Automatic Door Systems

K-2E

(For standard profile)

EN16005

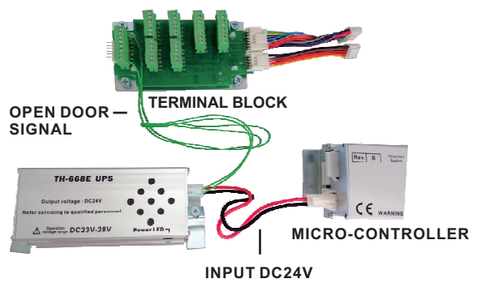
OPERATION INSTRUCTION

UPS (Optional Device)

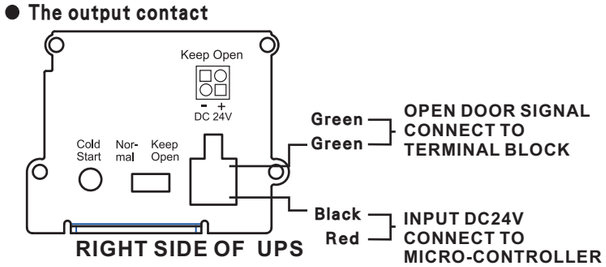
1. Input Voltage: DC23V~DC28V
2. Output Voltage: DC22V
3. Pmax (Rated Power, Watts)/(Maximum power rating): 90W/1sec
4. Average Output Power: 70W
5. How to turn on:
(1)Auto power on when input voltage >23V.
(2)Press 2 times on COLD START BUTTON.
6. Power off:
(1) Power off when Input voltage <22V
(2) Hold the COLD START BUTTON for 3 seconds
(3) Shut down automatically when low battery or system failure
7. Output signal timing of opening door automatically
(1) Power failure (controlled by AOC switch)
(2) Battery works with less power
(3) System failure (ex. Internal fuse fail, battery failure, system can't start normally)
8. COLD START BUTTON function sequence
(1) Press twice → Power on
(2) Hold button for 3 seconds → Power off
(3) Press twice → turn on Buzzer Sound (“Beep” sound represents turning on)
(4) Press twice → turn off Buzzer Sound
(5) Tester Function Only
i) Press 4 times → test battery.
Press 4 times again → cancel test
ii) Press 5 times → test system.
Press 5 times again → cancel test
9. Signal and Buzzer

Signal	Buzzer	Explanation
Green Light (flash)	NONE	Battery is Charging
Green Light (steady)	NONE	Battery is fully charged
Red Light (steady)	“Beep” sound (twice), stop for 10 sec, and repeat 10 times	Battery is working
Red Light (flash)	“Beep” sound (3 times), stop 5 sec, and repeat 15 times	Battery is running low
Orange Light (steady)	“Beep” sound (5 times), stop for 10 sec, and repeat 10 times every 8 hours	Advise to change battery (Life: 3 years)
Orange Light (flash)	“Beep” sound (lasting 5 sec), stop for 10 sec, and repeat 10 times every 8 hours	System failure
	“Beep” sound (once)	Pressing COLD START BUTTON

Illustration



● **The output contact**



(C) Operation:

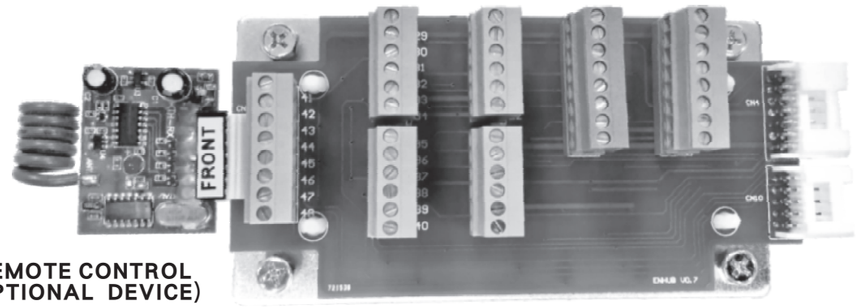
1、ARROW UP(▲) : Open door for 1 cycle and auto close back again. Good for controlling people from coming in after office hours when put to LOCK mode.

