

Automatic Door Systems



TH-3

Single-winged / Bi-parting
For "Noiseless" aluminum profile use.

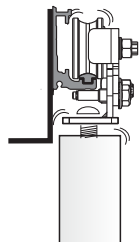


<http://www.kth-automaticdoor.com/>
e-mail : kth@kthtw.com

OPERATION INSTRUCTION

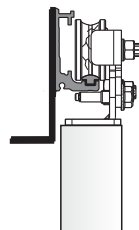
The Door-Leaf sends out abnormal noise in operating.

Cause 1
The **SCREW** of the **HANGING TWIN-WHEEL** is loose.



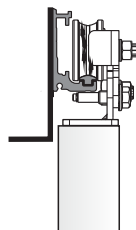
How to solve:
Refasten the **SCREW** of **HANGING TWIN-WHEEL**.

Cause 2
HANGING TWIN-WHEEL is broken.



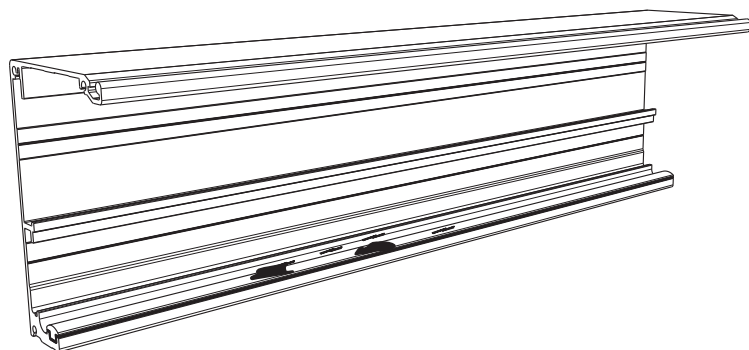
How to solve:
Replace a new one **HANGING TWIN-WHEEL**.

Cause 3
HANGING TWIN-WHEEL is dirty.



How to solve:
Clean the **HANGING TWIN-WHEEL**.

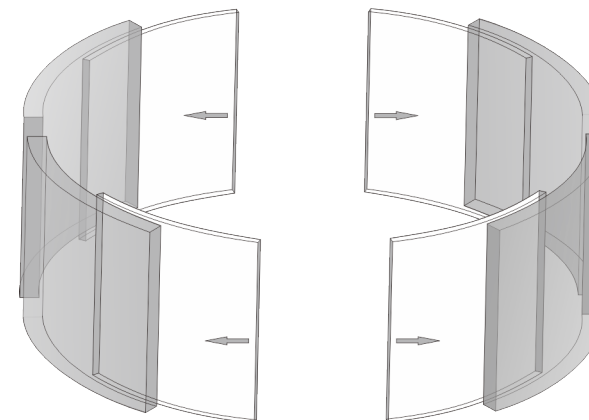
Cause 4
ALUMINUM PROFILE is dirty.



How to solve:
Clean the **ALUMINUM PROFILE**.

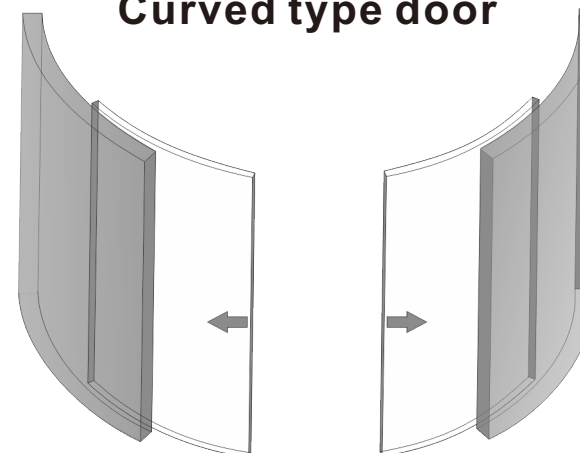
Our company has the following series of automatic door, please contact with our distributors/representations.

Round type door



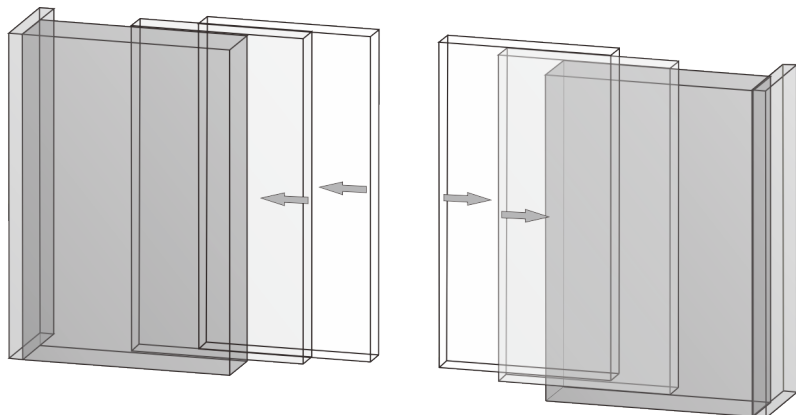
Installation: Please in accordance with the instruction of Round Type Door.

