# Automatic Door Systems

**KTH**

# TH-3E

Single-winged / Bi-parting

( EN16005 )

OPERATION   INSTRUCTION

## (C) Operation:

1、ARROW UP(▲) : Open door for 1 cycle and auto close back again. Good for controlling eople from coming in after office hours when put to LOCK mode.

2、ARROW DOWN(▼): Door in fully open position. Press another time it will go back to normal function.

3、SQUARE(■): Door permanently close or lock by electric lock. Press another time door is unlocked and go back to normal operation. Cannot be activated by sensor or press button. If using card access security system, has to put to LOCK mode. Coming in by card access system, going out by sensor or release press button.

4、ROUND(●): Door opens partially. Press another time and door goes back to normal operation and door can open fully.

### Connection of Illustrations

**REMOTE CONTROL (OPTIONAL DEVICE)**

**COMBINED TERMINAL BLOCK**
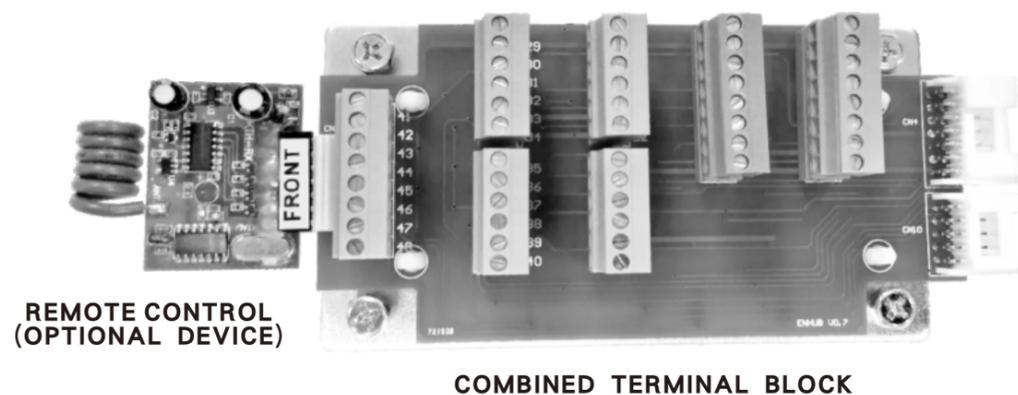
Our company has the following series of automatic door, please contact with our distributors/representations.

## Round type door
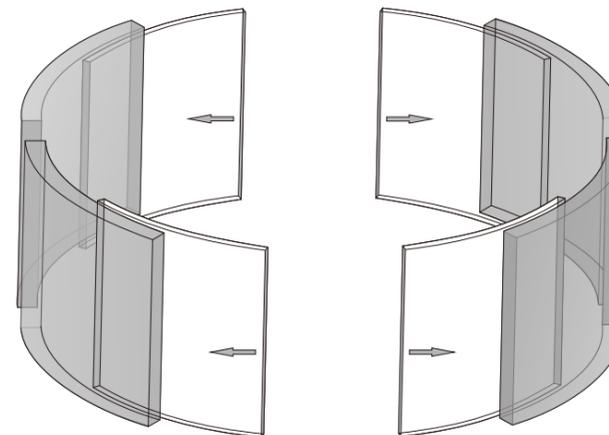
Installation: Please in accordance with the instruction of Round Type Door.

## Curved type door
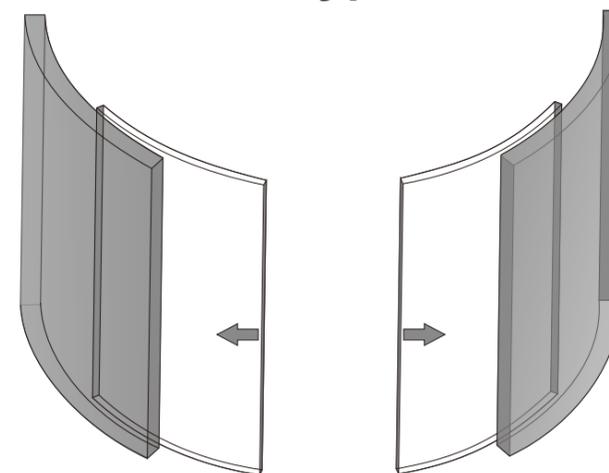
Installation: Please in accordance with the instruction of Curved Type Door.

# Telescopic 4-winged Sliding Doors.
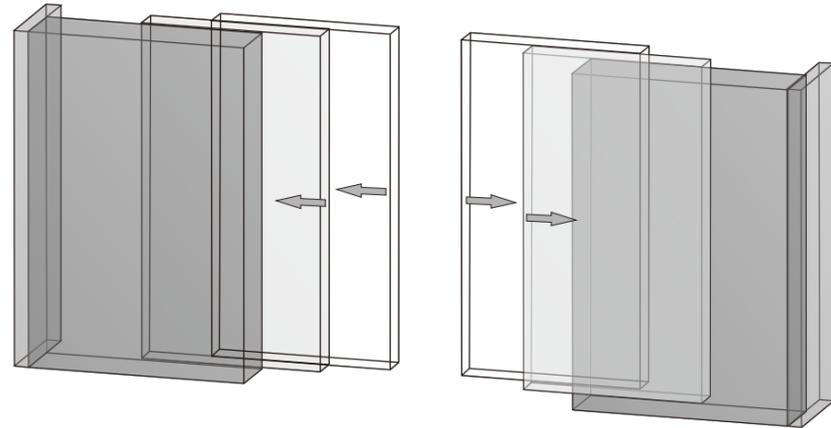


Installation: Please in accordance with the instruction of Telescopic 4-winged Sliding Doors.

# Telescopic 2-winged Sliding Doors.
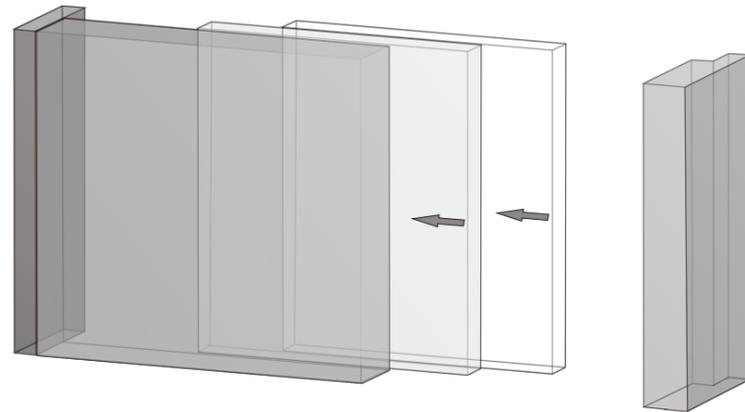


Installation: Please in accordance with the instruction of Telescopic 2-winged Sliding Doors.

## (A) Action Instruction :

**1、Add another Transmitters :**

Make sure Receiver power on and take one Transmitter which can control Receiver. Press the ● and ■ of Transmitter simultaneously and Indicator flash quickly about 9 seconds. When press ▲ and ▼ of new Transmitter simultaneously during flash, the Indicator will stop flash and add new Transmitter. The memory capacity of Receiver is " 30 pieces " of Transmitter.

**Note: Follow the instruction again to add another Transmitter  Transmitter**

**2、Clearance other Transmitter :**

Turn off the power for 10 seconds then turn on the power again. The Indicator will flash per second about 10 seconds. Then press four keys( ● , ■ , ▲ , ▼ ) of Sample Transmitter at the same time during flash and the Indicator will stop flash. After that, the Receiver will copy new code and remove the old code. All Transmitters couldn't control Receiver except the Sample Transmitter.

**Note: Follow theinstruction again to add another Transmitter.**

**3、Stand by condition:**

When the Receiver power on, the action Indicator will flash for 10 seconds. While press any key of Transmitter during flash, the Indicator will stop and enter stand by condition. If there are no input by pressing any key of Transmitter during flash, the Receiver will automatically enter stand by condition after 10 seconds.

**4、 Memory function of the lock: after power on, the receiver keeps the original condition of lock.**

(1)If the lock is ON before the receiver powers off , it will be ON after the power on.

(2)If the lock is OFF before the receiver powers off , it will be OFF after the power on.

## (B) Technical data :

**1、Transmitter :**

Power supply : GP 23A (12V)

Frequency : 433.92Mhz

Power consumption during operation : About 9mA (12V)

Stand by power consumption : 1uA

Transmit power : About - 15dbm

**2、Receiver :**

Power supply : DC 7V - DC 14V(Standard: DC 12V)

Frequency : 433.92Mhz

Stand by power consumption : About  6mA(12V)

Max output : 30mA

**Open Door**          **Full/Half Open**

**Hold Open**          **Lock**



**Transmitter**
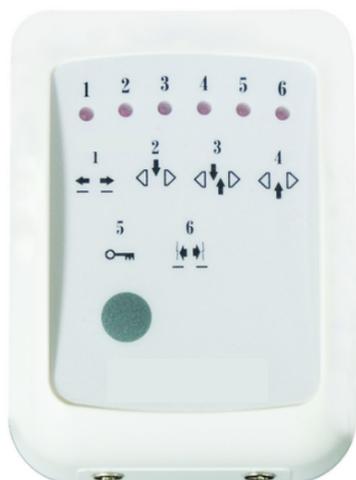
## FUNCTION SWITCH

**Six press functions:**
1.DOOR OPEN
2.IN ONE-WAY
3.AUTO
4.OUT ONE-WAY
5.DOOR CLOSE
6.HALF OPEN

**Operation**
Press for 3 seconds to unlock buttons.
When light flash, choose the needed
functions. After 5 seconds, the light keeps
go to finish setting.