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

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

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

Connection of Illustrations

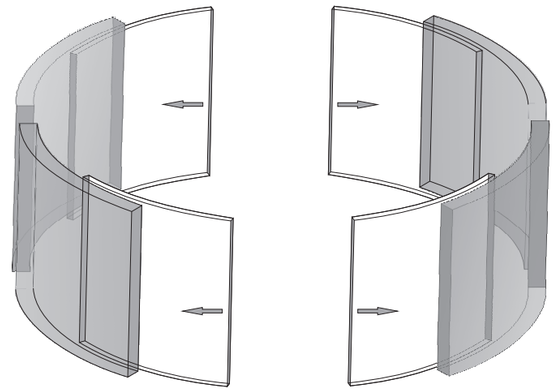


REMOTE CONTROL
(OPTIONAL DEVICE)

COMBINED TERMINAL BLOCK

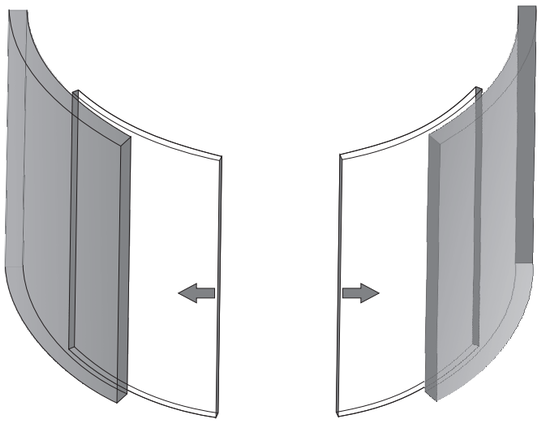
Our company has the following series of automatic door, please contact with our distributors/representations.

Round type door



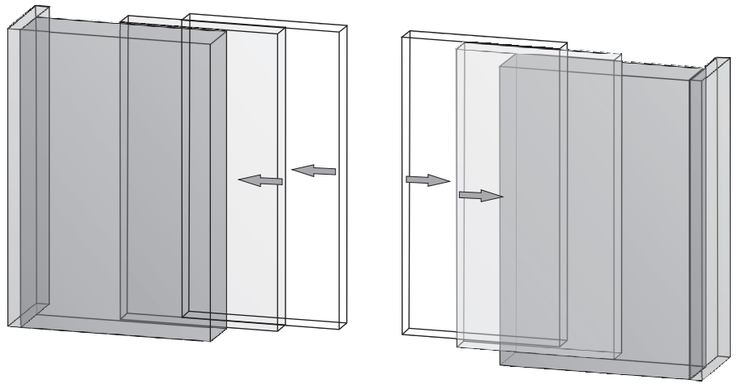
Installation: Please in accordance with the instruction of Round Type Door.

Curved type door



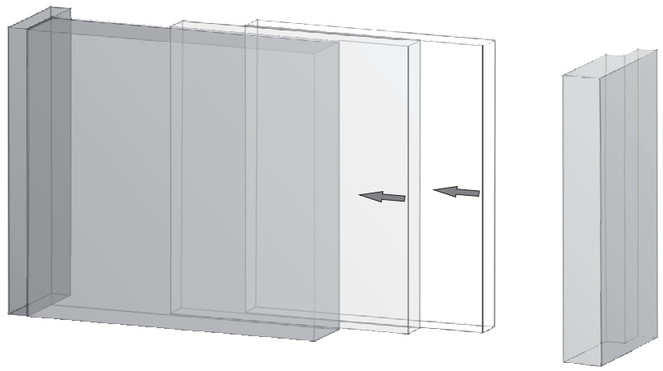
Installation: Please in accordance with the instruction of Curved Type Door.

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 for 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 then 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

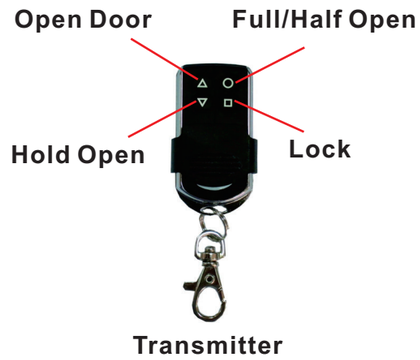
2、Receiver:

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

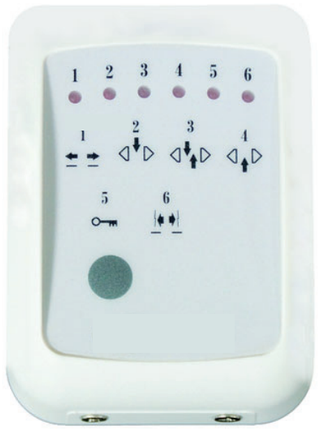
Frequency: 433.92Mhz

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

Max output: 30mA



FUNCTION SWITCH



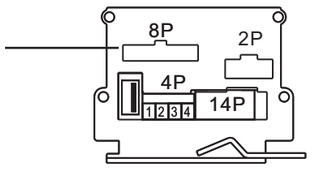
Six press functions:

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



Side View

Front View

Accessory Cable Notice:

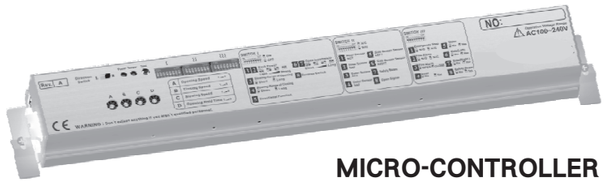
removable

TO MICRO-CONTROLLER

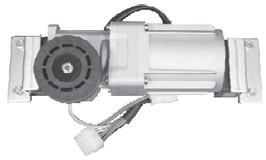
TABLE OF CONTENTS

1. COMPONENTS SPECIFICATION.....P1
2. LEGEND OF PART DRAWING.....P2
3. TECHNICAL SPECIFICATION.....P3
4. SECTIONAL DRAWING.....P4
5. INSTALLATION DRAWING.....P5
6. SAFETY DEVICE.....P6
7. INSTALL PROCEDURE.....P7
8. INSTALL THE BELT ROLLER & THE POSITION OF THE HANGING TWIN-WHEEL P8
9. INSTALL THE RACK BELT & ADJUST THE DOOR-LEAF ...P9
10. CONNECTION (Electric).....P10
11. CONNECT （Combined Terminal Block）.....P11
12. CONNECT (Others).....P12
13. CONNECT （non monitored sensor）.....P13
CONNECT （monitored sensor1）.....P14
CONNECT （monitored sensor2）.....P15
14. TEST AND ADJUST - 1.....P16
TEST AND ADJUST - 2.....P17
15. BROKEN CHECKING.....P18
16. TROUBLESHOOTING.....P19
17. TROUBLESHOOTING(ILLUSTRATED).....P20
18. APPENDIX(1) FUNCTION SWITCH(Optional Device)...P23
19. APPENDIX(2) REMOTE CONTROL(Optional Device)...P24

1 COMPONENTS SPECIFICATION



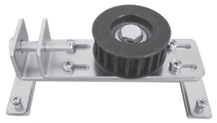
MICRO-CONTROLLER



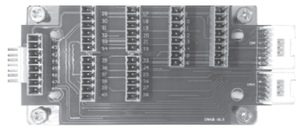
DC WORM GEAR MOTOR

POWER SWITCH

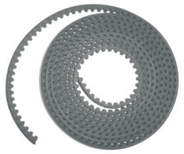
SENSORS
(OPTIONAL DEVICE)



BELT ROLLER

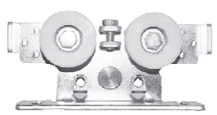


COMBINED TERMINAL BLOCK



RACK BELT

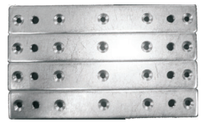
(BI-PARTING)HANGERS & IRON PARTS



HANGING
TWIN-WHEEL 4 PCS

PASSIVE BRACE
1 PCS

ACTIVE BRACE
1 PCS



HANGING
BRACE 4 PCS

IRON PARTS PACK

STOPPER
2 PCS

WIRE CLAMP
5 PCS

BLOCK SCREW
8 PCS

GROUND WHEEL
2PCS

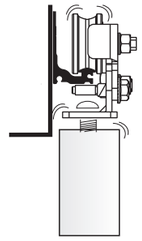
SCREW
8 PCS

DOOR SCREW
8 PCS

17 TROUBLESHOOTING (ILLUSTRATED)

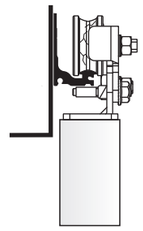
The Door-Leaf sends out abnormal noise in operating.

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



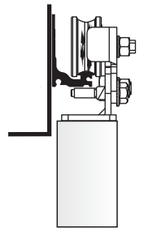
How to solve:
Refasten the SCREW of HANGING TWIN-WHEEL.

Cause 2
HANGING TWIN-WHEEL is broken.