Curved type door



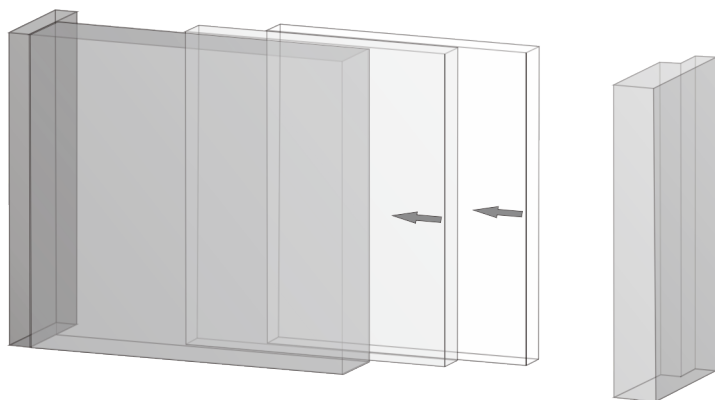
Installation: Please in accordance with the instruction of Curved Type Door.

Telescopic 4-winged Sliding Doors.



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

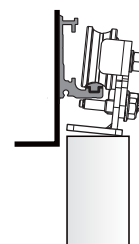
Telescopic 2-winged Sliding Doors.



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

Door-Leaf is smooth in operating.

Cause 1
HANGING TWIN-WHEEL
is not at vertical position.



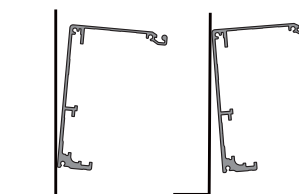
How to solve:
Readjust the
HANGING TWIN-WHEEL.

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



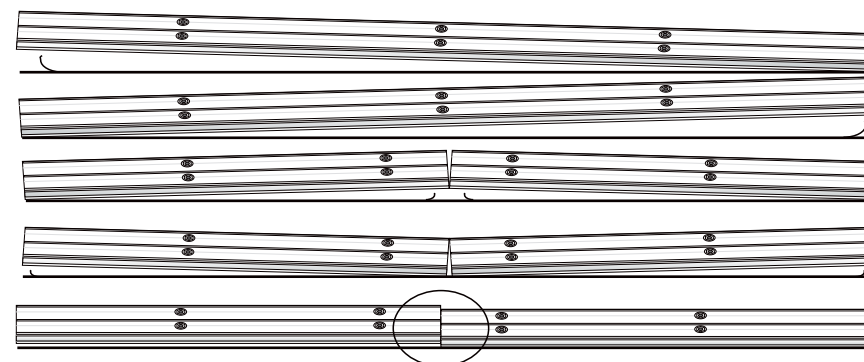
How to solve:
1.Readjust the distance between
Door and Ground Rail.
2.Clean up the Ground Rail.

Cause 3
ALUMINUM PROFILE is
not vertical.



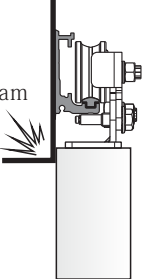
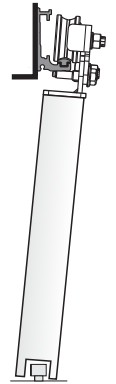
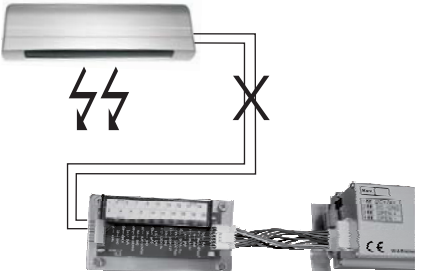
How to solve:
Readjust the vertical position
of the **ALUMINUM PROFILE.**

Cause 4
ALUMINUM PROFILE is not at vertical position.



How to solve:
Readjust the level position of the **ALUMINUM PROFILE.**

Door can be opened or closed.

Cause 1 Above the Door-Leaf touched with the 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: Adjust 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.	

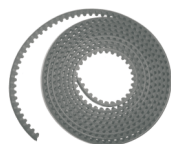
1. COMPONENTS SPECIFICATION.....	P1
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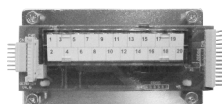
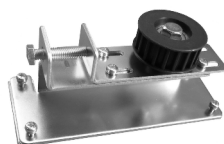
MICRO-CONTROLLER



BRUSHLESS DC MOTOR

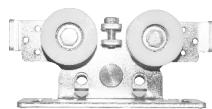


RACK BELT

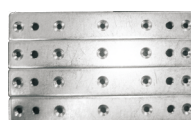
SENSORS
(OPTIONAL DEVICE)COMBINED
TERMINAL BLOCK