## MICRO-CONTROLLER

8P
4P
14P
1 2 3 4

Side View
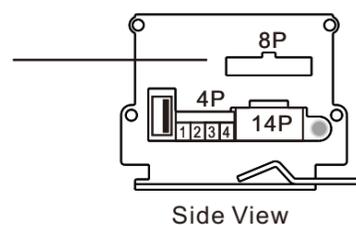
Front View

## Accessory Cable Notice:

remobable

for MICRO-CONTROLLER

MICRO-CONTROLLER

WORM GEAR MOTOR

POWER SWITCH

SENSORS
(OPTIONAL DEVICE)

BELT ROLLER
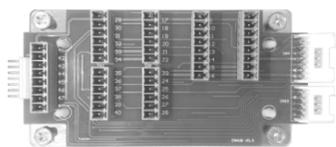
COMBINED TERMINAL BLOCK
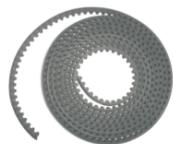
RACK BELT

## ( BI-PARTING)HANGERS & IRON PARTS
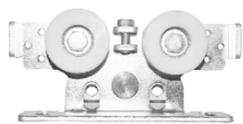
HANGING
TWIN-WHEEL4 PCS

BELT BRACE

PASSIVE BRACE
with BELT FIXER

ACTIVE BRACE
with BELT FIXER
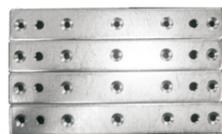
HANGING
BRACE-4 PCS

STOPER-2 PCS

WIRE CLAMP-5 PCS
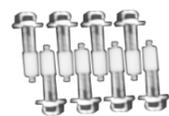
BLOCK SCREW-8 PCS

GROUND WHEEL
-2PCS
(OPTIONAL PART)

SCREW-8 PCS

DOOR SCREW-8 PCS

IRON PARTS SACK

## The Door-Leaf sends out abnormal noise in operating.

**Cause 1**
The SCREW of the
HANGING TWIN-WHEEL is loose.
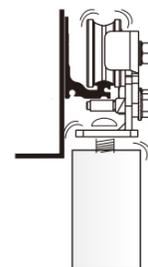
How to solve:
Refasten the SCREW of
HANGING TWIN-WHEEL.

**Cause 2**
HANGING TWIN-WHEEL
is broken.

How to solve:
Replace a new one
HANGING TWIN-WHEEL.

**Cause 3**
HANGING TWIN-WHEEL
is dirty.
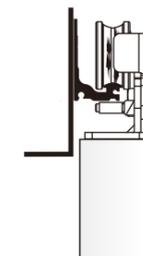
How to solve:
Clean the
HANGING TWIN-WHEEL.

**Cause 4**
ALUMINUM PROFILE is dirty.
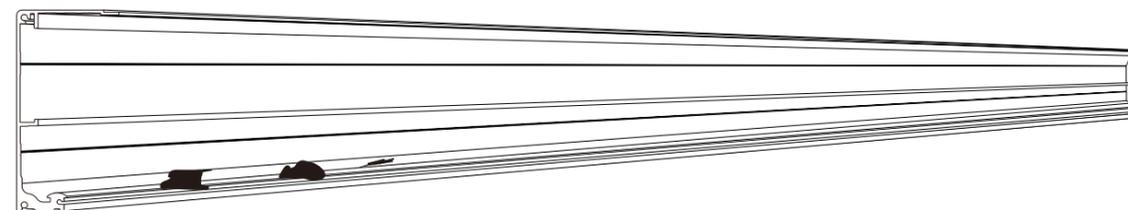
How to solve:
Clean the ALUMINUM PROFILE.

## Door-Leaf isn't smooth in operating.

**Cause 1**
HANGING TWIN-WHEEL
is not at vertical position.
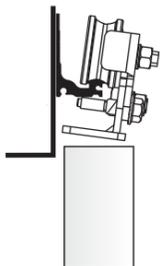
**How to solve:**
Readjust the
HANGING TWIN-WHEEL.

**Cause 2**
1.Door touches Ground Rail.
2.Ground Rail is dirty.

**How to solve:**
1.Readjust the distance between
   Door and Ground Rail.
2.Clean up the Ground Rail.

**Cause 3**
ALUMINUM PROFILE is
not vertical.
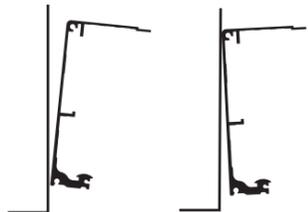
**How to solve:**
Readjust the vertical position
of the ALUMINUM PROFILE.

**Cause 4**
ALUMINUM PROFILE is not at vertical position.
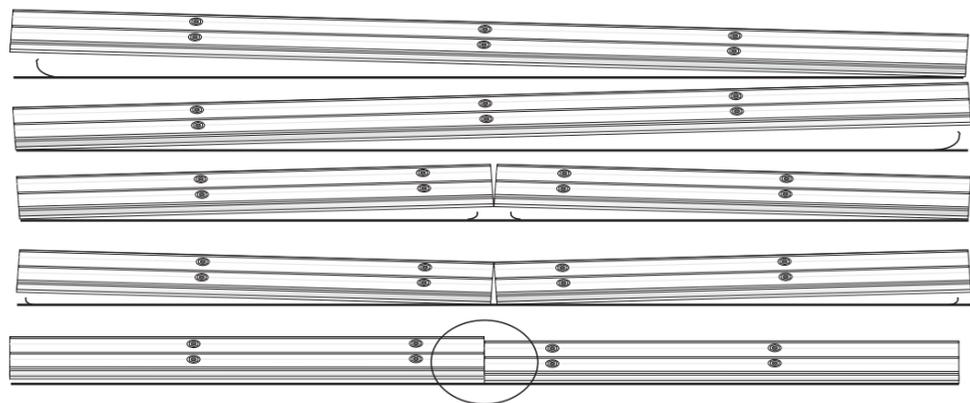
**How to solve:**
Readjust the level position of the ALUMINUM PROFILE.

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| No. | Parts Name | Quantity |
|-----|-----------|----------|
| 1 | "Standard" Aluminum Profile | 1 |
| 2 | "Standard" Aluminum Cover | 1 |
| 3 | Left side end cap | 1 |
| 4 | Right side end cap | 1 |
| 5 | Motor | 1 |
| 6 | Controller | 1 |
| 7 | Belt roller | 1 |
| 8 | Hanging-wheel | 4 |
| 9 | Active brace | 1 |
| 10 | Passive barce | 1 |
| 11 | Rack Belt | 1 |
| 12 | Belt Fixer | 2 |
| 13 | Stopper | 2 |
| 14 | Power switch | 1 |