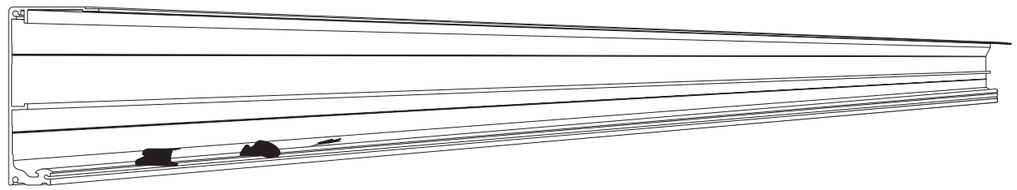
How to solve:
Replace a new one HANGING TWIN-WHEEL.

Cause 3
HANGING TWIN-WHEEL is dirty.



How to solve:
Clean the HANGING TWIN-WHEEL.

Cause 4
ALUMINUM PROFILE is dirty.

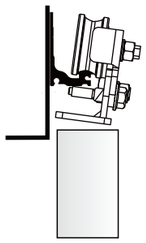


How to solve:
Clean the ALUMINUM PROFILE.

17 TROUBLESHOOTING (ILLUSTRATED)

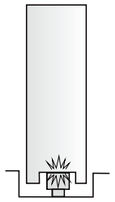
Door-Leaf isn't smooth in operating.

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



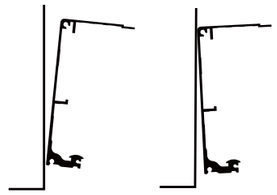
How to solve:
Readjust the HANGING TWIN-WHEEL.

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



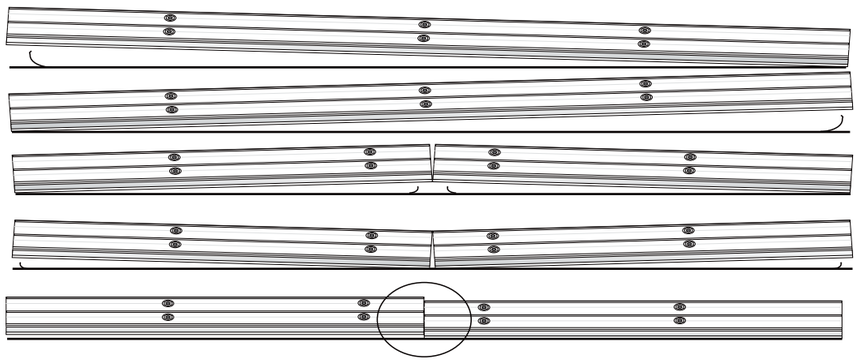
How to solve:
1.Readjust the distance between Door and Ground Rail.
2.Clean up the Ground Rail.

Cause 3
ALUMINUM PROFILE is not vertical.