BELT ROLLER

(BI-PARTING) HANGERS & IRON PARTS

HANGING
TWIN-WHEEL 4 PCS

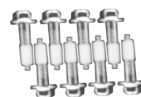
BELT BRACE

PASSIVE BRACE
with BELT FIXERACTIVE BRACE
with BELT FIXERHANGING
BRACE-4 PCS

IRON PARTS SACK



STOPPER-3 PCS



BLOCK SCREW-8 PCS

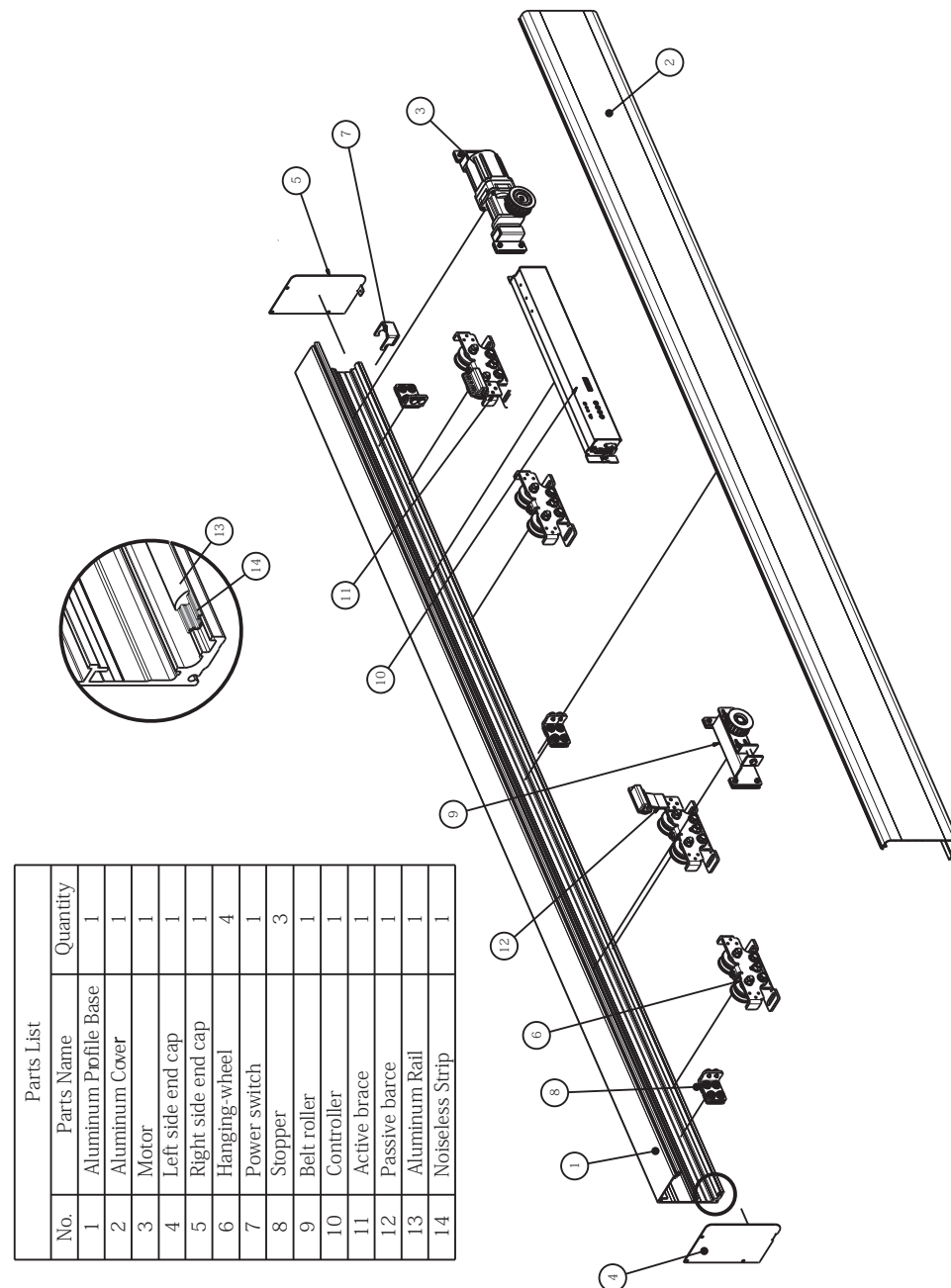
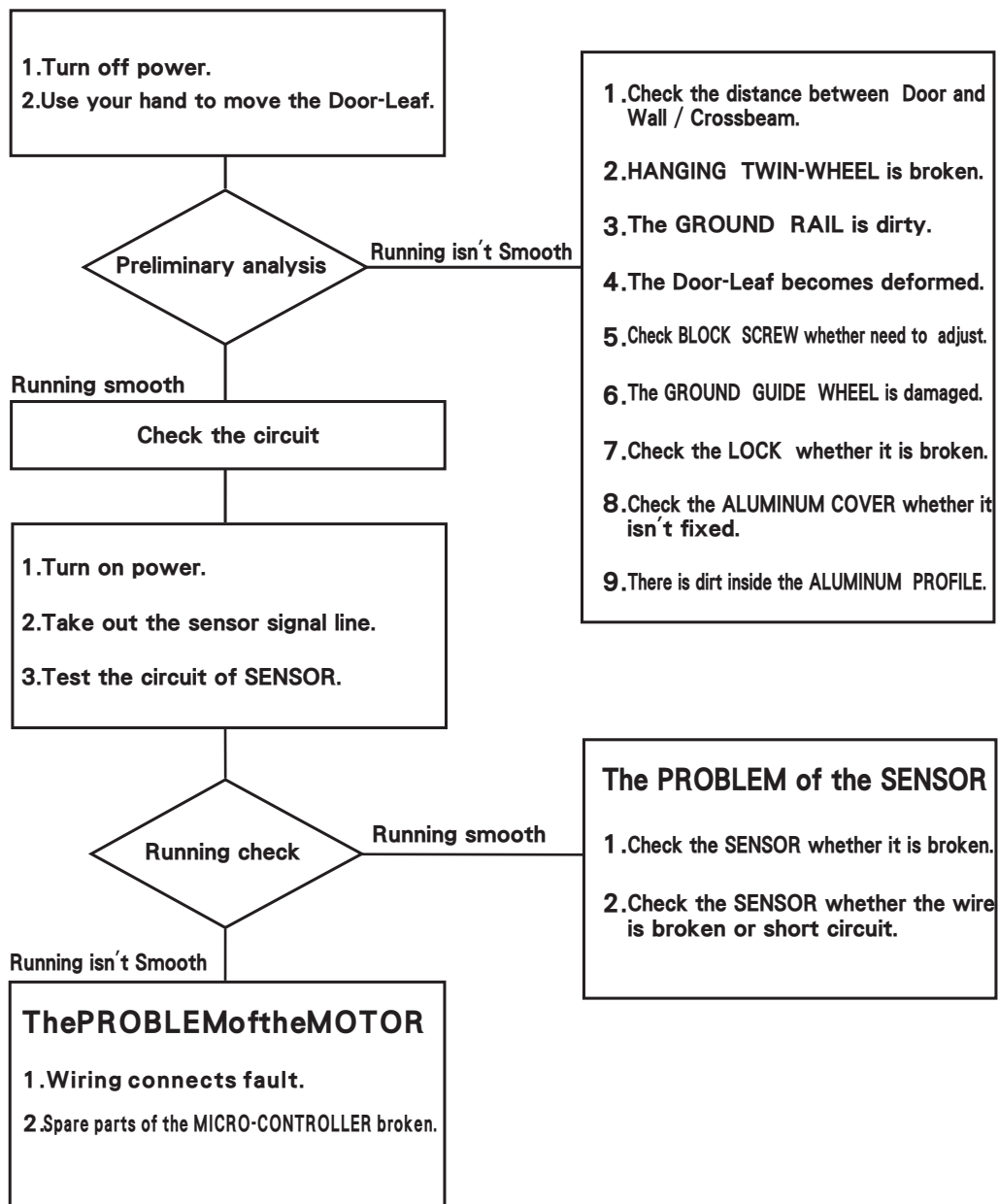
GROUND WHEEL
-2PCS
(OPTIONAL PART)