| MODEL | SINGLE-WINGED | BI-PARTING |
|---|---|---|
| DOOR WEIGHT | 150kg X1(door) | 130kg X2(door) |
| DOOR WIDTH | DW=500mm~2500mm | DW=500mm~2500mm |
| INSTALL WAY | Surface install | Surface install |
| MOTOR | DC24V 75W WORM GEAR MOTOR | |
| CONTROL | STANDARD MICRO-CONTROLLER | |
| POWER CONSUMPTION | 75W | |
| VOLTAGE | AC100V~240V | |
| ENVIRONMENTAL TEMPERATURE | -20℃~+50℃ | |
| VOLUME | 60decibel(max.) | |
| STARTING SPEED | 600 mm (second) | 550 mm x 2 / (second) |
| STARTING TIMES | 0~20 sec. (regulable) | |
| TRANSMISSION IMPORTANT CONDITION | RACK BELT S8M | |
| OPENING DOOR RANGE | FULL/HALF-OPEN (regulable) | |
| PFC POWER EFFICIENCY | 0.95(in AC100V Full load) | |
| TRACTION FORCE | 3kg | |
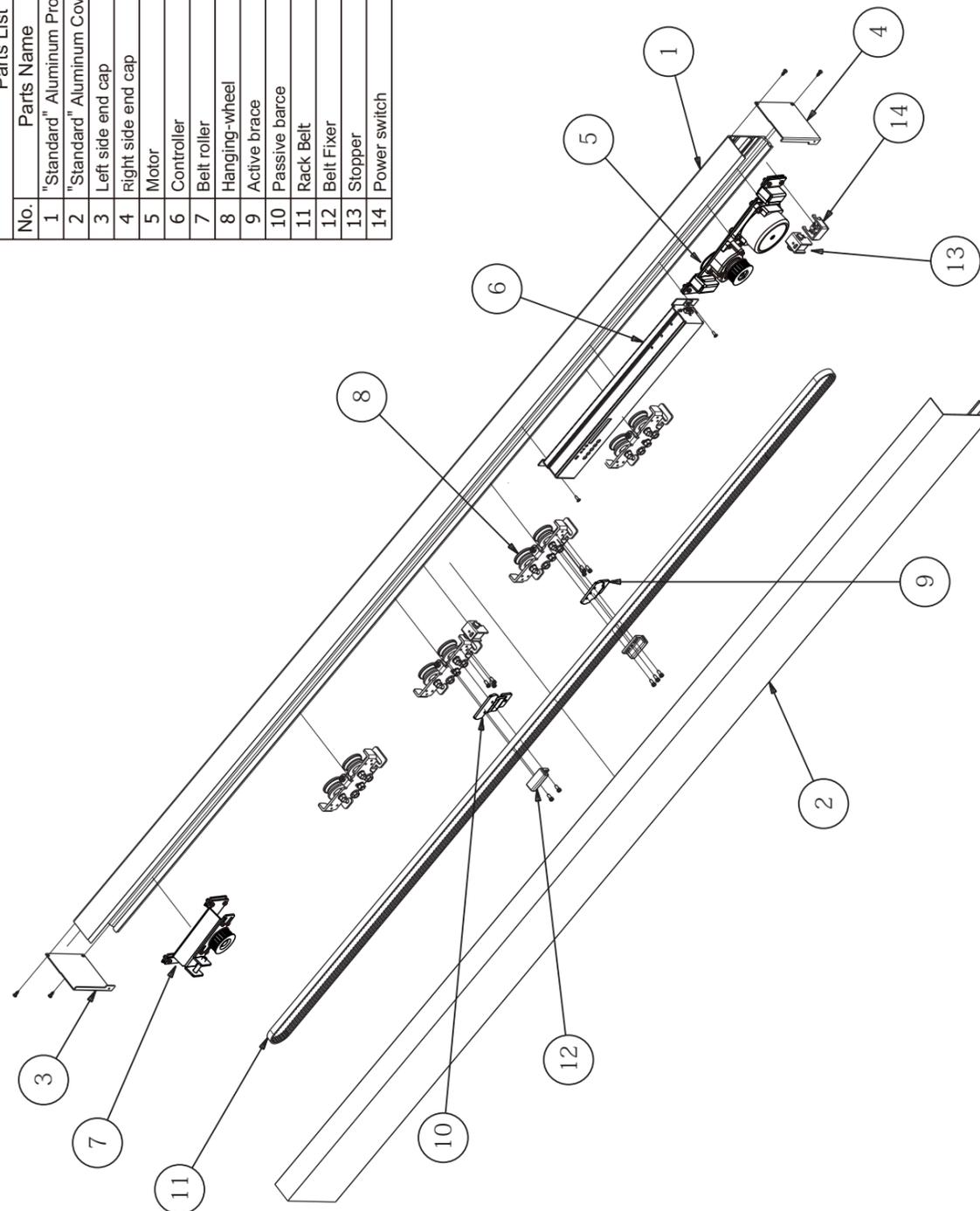
## Door can't be opened or closed.

**Cause 1**
Above the Door-Leaf touched with the crossbeam.
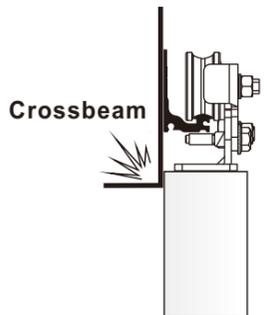
Crossbeam

How to solve:
Adjustment the interval between the Door-Leaf height and Crossbeam.

**Cause 2**
The Door-Leaf touched with the Ground Guide Rail.
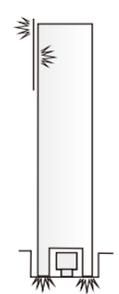
How to solve:
Adjus the Door-Leaf height.

**Cause 3**
Door-Leaf derails the ALUMINUM PROFILE.

How to solve:
Put the Door-Leaf into the ALUMINUM PROFILE again.

**Cause 4**
Door-leaf is not vertical.

How to solve:
Adjust the Ground Guide Rail/Wheel position.

**Cause 5**
SENSOR is broken or disconnects to the COMBINED TERMINAL BLOCK.
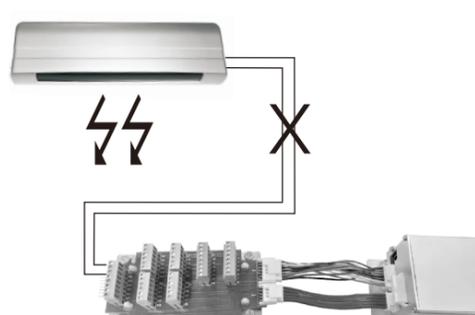
How to solve:
1.If SENSOR is broken please change a new one.
2.Check SENSOR whether it connects to the COMBINED TERMINAL BLOCK.

| PROBLEMS | REASONABLE | CHECK | HOW TO SOLVE |
|---|---|---|---|
| DOOR CAN'T BE MOVED. | 1.No power. | Broken circuit. | Check the broken circuit position. |
| | | The Power Switch is not opened. | Open the POWER SWITCH. |
| | 2.The door is locked. | Door is locked and no movement action. | Open the DOOR LOCK. |
| | 3.The sensor is broken. | Signal light is WORKING. | Check the MICRO-CONTROLLER. |
| | | Signal light is OUT OF WORKING. | Check the CIRCUIT OF SENSOR or change a new one SENSOR. |
| SPEED | 1.Speed is too slow. | Check the Speed at KNOB of MICRO-CONTROLLER. | Adjust the Speed of Open/Closed Door. |
| | 2.Door runs into the obstructor, then cause the Door moving slow. | Installation problem or dirty. | Reinstall or clean the ALUMINUM PROFILE. |
| | 3.Door is difficult to move. | Turn off the power. Use hand to move the Door, besides, check the Ground Guide Rail whether it is dirty. | Clean the Ground Guide Rail. |
| | | Check the HANGING TWIN-WHEEL whether it is broken. | Change a new one. |
| | | Check the Door Bolt in the door bottom whether it is loosen. | Fix the Door Bolt. |
| | | Check whether the Ground Wheel is broken. | Change a new Ground wheel. |
| DOOR CAN'T FULL OPEN. | In the Half-Open way. | Check the Knob/Switch. | Turn on to Full Open. |
| DOOR CAN'T CLOSE. | 1.In the Full-Open way. | The SENSOR keeps working. | Check wiring or change a new SENSOR. |
| | 2.The Door opens suddenly while it is moving to close . | The SENSOR probably is installed with something wrong. | Adjust the SENSOR or change a new one. |