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

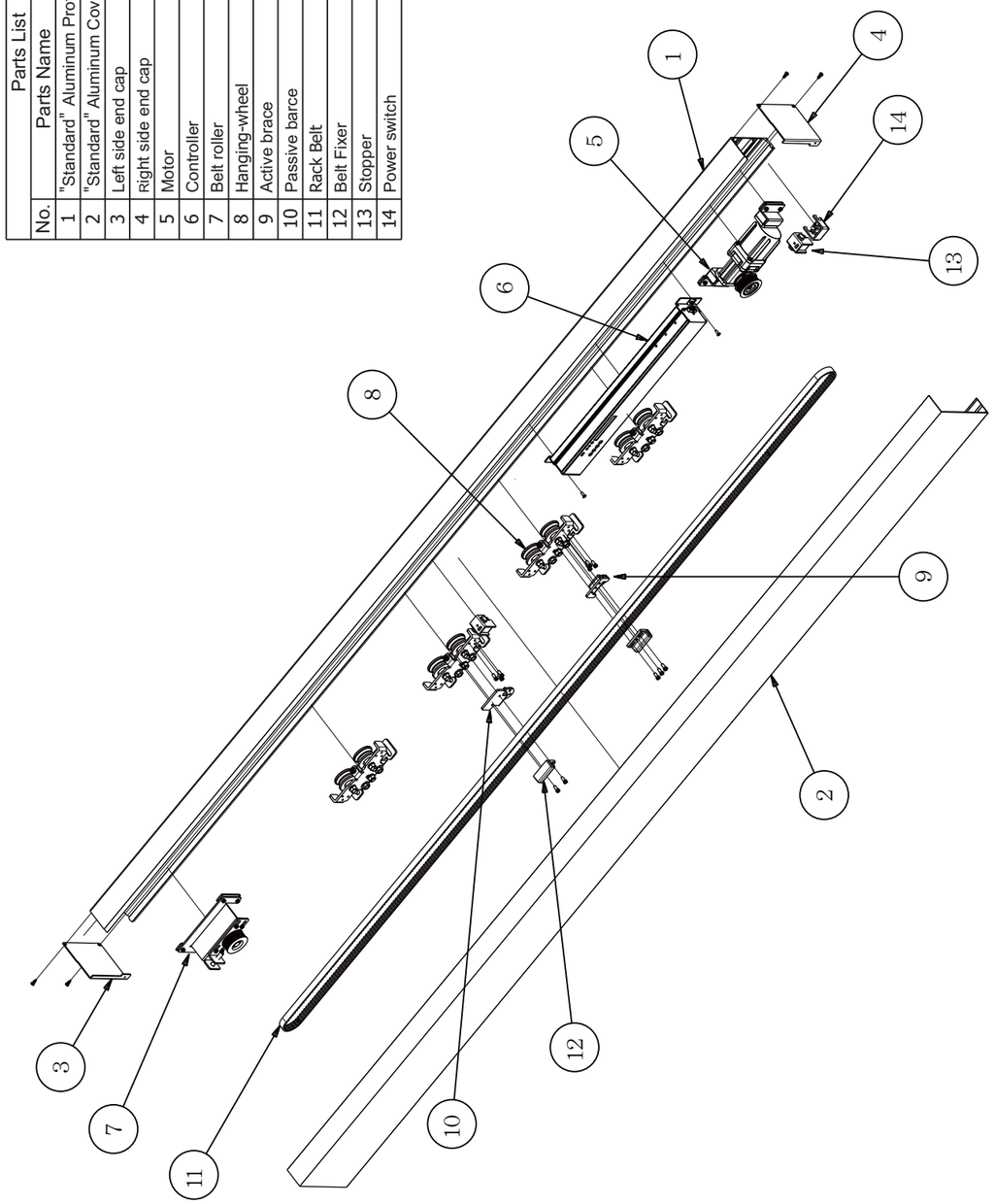
Cause 4
ALUMINUM PROFILE is not at vertical position.



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

2 LEGEND OF PART DRAWING

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



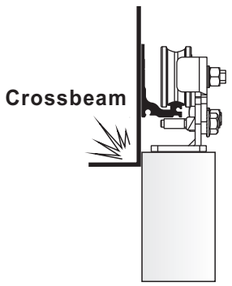
3 TECHNICAL SPECIFICATION

MODEL	SINGLE-WINGED	BI-PARTING
DOOR WEIGHT	120kg X1(door)	100kg X2(door)
DOOR WIDTH	DW=500mm~2500mm	DW=500mm~2500mm
INSTALL WAY	Surface install	Surface install
MOTOR	DC24V 75W WORM GEAR MOTOR	
CONTROL	MICRO-CONTROLLER	
POWER CONSUMPTION	75W	
VOLTAGE	AC100V~240V	
ENVIRONMENTAL TEMPERATURE	**-20℃~+50℃**	
VOLUME	60decibel(max.)	
STARTING SPEED	200~550mm/(second)	
STARTING TIME	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	

17 TROUBLESHOOTING (ILLUSTRATED)

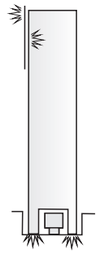
Door can't be opened or closed.

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



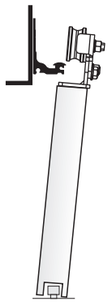
How to solve:
Adjustment the interval between the Door-Leaf height and Crossbeam.

Cause 2
The Door-Leaf touched with the Ground Guide Rail.



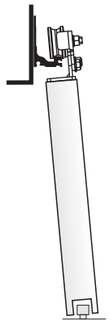
How to solve:
Adjus the Door-Leaf height.

Cause 3
Door-Leaf derails the ALUMINUM PROFILE.



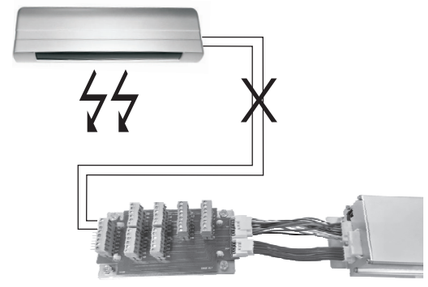
How to solve:
Put the Door-Leaf into the ALUMINUM PROFILE again.