SCREW-8 PCS



DOOR SCREW-8 PCS

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.



Parts List		
No.	Parts Name	Quantity
1	Aluminum Profile Base	1
2	Aluminum Cover	1
3	Motor	1
4	Left side end cap	1
5	Right side end cap	1
6	Hanging-wheel	4
7	Power switch	1
8	Stopper	3
9	Belt roller	1
10	Controller	1
11	Active brace	1
12	Passive brace	1
13	Aluminum Rail	1
14	Noiseless Strip	1



TYPE	TH-3	
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 BRUSHLESS DC MOTOR	
CONTROL	STANDARD MICRO-CONTROLLER	
POWER CONSUMPTION	75W	
VOLTAGE	AC100V~240V	
ENVIRONMENTAL TEMPERATURE	-20℃~+50℃	
VOLUME	60decibel(max.)	
STARTING SPEED	600mm(second)	550mm X 2(second)
STARTING TIMES	0~64 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	3 kg	



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.

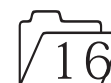
CAUTION: please adjust the number one by one from low to high.



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	32	64



**A** Full/Half opening

Adjust the RANGE of the HALF OPEN DISTANCE.
Higher number, wider range.

**B** Brake power

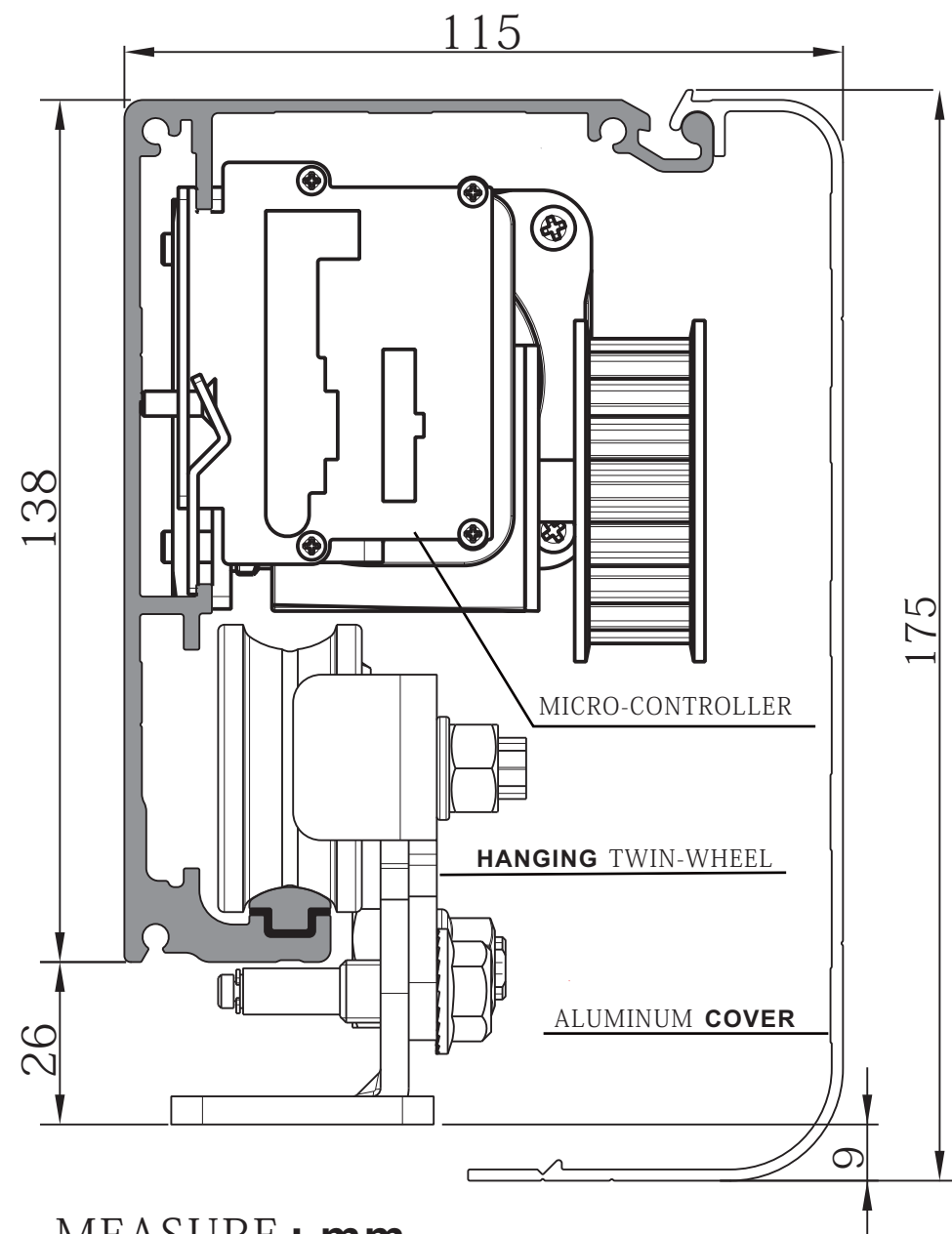
The Door-Leaf is slight, the BRAKE POWER is less.
Please choose 0~2 if the Door-Leaf is under 50kg.
Please adjust number from number 5 if the Door-Leaf is over 80kg.