110
67
132.5
168

MICRO-CONTROLLER

HANGING TWIN-WHEEL

ALUMINUM COVER

**MEASURE : mm**

110
67
132.5
168
DT
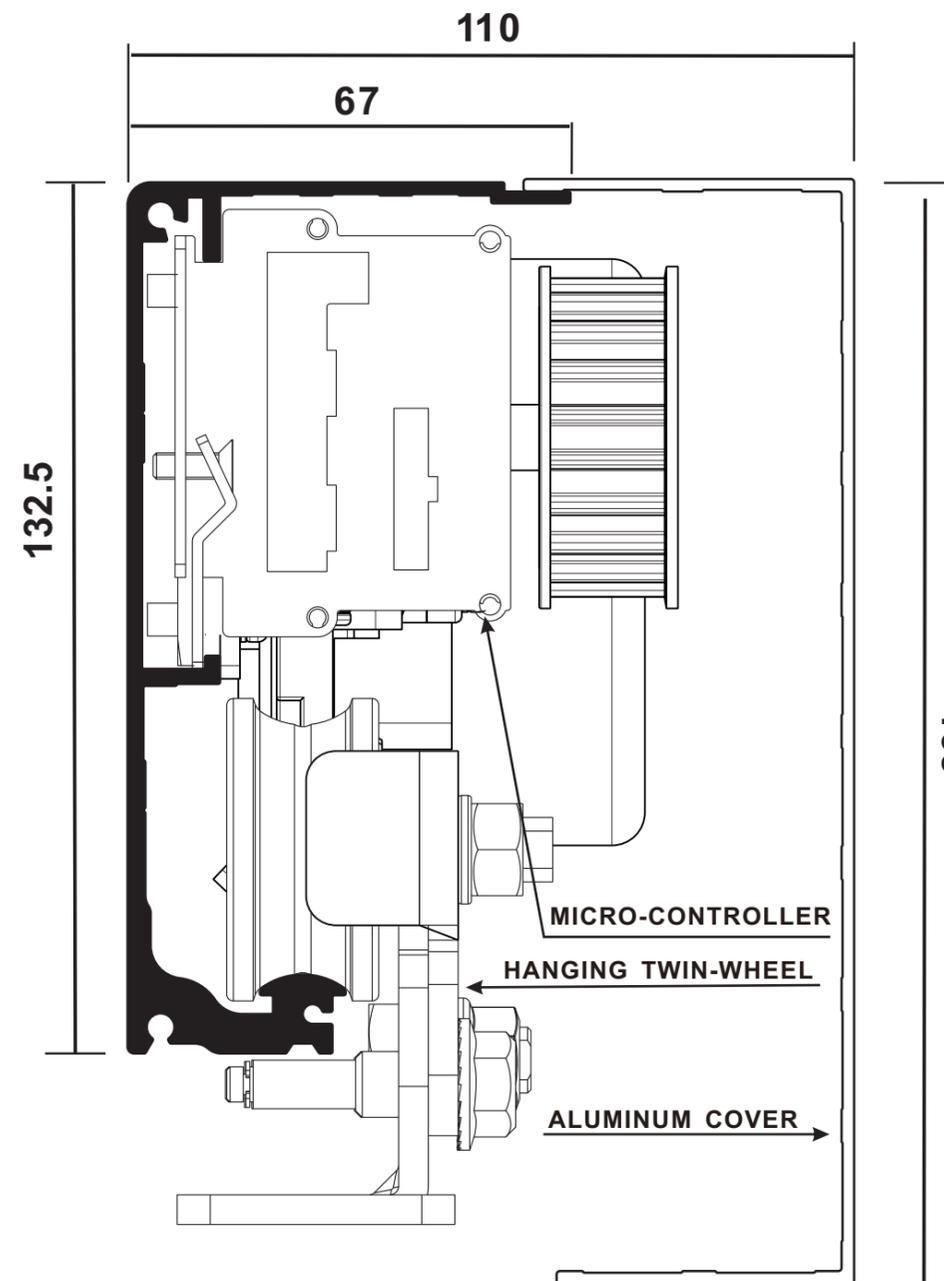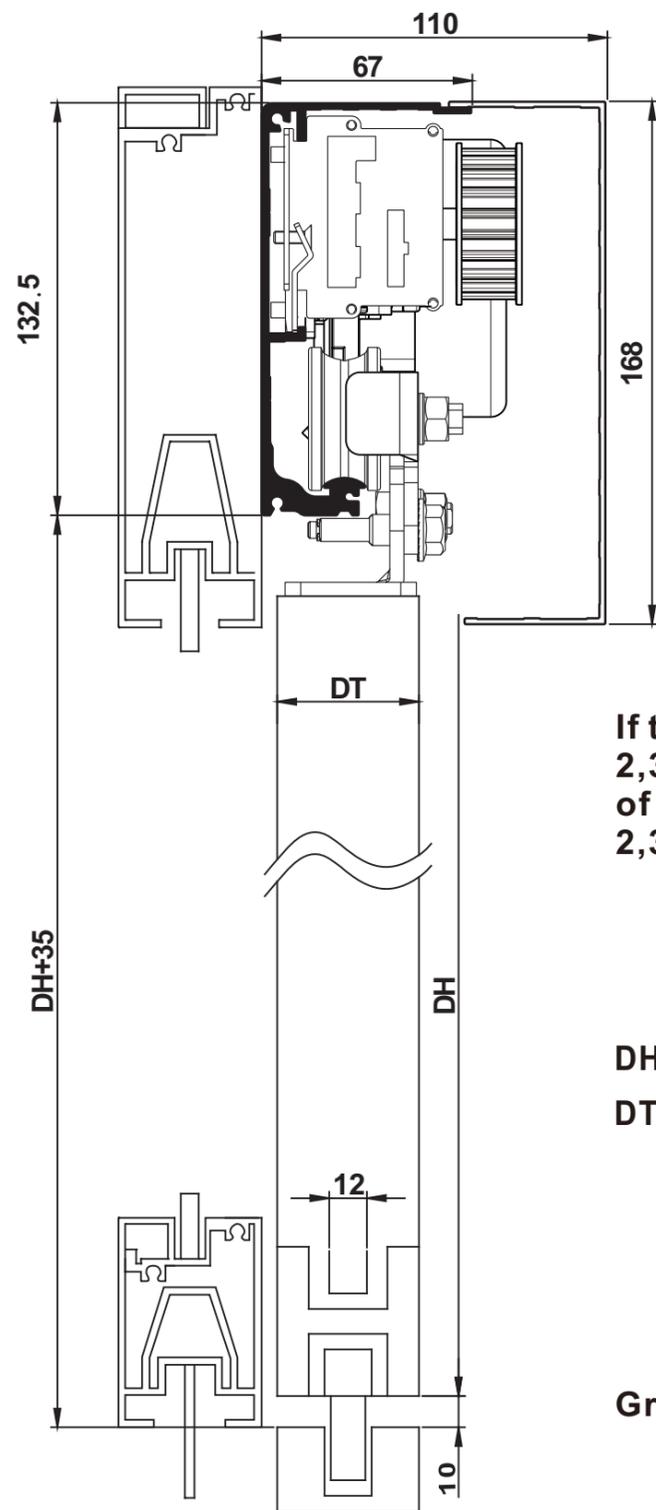
**If the height of the Door-Leaf is 2,300mm, then the total height of the ALUMINUM PROFILE is 2,335mm.**

DH+35
DH

**DH=Door height**

**DT=Door thickness**

12

**Ground Guide Rail(ditch)**

10

1. Turn off power.
2. Use your hand to move the Door-Leaf.

Preliminary analysis

Running isn't Smooth

Running smooth

Check the circuit

1. Turn on power.
2. Take out the sensor signal line.
3. Test the circuit of SENSOR.

Running check

Running smooth

Running isn't Smooth

The PROBLEM of the MOTOR

1. Wiring connects fault.
2. Spare parts of the MICRO-CONTROLLER broken.

1. Check the distance between Door and Wall / Crossbeam.
2. HANGING TWIN-WHEEL is broken.
3. The GROUND RAIL is dirty.
4. The Door-Leaf becomes deformed.
5. Check BLOCK SCREW whether need to adjust.
6. The GROUND GUIDE WHEEL is damaged.
7. Check the LOCK whether it is broken.
8. Check the ALUMINUM COVER whether it isn't fixed.
9. There is dirt inside the ALUMINUM PROFILE.

The PROBLEM of the SENSOR

1. Check the SENSOR whether it is broken.
2. Check the SENSOR whether the wire is broken or short circuit.

The Slowing Range of Opening and Closing Door is controlled by "Fingered Switch". There are two kinds of choice: SHORT and LONG range.(The setting of production is SHORT ange).

## Switch I

**1 Directional function**

☐ OFF  ☐ ON

OFF: Normal mode.
 ON: Push once , open the door.
  Push again,  close the door.

**2 Reverse Switch:**
in order to control opening and closing direction of the Door-Leaf  after power resumes.

☐ OFF  ☐ ON

OFF: Normal mode, after power resumes,the Door-Leaf opens the door first.
 ON: suitable for Security System, after power resumes the Door-Leaf closes the door first.

**3 ~ 8 Standby**

## Switch II

| | | | | | |
|---|---|---|---|---|---|
| **1 Inner Sensor ACT** | ☐ N/O | ☐ N/C | **5 Side Screen Sensor LEFT** | ☐ N/O | ☐ N/C |
| **2 Inner Sensor SAF** | ☐ N/O | ☐ N/C | **6 Side Screen Sensor Right** | ☐ N/O | ☐ N/C |
| **3 Outer Sensor ACT** | ☐ N/O | ☐ N/C | **7 Safely Beam** | ☐ N/O | ☐ N/C |
| **4 Outer Sensor SAF** | ☐ N/O | ☐ N/C | **8 Open Signal** | ☐ N/O | ☐ N/C |

## Switch III

| | | | | | |
|---|---|---|---|---|---|
| **1 Emergency Stop** | ☐ N.O. | ☐ N.C. | **5 Outer** | ☐ No | ☐ Yes |
| **2 Fire  Alarm** | ☐ N.O. | ☐ N.C. | **6 Side(Left)** | ☐ No | ☐ Yes |
| **3 Fire  Alarm** | ☐ OPEN | ☐ CLOSE | **7 Side(Right )** | ☐ No | ☐ Yes |
| **4 Inner** | ☐ No | ☐ Yes | **8 Safety Beam** | ☐ No | ☐ Yes |

Fyi. (4)-(7) are for the function of Monitored Sensor.

