consumption	300mA(I/O current exclude) max
Control Type	32bit ARM based control
Rotate Speed	0~3,000 rpm
Protect Function	Overcurrent, Overheat, Overvoltage
LED Indication	Power Status, Overcurrent Status, Overheat Status, Error Status
I / O	8 Fixed Input / 8 Fixed Output
Usage Temp	0~50°C
Usage Humidity	30~85% RH (No Condensation)
Store Temp	-20~70°C
Store Humidity	10~90% RH (No Condensation)
Vibration Resistance	0.5G

### Ether CAT Spec

Communication Type	Ether CAT
Physical Layer	Ethernet - 100 BASE - TX
Connector	RJ45 ECAT IN / ECAT OUT
Topology	Line(When composed only of products) Tree, Star(When Junction Port Used)
ECAT Device ID	With Hex Switch, Configured Station Alisa Configure 1- 255
Support Protocol	COE(CAN poen Application protocol over Ether CAT)
Support Action Mode	Cyclic Synchronous Position (CSP Mode)

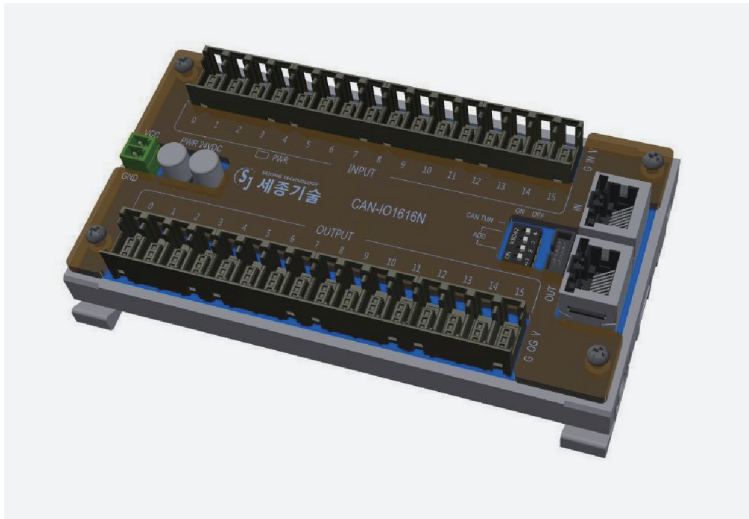
## External Measurement









# Smart Conveyor SATURN Series\_ SATURN-SC-IO1616

## Extend I / O(CAN)



	CAN BUS IO Module
	Simple Wiring (E-CON)
	Photo Coupler Isolation
	I / O (16 Input / 16 output)

### Feature

#### CAN Communication 16IN / 16OUT IO Module

CAN Communication supported IO Module.  
 Supporting 16 Input channel/ 16 Output Channel.  
 Input 16 Channel / Output 16 channel support.  
 Master Controller / SATURN - SC - BLDC controller connection support.

#### Easy Wiring

E-CON connector type can easily plug in/out. Two RJ45 Type connectors are provided making the communication easier to connect.

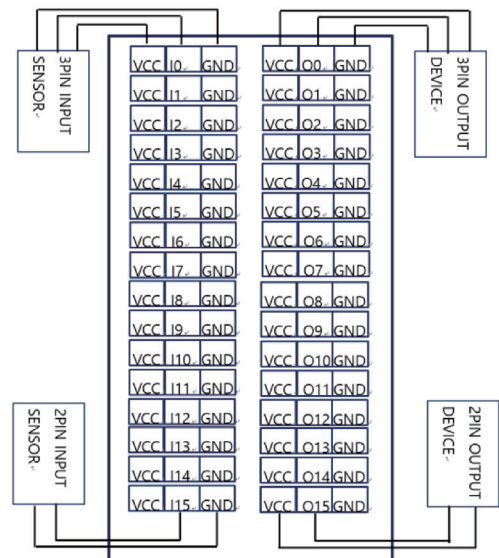
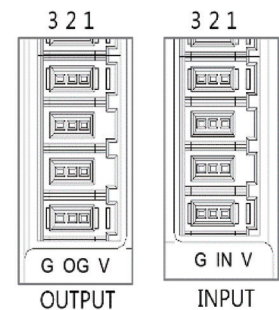
#### Photocoupler Isolation

I/O terminal is insulated with photocoupler making connection easy with no extra circuit.

#### Maximum 8 Connection

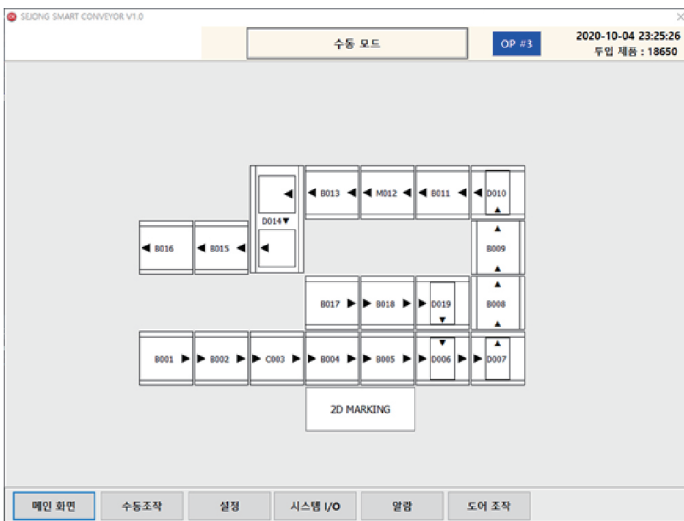
Configurable address through Dip Switch  
 Up to 8 I/O board can be used simultaneously.

Pin NO	Function
1	24VDC
2	SIGNAL(I/O)
3	GND



# Smart Conveyor SATURN Series\_ SATURN-SC-CB

## Conveyor Builder



	<b>EtherCAT Master</b>
	<b>Simple Configuration Manage</b>
	<b>MAX 255 Conveyor setup</b>
	<b>PLC Ethernet Connection Support</b>
	<b>MES Connection Support</b>

### Feature

#### EtherCAT Master Controller

Linux based OS is used. Built-in EtherCAT Master Protocol Stack and able to control up to 255 conveyor

#### Conveyor Setup without program

Able to run without program after configuring the system. Setup program can manually control and check I/O status. Conveyor motor drive speed and acc/deceleration speed can be set with parameter configuration.

#### Mitsubishi PLC Communication Support

Mitsubishi MC protocol supported, letting upper/lower system get same data as Mitsubishi PLC.

#### MES TCP / IP Communication

MES connection function by TCP/IP communication. Protocols may be developed by customer requirement.