**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.

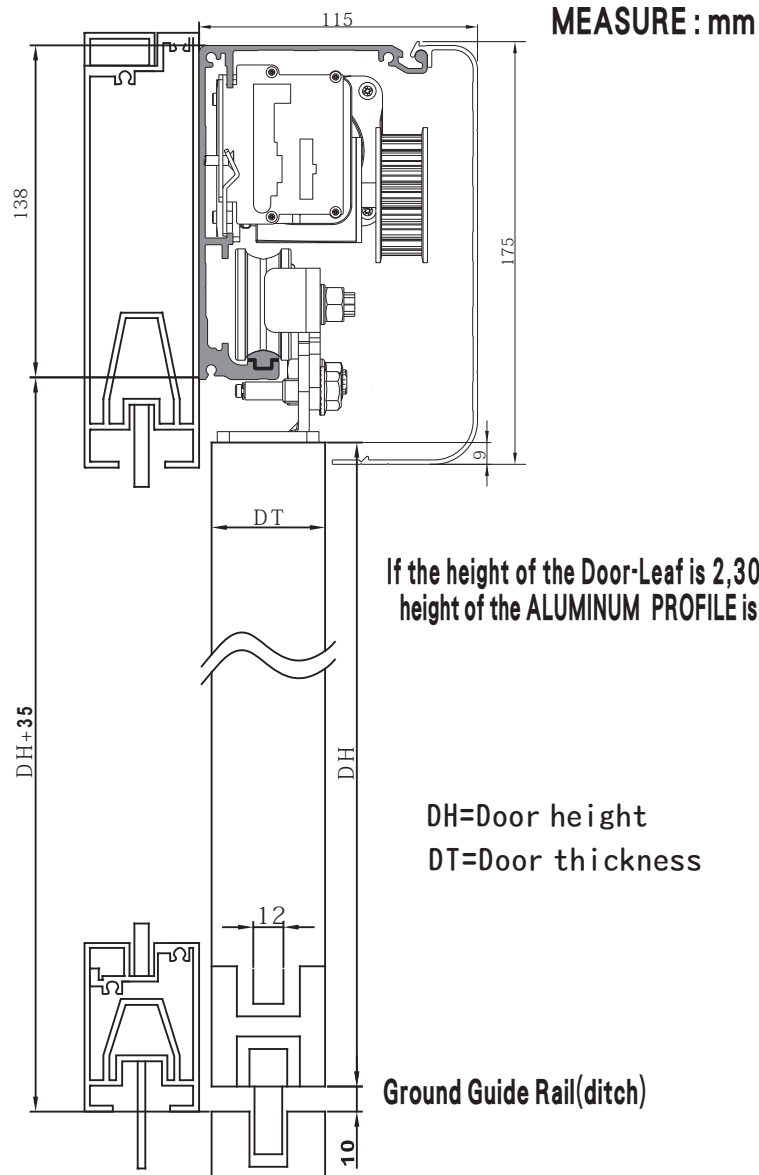
**D** The slowing range of opening door

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.



MEASURE : mm

5 INSTALLATION DRAWING



13 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.

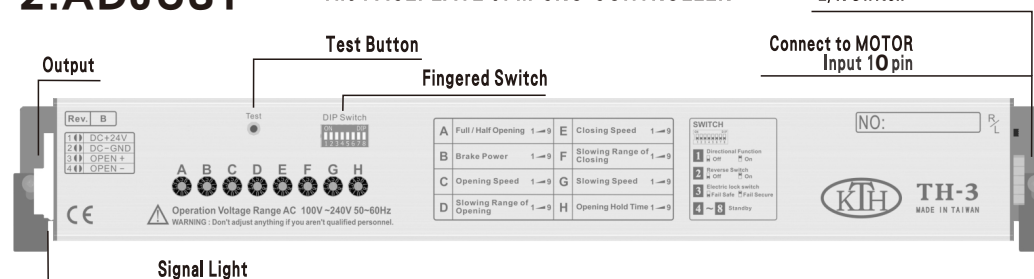
1.SYSTEM PROGRAM REMEMBER

After turn on the power, the MICRO-CONTROLLER will remember the distance and the range.