Power switch

Stopper

Stopper
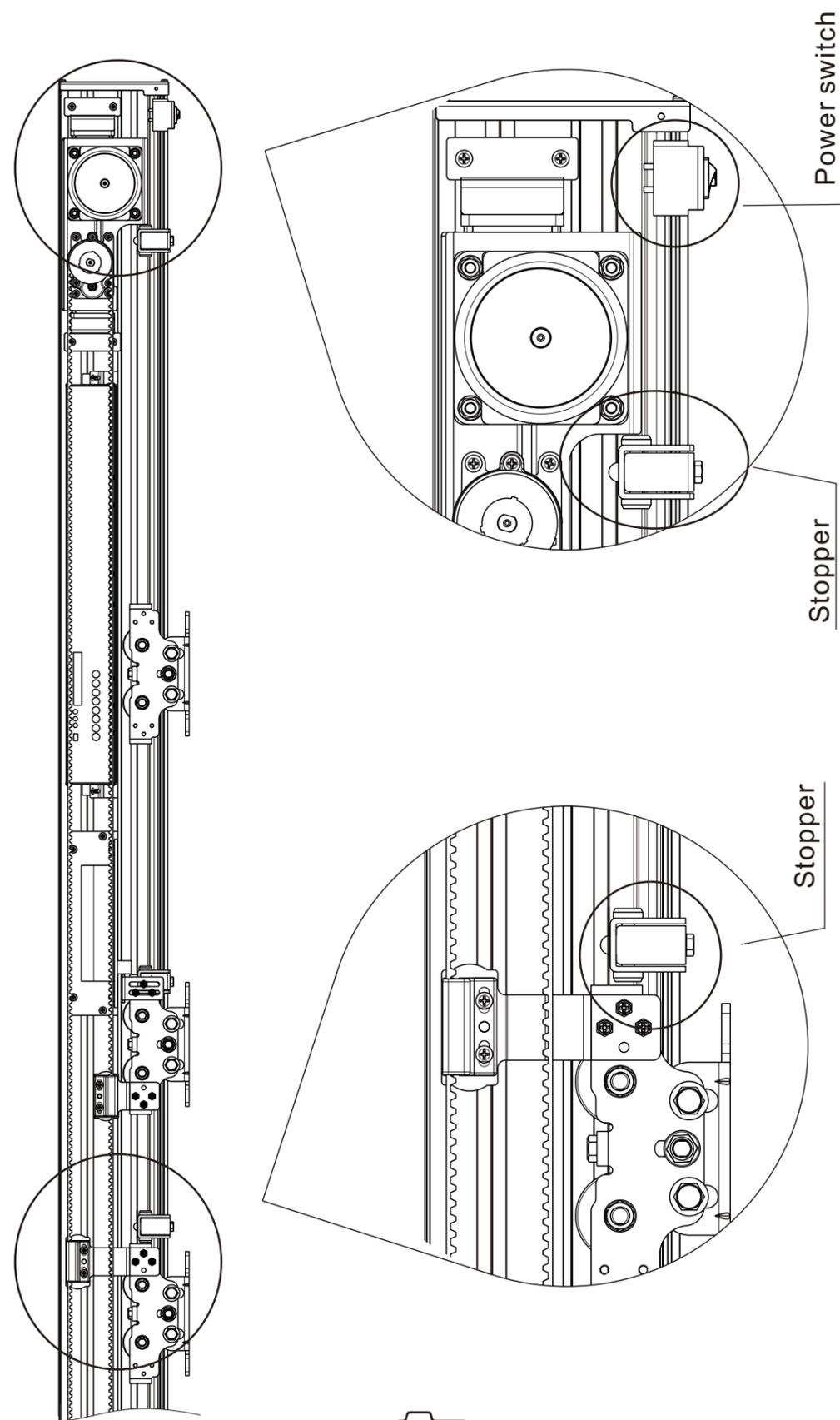
| 1 Prepare | Should correct the height and the leveling of the ALUMINUM PROFILE |
| --- | --- |

| 2 | Cut and install the ALUMINUM PROFILE |
| --- | --- |

| 3 | Install the SENSORS |
| --- | --- |

| 4 | MOTOR |
| --- | --- |

| 5 | MICRO-CONTROLLER |
| --- | --- |

| 6 | Install the BELT ROLLER |
| --- | --- |

| 7 | Hang and adjust the Door-Leaf |
| --- | --- |

| 8 | Install and adjust the BELT |
| --- | --- |

| 9 | Power connect |
| --- | --- |

| 10 | Test and adjust |
| --- | --- |

---

**Before turn on the power, make sure the Door-Leaf can be smoothly moved, and the electric link is correct at first.**

### 1.SYSTEM PROGRAM REMEMBER
After turn on the power, the MICRO-CONTROLLER will remember the distance and the range.

### 2.ADJUST
The FACEPLATE of MICRO-CONTROLLER

Signal Light   Test Button
Power Light   Fingered Switch I
L/R Switch   Fiingered Switch II
Output 14 pin   Fingered Switch III
Connect to MOTOR
Input 10 pin

Selector Input
Output 10 pin

Red LED−Power is connected.
Green LED−Input the open door signal.
L/R switch−The direction of the door opening: right/lift(R/L).
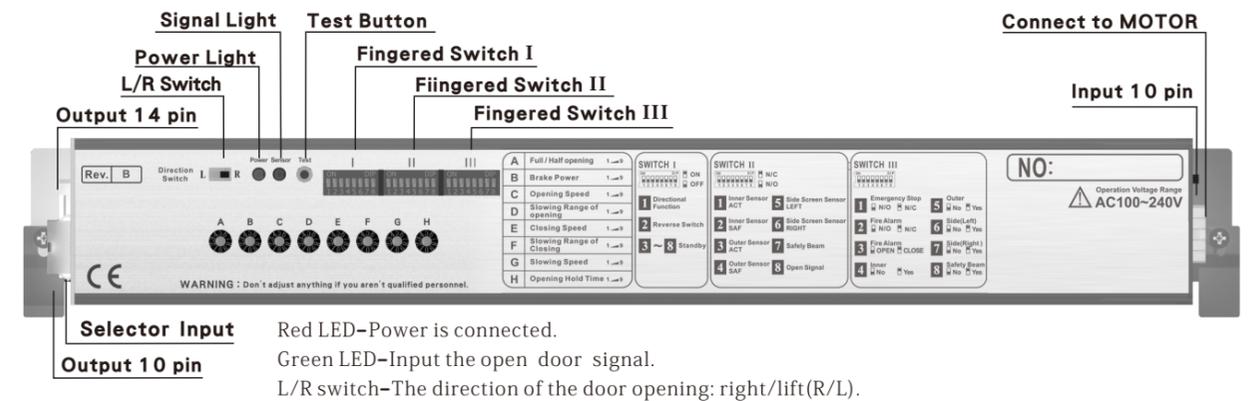
**When USER regulates the Speed the Range and the Brake; it will start to accord what USER sets after twice running.**

**A Full/Half opening**
Adjust the RANGE of the HALF OPEN DISTANCE.
Higher number, wider range.

**B Brake power**
The Door-Leaf is slight, the BRAKE POWER is less.
Please choose 0~2 if the Door-Leaf is under 50kg. Please adjust number from number 5 if the Door-Leaf is over 80kg.

**C The opening speed of the door**
Adjust the OPEN SPEED. Higher number, faster speed.
CAUTION: please adjust the number one by one from **low** to **high**.

**D The slowing range of opening door**
Adjust the SLOW RANGE of OPENING DOOR
Higher number, more range about the slow range at open door position.
CAUTION: please adjust the number one by one from **high** to **low**.

**E The closing speed of the door**
Adjust the CLOSED SPEED. Higher number, faster speed.
CAUTION: please adjust the number one by one from **low** to **high**.

**F The slowing range of closing door**
Adjust the SLOW RANGE of CLOSED DOOR
Higher number, more range about the slow range at open door position.
CAUTION: please adjust the number one by one from **high** to **low**.

**G The slowing speed of the door**
Adjust the SLOW SPEED. Higher number, faster speed.
CAUTION: please adjust the number one by one from **low to high**.

**H Opening hold time**
Adjust the HOLD OPEN TIME. Higher number, the hold time is longer.

| NUMBER | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| SECOND | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 10 | 15 | 20 |
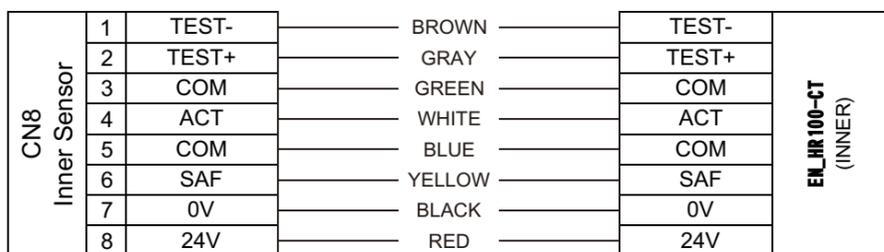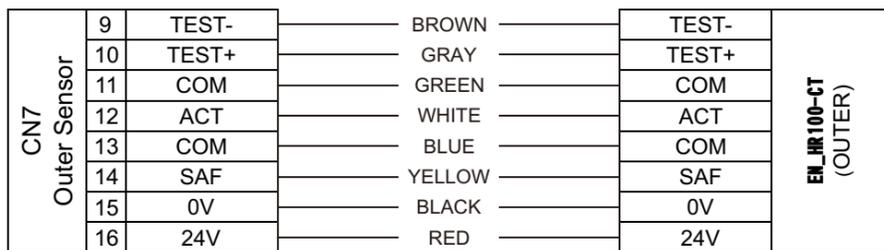
**CN8 Inner Sensor**

| | | | | |
|---|---|---|---|---|
| 1 | TEST- | BROWN | TEST- | |
| 2 | TEST+ | GRAY | TEST+ | |
| 3 | COM | GREEN | COM | |
| 4 | ACT | WHITE | ACT | |
| 5 | COM | BLUE | COM | |
| 6 | SAF | YELLOW | SAF | |
| 7 | 0V | BLACK | 0V | |
| 8 | 24V | RED | 24V | |

EN_HR100-CT (INNER)

EN_HR100-CT
Y-No.2 → " N.C. "
Y-No.4 → " LOW "
Controller
II-No.2 → "□N.C."