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.

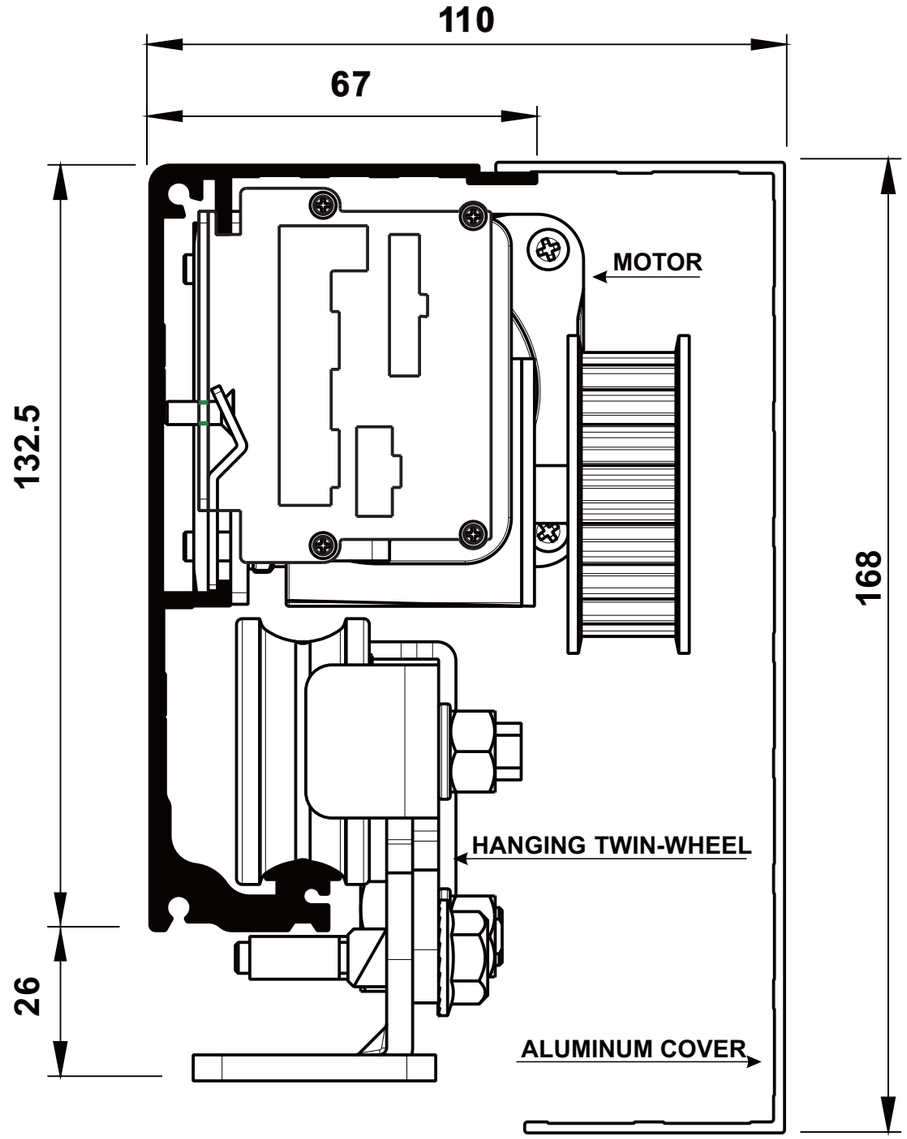


How to solve:
1.If SENSOR is broken please change a new one.
2.Check SENSOR whether it connects to the COMBINED TERMINAL BLOCK.