2.ADJUST

The FACEPLATE of MICRO-CONTROLLER

L/R Switch



DIP Switch

1 Directional function

OFF ON

OFF: Normal mode.

ON: Push once, open the door.

Push again, close the door.

3 Electric lock switch

Fail Safe Fail Secure

4 ~ 8 Standby

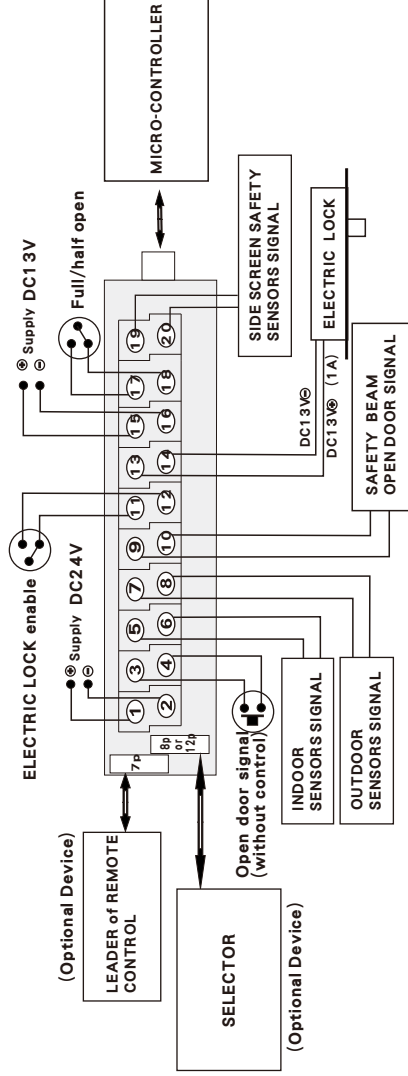
2 Reverse Switch:

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.

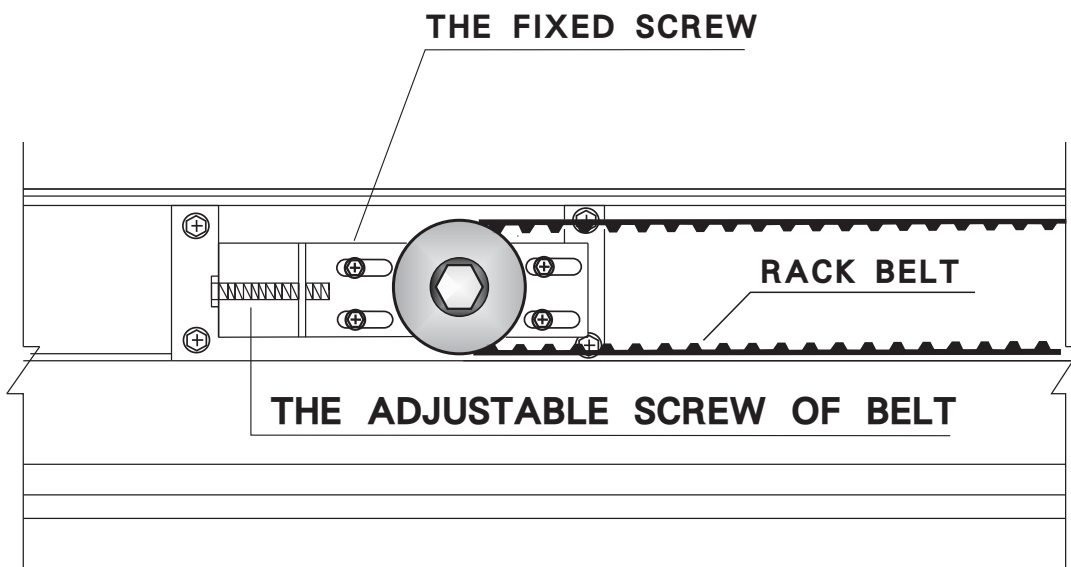


- (A) The FUNCTION of the ELECTRIC LOCK will work when ⑪ and ⑫ are short circuit, then ⑬ and ⑭ will output DC13V for ELECTRIC LOCK after the door closes. ⑬ and ⑭ will not output DC13V if ⑪ and ⑫ are not short circuit.
- (B) The SIGNAL of the SAFETY BEAM is controlled by ⑨ and ⑩. When door is opening and running, ⑨ and ⑩ keep to accept the signal, then the SAFETY BEAM will be working. ⑨ and ⑩ will not work when the door is closed, then the SAFETY BEAM will lose efficacy when the door is closed.
- (C) Please according with the connection way if it was installed "Selector", "Remote", "Sensors of inside and outside" at the same time; The entrance guard is under controlled by "Selector", furthermore, please extra contact ③ and ④ for the open door signal of "without control". eg. Extra install a BUTTON or CARD READER....
- (D) The signal of Side Screen Safety Sensor is controlled by ⑬ and ⑭. 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 normally.