**CN7 Outer Sensor**

| | | | | |
|---|---|---|---|---|
| 9 | TEST- | BROWN | TEST- | |
| 10 | TEST+ | GRAY | TEST+ | |
| 11 | COM | GREEN | COM | |
| 12 | ACT | WHITE | ACT | |
| 13 | COM | BLUE | COM | |
| 14 | SAF | YELLOW | SAF | |
| 15 | 0V | BLACK | 0V | |
| 16 | 24V | RED | 24V | |

EN_HR100-CT (OUTER)

EN_HR100-CT
Y-No.2 → " N.C. "
Y-No.4 → " LOW "
Controller
II-No.4 → "□N.C."

**CN6 Side Sensor LEFT**

| | | | | |
|---|---|---|---|---|
| 17 | TEST- | BROWN | TEST- | |
| 18 | TEST+ | GRAY | TEST+ | |
| 19 | COM | BLUE | COM | |
| 20 | SIDE | YELLOW | SIDE | |
| 21 | 0V | BLACK | 0V | |
| 22 | 24V | RED | 24V | |

HR94D1-C1 (SIDE SCREEN) LEFT HAND

HR94D1-C1
No.6 → " N.C. "
No.8 → " ON "
Controller
II-No.5 → "□N.C."

**CN5 Side Sensor RIGHT**

| | | | | |
|---|---|---|---|---|
| 23 | TEST- | BROWN | TEST- | |
| 24 | TEST+ | GRAY | TEST+ | |
| 25 | COM | BLUE | COM | |
| 26 | SIDE | YELLOW | SIDE | |
| 27 | 0V | BLACK | 0V | |
| 28 | 24V | RED | 24V | |

HR94D1-C1 (SIDE SCREEN) RIGHT HAND

HR94D1-C1
No.6 → " N.C. "
No.8 → " ON "
Controller
II-No.6 → "□N.C."

**CN3 SAFE Sensor**

| | | | | |
|---|---|---|---|---|
| 29 | TEST- | | | |
| 30 | TEST+ | | | |
| 31 | COM | | COM | |
| 32 | SAFE | | SAFE | |
| 33 | 0V | | 0V | |
| 34 | 24V | | 24V | |

SAFE SENSOR
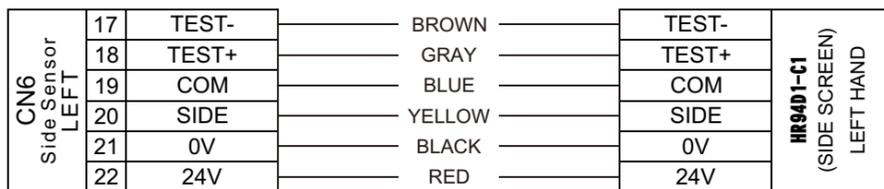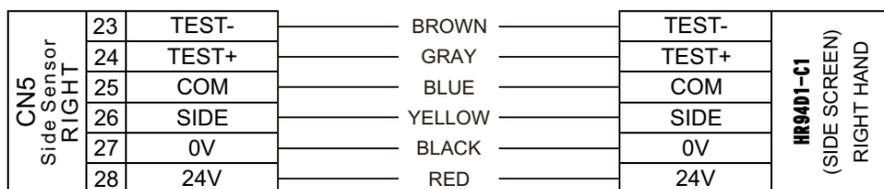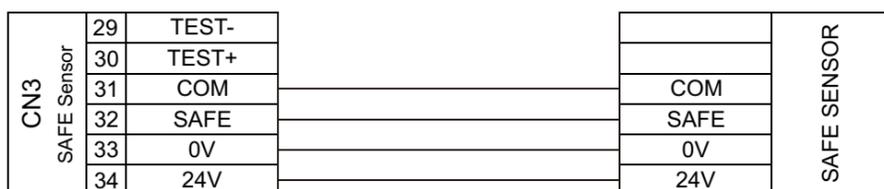
*Please select the correct "N.C./N.O. position" for "Fingered Switch II" of Controller and "Dipswitches of Sensor".
*About the adjustment of "Fingered Switch II", please refer Page.17.

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## INSTALL THE BELT ROLLER



THE FIXED SCREW

RACK BELT

THE ADJUSTABLE SCREW OF BELT
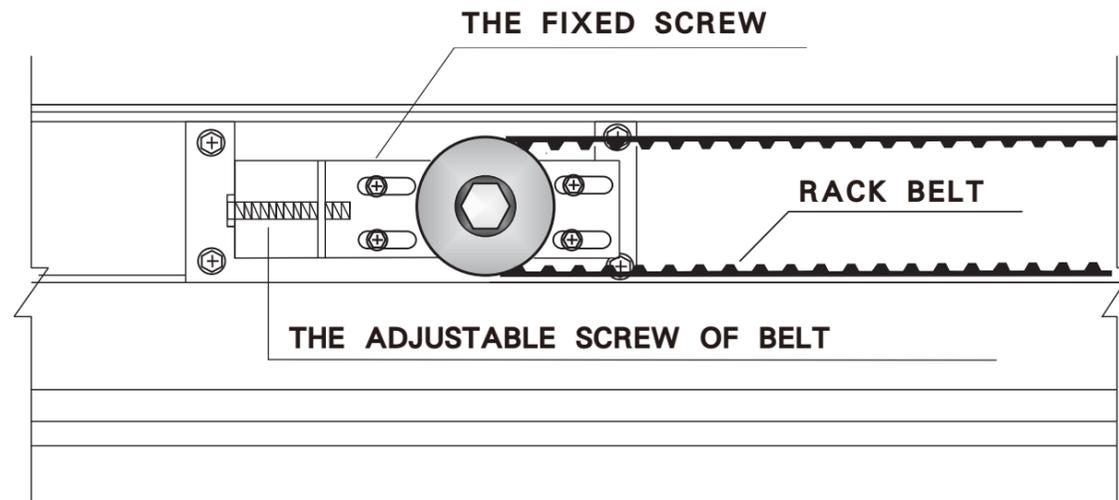
TENSION of BELT can be adjusted by the ADJUSTABLE SCREW of BELT, after that, must tighten the FIXED SCREW of BELT.

## THE POSITION OF THE HANGING TWIN-WHEEL



BELT ROLLER

MOTOR

50    50    50    150

Door wide

MEASURE : mm
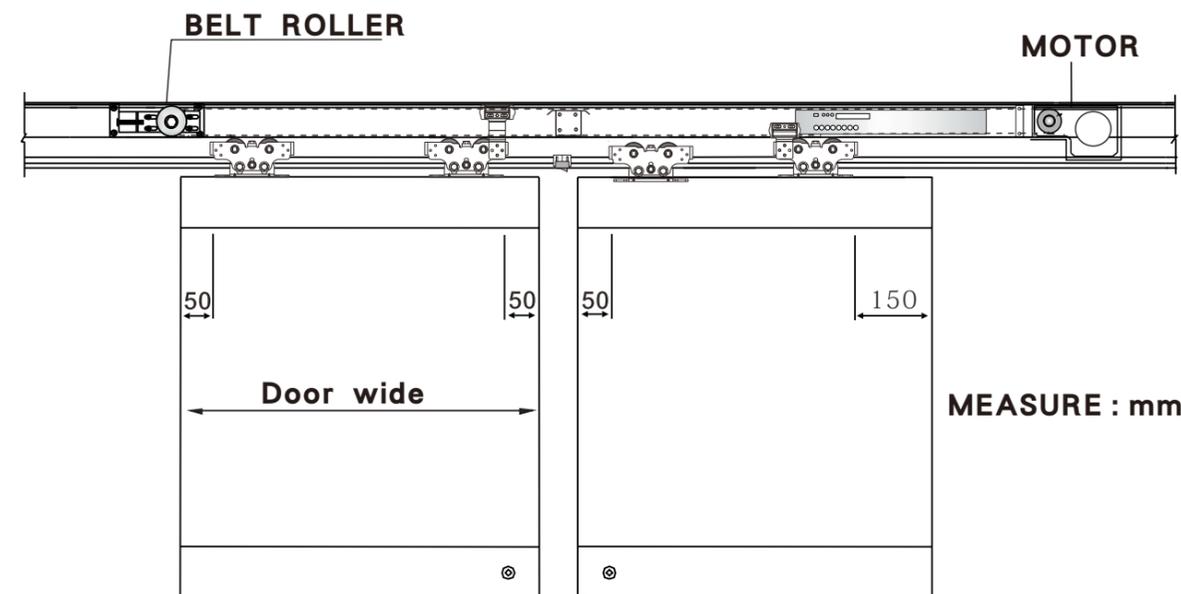
Inside the room, the distance between the HANGING TWIN-WHEEL and the RIM of DOOR must be more than 50mm.

## INSTALL THE RACK BELT



BELT ROLLER    MICRO-CONTROLLER   MOTOR

BELT BRACE

BELT FIXER    The joint position of BELT

BELT FIXER    PASSIVE BRACE    ACTIVE BRACE

## ADJUST THE DOOR-LEAF



(1)THE ADJUSTED SCREW OF HANGING WHEEL    (2)STOPPER

(4)THE FIXED SCREW OF ADJUSTION

ALUMINUM PROFILE

(3)BLOCK SCREW

1mm

BLOCK SCREW
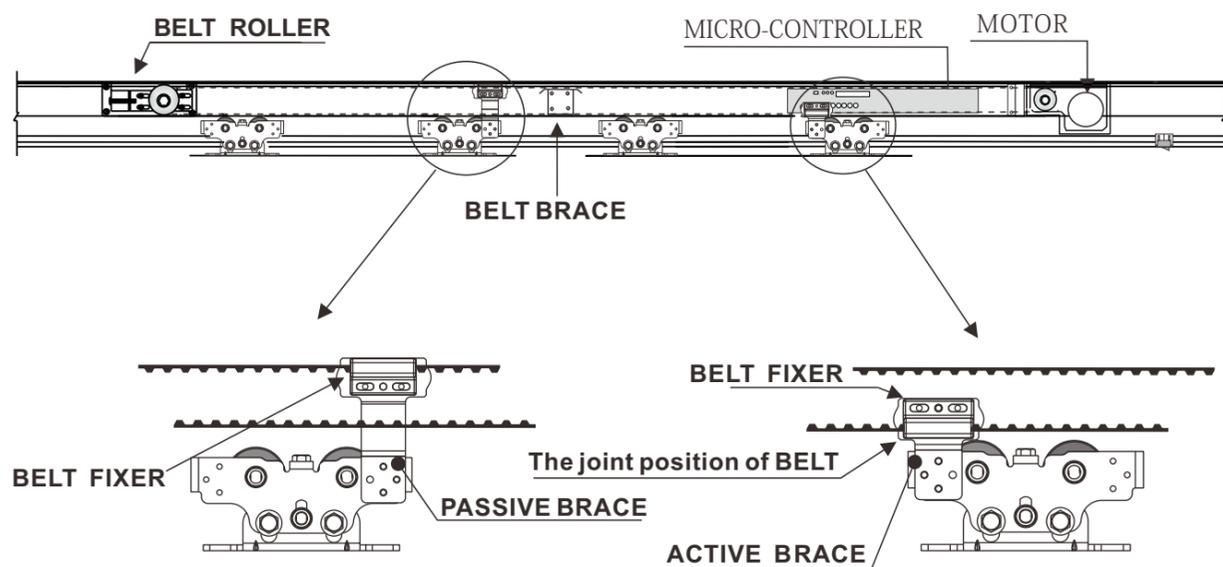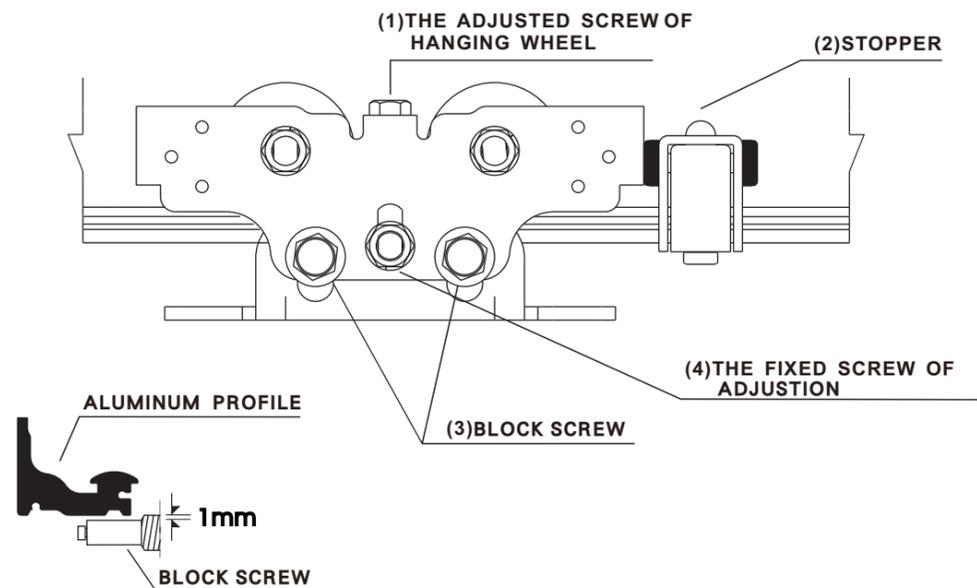
🅐 When Door-Leaf height and interval need to adjust, loose (3) & (4) at first, then adjust (1).

🅑 Need to fasten (3) & (4)after adjust 🅐 .

🅒 Install above-mentioned (2) after make sure the DOOR OPEN POSITION.

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| CN8 Inner Sensor | No. | Signal | Wire | Signal | Sensor | Settings |
|---|---|---|---|---|---|---|
| | 1 | TEST- | BROWN | TEST- | | |
| | 2 | TEST+ | GRAY | TEST+ | | |
| | 3 | COM | GREEN | COM | | |
| | 4 | ACT | WHITE | ACT | SSR-3 (INNER) | SSR-3 SENSOR X-No.6 → "N.C." Y-No.6 → "ON" / Controller II-No.2 → "N.C." |
| | 5 | COM | BLUE | COM | | |
| | 6 | SAF | YELLOW | SAF | | |
| | 7 | 0V | BLACK | 0V | | |
| | 8 | 24V | RED | 24V | | |

| CN7 Outer Sensor | No. | Signal | Wire | Signal | Sensor | Settings |
|---|---|---|---|---|---|---|
| | 9 | TEST- | BROWN | TEST- | | |
| | 10 | TEST+ | GRAY | TEST+ | | |
| | 11 | COM | GREEN | COM | | |
| | 12 | ACT | WHITE | ACT | SSR-3 (OUTER) | SSR-3 SENSOR X-No.6 → "N.C." Y-No.6 → "ON" / Controller II-No.4 → "N.C." |
| | 13 | COM | BLUE | COM | | |
| | 14 | SAF | YELLOW | SAF | | |
| | 15 | 0V | BLACK | 0V | | |
| | 16 | 24V | RED | 24V | | |

| NC6 Side Sensor LEFT | No. | Signal | Wire | Signal | Sensor | Settings |
|---|---|---|---|---|---|---|
| | 17 | TEST- | BROWN | TEST- | | |
| | 18 | TEST+ | GRAY | TEST+ | | |
| | 19 | COM | BLUE | COM | HR94D1-C1 (SIDE SCREEN) LEFT HAND | HR94D1-C1 No.6 → "N.C." No.8 → "ON" / Controller II-No.5 → "N.C." |
| | 20 | SIDE | YELLOW | SIDE | | |
| | 21 | 0V | BLACK | 0V | | |
| | 22 | 24V | RED | 24V | | |

| CN5 Side Sensor RIGHT | No. | Signal | Wire | Signal | Sensor | Settings |
|---|---|---|---|---|---|---|
| | 23 | TEST- | BROWN | TEST- | | |
| | 24 | TEST+ | GRAY | TEST+ | | |
| | 25 | COM | BLUE | COM | HR94D1-C1 (SIDE SCREEN) RIGHT HAND | HR94D1-C1 No.6 → "N.C." No.8 → "ON" / Controller II-No.6 → "N.C." |
| | 26 | SIDE | YELLOW | SIDE | | |
| | 27 | 0V | BLACK | 0V | | |
| | 28 | 24V | RED | 24V | | |

| CN3 SAFE Sensor | No. | Signal | Signal | Sensor |
|---|---|---|---|---|
| | 29 | TEST- | | |
| | 30 | TEST+ | | |
| | 31 | COM | COM | SAFE SENSOR |
| | 32 | SAFE | SAFE | |
| | 33 | 0V | 0V | |
| | 34 | 24V | 24V | |

*Please select the correct "N.C./N.O. position" for "Fingered Switch II" of Controller and "Dipswitches of Sensor".