- 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**

7 INSTALL THE BELT ROLLER



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

12 OUTPUT CONNECT

Output connect

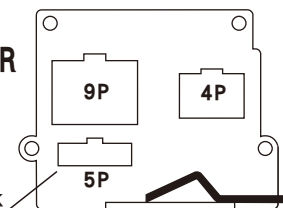
9P terminal

Black	Red	Orange
Yellow	Green	Blue
Purple	Gray	

4P terminal

Black	Red
Orange	Orange

MICRO-CONTROLLER



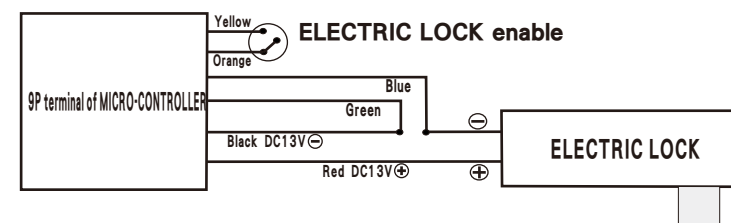
Connect to Terminal Block

Red	DC13V ⁺	Output DC13V 1A for ELECTRIC LOCK use
Black	GND ⁻	
Blue		Output NC signal
Green		
Orange		ELECTRIC LOCK enable
Yellow		
Gray		Full/Half opening signal
Purple		

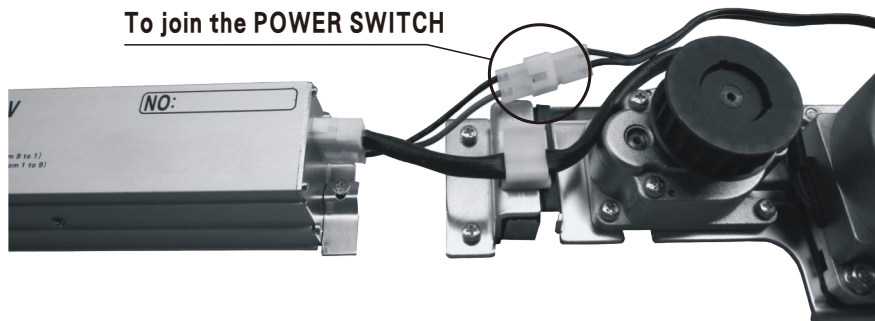
Red	DC24V ⁺	Power of SENSOR
Black	GND ⁻	
Orange		The signal of SENSOR
Orange		

PS : 5P terminal is required using with Combined Terminal Block.

The illustration of the ELECTRIC LOCK contact

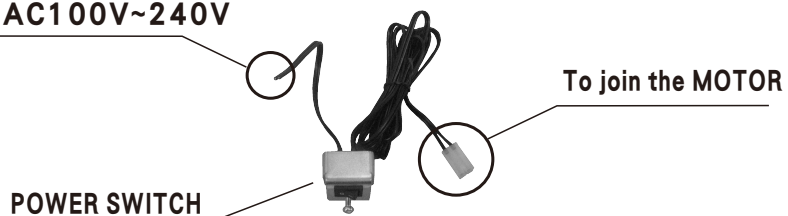


PS : After the orange and the yellow lines are short circuit, the blue and the green lines would output NC signal.



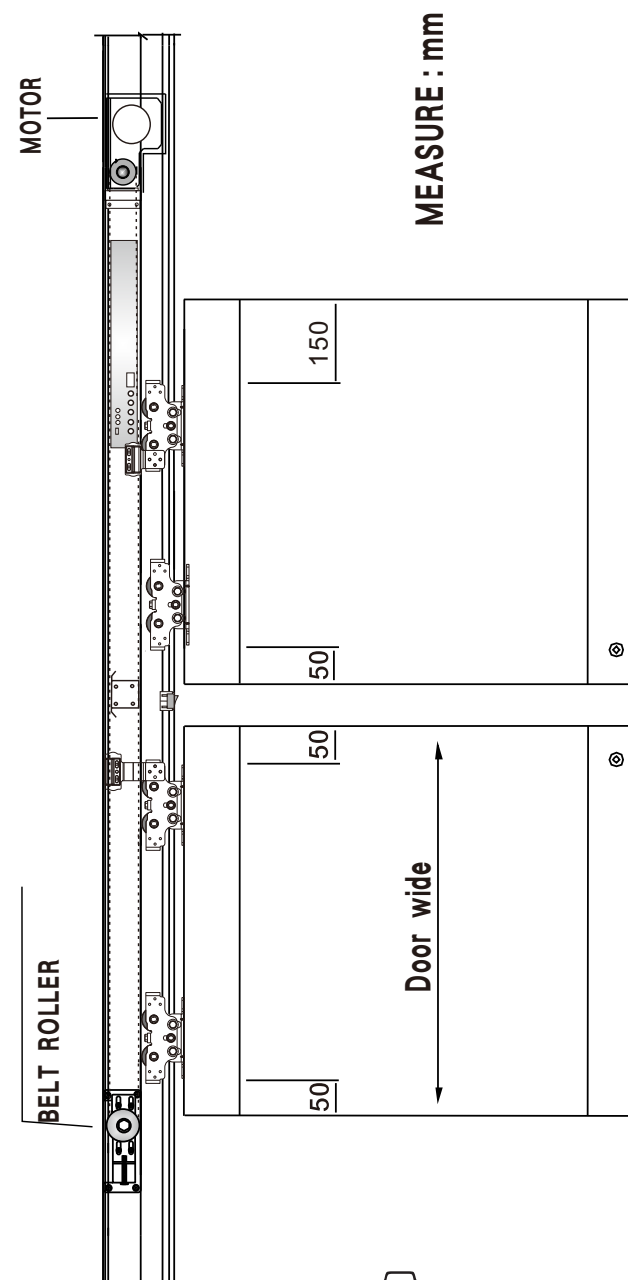
The ILLUSTRATED of CONTROLLER and MOTOR.