*About the adjustment of "Fingered Switch II", please refer Page.17.

| CN8 Inner Sensor | | | | |
|---|---|---|---|---|
| 1 | TEST- | | | |
| 2 | TEST+ | | | |
| 3 | COM | GREEN | COM | |
| 4 | ACT | WHITE | ACT | |
| 5 | COM | BLUE | COM | |
| 6 | SAF | YELLOW | SAF | |
| 7 | 0V | BLACK | 0V | |
| 8 | 24V | RED | 24V | |

HOTRON HR100-2 (INNER) → Controller II-No.2 → "N.C."

| CN7 Outer Sensor | | | | |
|---|---|---|---|---|
| 9 | TEST- | | | |
| 10 | TEST+ | | | |
| 11 | COM | GREEN | COM | |
| 12 | ACT | WHITE | ACT | |
| 13 | COM | BLUE | COM | |
| 14 | SAF | YELLOW | SAF | |
| 15 | 0V | BLACK | 0V | |
| 16 | 24V | RED | 24V | |

HOTRON HR100-2 (OUTER) → Controller II-No.4 → "N.C."

| CN6 Side Sensor LEFT | | | | |
|---|---|---|---|---|
| 17 | TEST- | | | |
| 18 | TEST+ | | | |
| 19 | COM | BLUE | COM | |
| 20 | SIDE | YELLOW | SIDE | |
| 21 | 0V | BLACK | 0V | |
| 22 | 24V | RED | 24V | |

HOTRON HR94 (SIDE SCREEN) LEFT HAND → Controller II-No.5 → "N.C."

| CN5 Side Sensor RIGHT | | | | |
|---|---|---|---|---|
| 23 | TEST- | | | |
| 24 | TEST+ | | | |
| 25 | COM | BLUE | COM | |
| 26 | SIDE | YELLOW | SIDE | |
| 27 | 0V | BLACK | 0V | |
| 28 | 24V | RED | 24V | |

HOTRON HR94 (SIDE SCREEN) RIGHT HAND → Controller II-No.6 → "N.C."

| CN3 SAFE Sensor | | |
|---|---|---|
| 29 | TEST- | |
| 30 | TEST+ | |
| 31 | COM | COM |
| 32 | SAFE | SAFE |
| 33 | 0V | 0V |
| 34 | 24V | 24V |

SAFE SENSOR

*Please select the correct "N.C./N.O. position" for "Fingered Switch II" of Controller and "Dipswitches of Sensor".
*About the adjustment of "Fingered Switch II", please refer Page.17.

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## ELECTRIC CONNECTION

To join the POWER SWITCH

NO:

The ILLUSTRATED of CONTROLLER and MOTOR.

Power supply (input)
Either AC100V~240V

To join the MOTOR
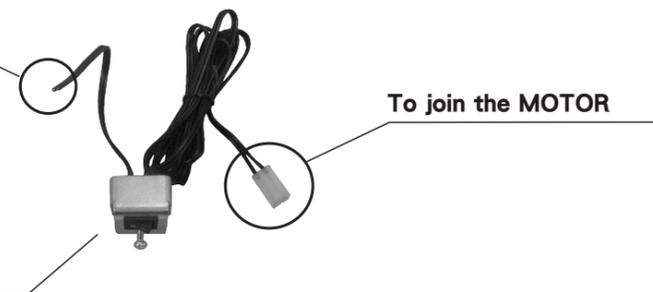
POWER SWITCH

⚠ Warning

Please confirm WHETHER the SENSOR VOLTAGE is the same as the power supply. If different between them, need to add the TRANSFORMER, otherwise the SENSOR would be burned.

## POWER SWITCH

It can be installed at the MIDDLE of the ALUMINUM PROFILE or the SIDE.

POWER SWITCH

POWER SWITCH
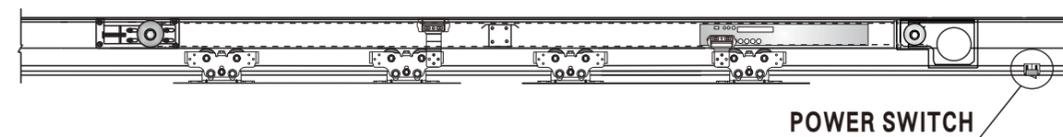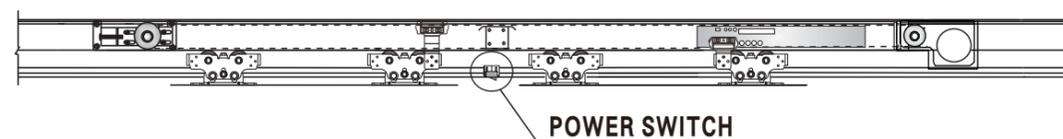
## The ILLUSTRATED of WIRING.

REMOTE CONTROL
(OPTIONAL DEVICE)

COMBINED TERMINAL BLOCK

COMBINED TERMINAL BLOCK

MICRO-CONTROLLER

## Wiring diagram

Safe beam

Side sensor left

Outer sensor

Inner sensor

CN3
29
30
31
32
33
34

CN6
17
18
19
20
21
22

CN7
9
10
11
12
13
14
15
16

CN8
1
2
3
4
5
6
7
8

CN1
41
42
43
44
45
46
47
48

CN9

CN2
35
36
37
38
39
40

CN5
23
24
25
26
27
28

CN4

CN10

LEADER of REMOTE CONTROL

(Optional Device)

MICRO-CONTROLLER

Others

Electric lock control

Side sensor right

**(A)** No.39 and No.40 of Terminal block CN2 are for ELECTRONIC LOCK enable ; No.35 provides power +12V ; No. 36 provides N.O. (Normal Open) contact ; No. 37 provides N.C. (Normal Close) contact. Only when No.38 and No.39 short circuit No.36 and No.37 will have functions.

**(B)** The SIGNAL of the SAFETY BEAM is controlled by CN3 terminal block. When door is opening and running, CN3 terminal block keeps receiving the signal, then the SAFETY BEAM will be working. CN3 terminal block WILL NOT work when the door is closed, then the SAFETY BEAM will lose efficacy when the door is closed.

**(C)** The signal of Side Screen Safety Sensor is controlled by CN5 and CN6. Side Screen Safety Sensors are placed at the rear end of the door to prevent collisions during the opening movement of the moving leaves. When the signal activates, the moving leaves will become slowly, till the door opens fully, then close with normally speed.

Relay — N.O. / COM / N.C.

Relay — N.O. / COM / N.C.

(Interlock) To connect another controller.

HALF OPENING SIGNAL

FIRE ALARM SIGNAL

EMERGENCY STOP SIGNAL

OPEN DOOR SIGNAL

| CN1 | | |
|---|---|---|
| 41 | OPEN DOOR | |
| 42 | EMERGENCY STOP | |
| 43 | FIRE ALARM | |
| 44 | HALF OPEN | |
| 45 | OPENED COMPLETELY | |
| 46 | CLOSED COMPLETELY | |
| 47 | INTERLOCK | |
| 48 | 0V | |

*For Relay(DC24V): connect to No.34 of CN3.
*For Relay(DC12V): connect to No.35 of CN2.
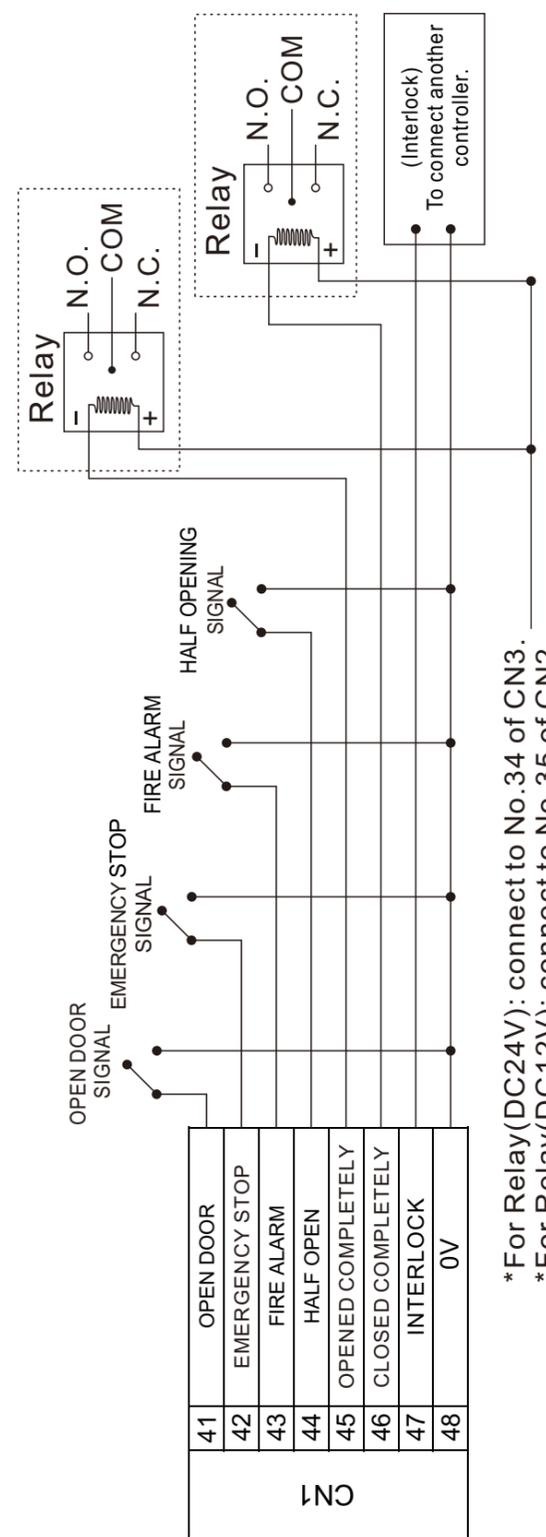
⚠ Warning
*Relay it should be with built in diode.
*Relay Suggested model: OMRON MY2N-J-D2-J (It's arranged by customers)

Fail-safe (Lock,N.O.)

Fail-secure (Lock,N.C.)

ELECTRIC LOCK ENABLE

| CN2 | LOCK | | |
|---|---|---|---|
| 35 | 12V | |
| 36 | LOCK N.O. | |
| 37 | LOCK N.C. | |
| 38 | LOCK COM | |
| 39 | 0V | |
| 40 | LOCK SW | |