Power supply (input)
Either AC100V~240V



Warning

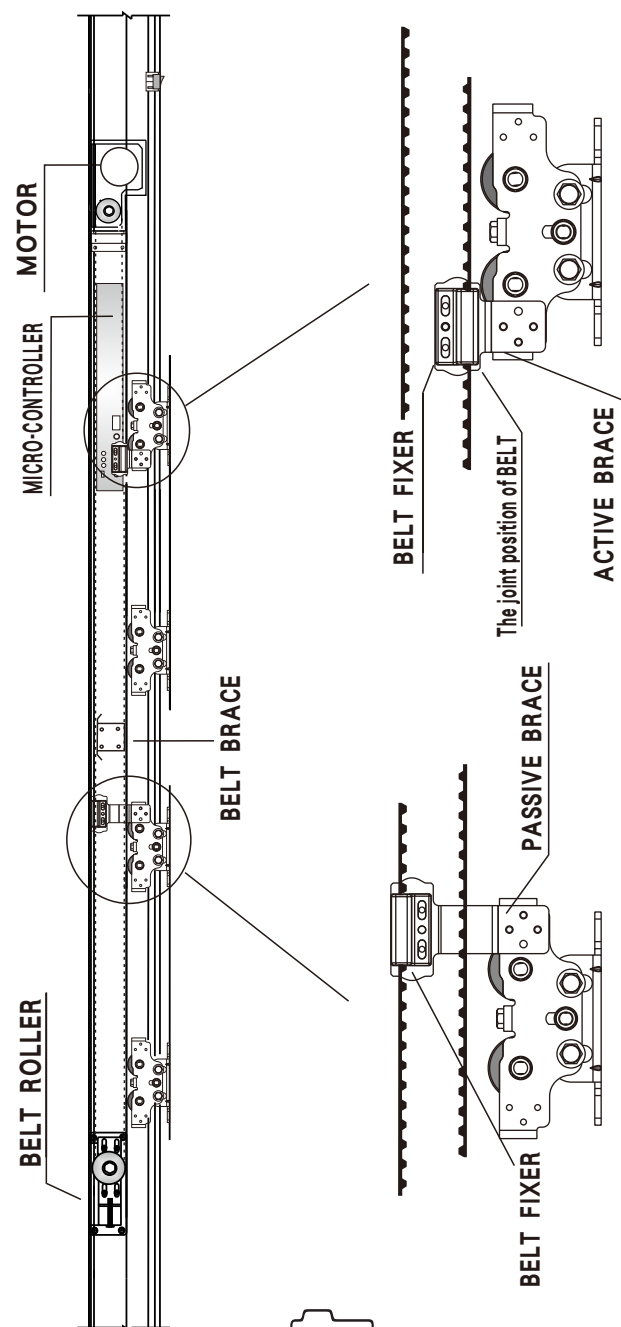
Please confirm WHETHER the SENSOR VOLTAGE is the same as the power supply. If different between them, need to add the TRANSFORMER, otherwise the SENSOR would be burned.



Inside the room, the distance between the “right side hanging-wheel” and “the edge of door” must be more than 150mm.

9

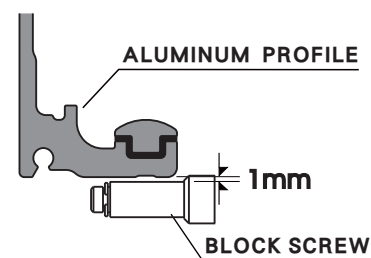
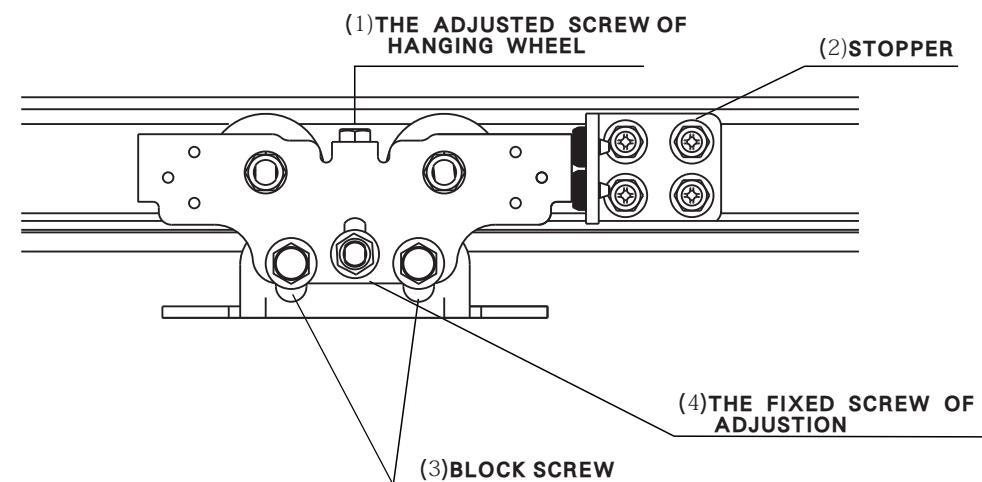
INSTALL THE RACK BELT



9

10

ADJUST THE DOOR-LEAF



- A** When Door-Leaf height and interval need to adjust, loose (3) & (4) at first, then adjust (1).
- B** Need to fasten (3) & (4) after adjust **A**.
- C** Install above-mentioned (2) after make sure the DOOR OPEN POSITION.

10