16 TROUBLESHOOTING

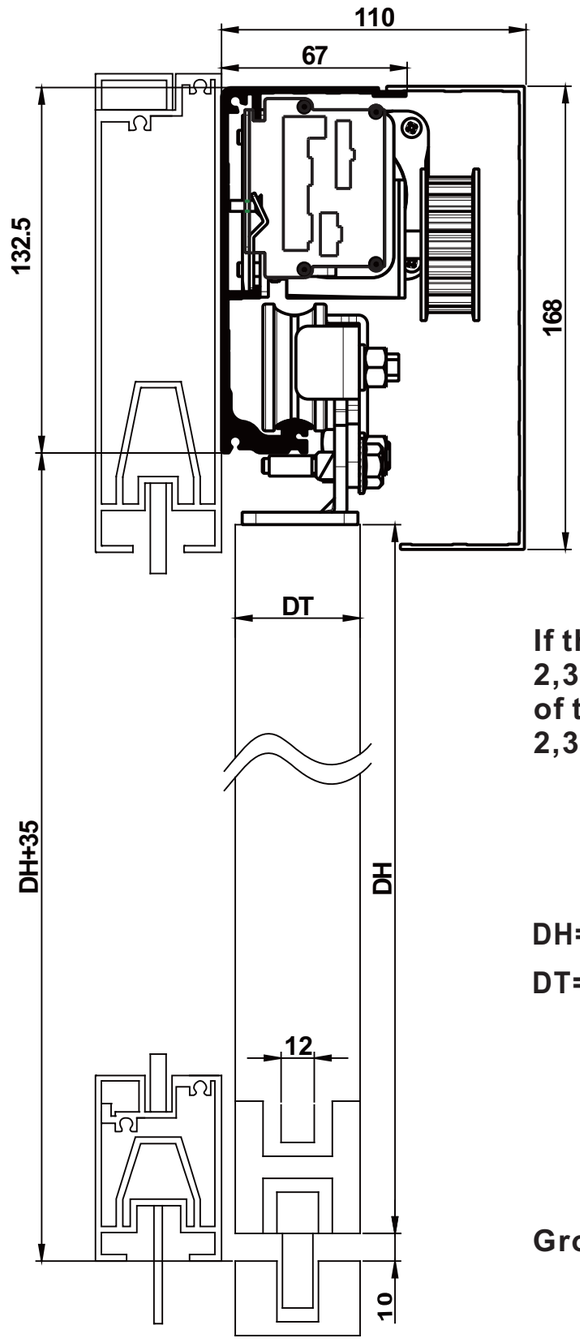
PROBLEMS	REASONABLE	CHECK	HOW TO SOLVE
DOOR CAN'T BE MOVED.	1.No power.	Broken circuit.	Check the broken circuit position.
		The Power Switch is not opened.	Open the POWER SWITCH.
	2.The door is locked.	Door is locked and no movement action.	Open the DOOR LOCK.
	3.The sensor is broken.	Signal light is 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.

4 SECTIONAL DRAWING



MEASURE : mm

5 INSTALLATION DRAWING



MEASURE : mm

If the height of the Door-Leafis 2,300mm,then the total height of the ALUMINUM PROFILE is 2,335mm.

DH=Door height

DT=Door thickness

Ground Guide Rail(ditch)

15 BROKEN CHECKING

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

Preliminary analysis — Running isn't Smooth:

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.

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:

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.

Running isn't Smooth

The PROBLEM of the MOTOR

1.Wiring connects fault.

2.Spare parts of the MICRO-CONTROLLER broken.

14 TEST AND ADJUST - 2

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

Switch I

1 2 Barke Power

Light ◢ Strong

3 Slowing Range of Opening

Short Long

4 Slowing range of closing

Short Long

5 Directional function

OFF ON

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

6 7 Open incomplete

Short ◢ Long

8 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.

Switch II

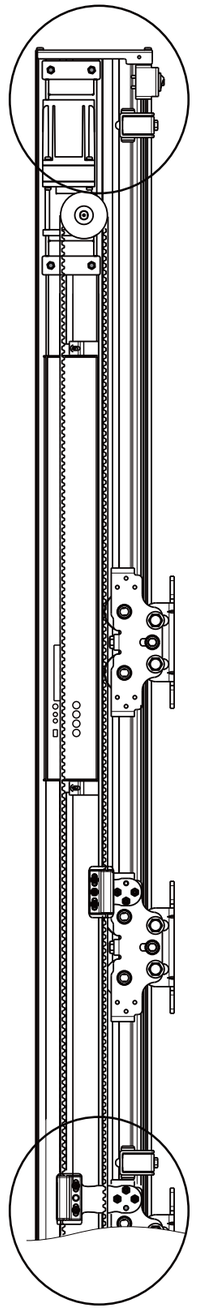
1	Inner Sensor ACT	N/O N/C	5	Side Screen Sensor LEFT	N/O N/C
2	Inner Sensor SAF	N/O N/C	6	Side Screen Sensor Right	N/O N/C
3	Outer Sensor ACT	N/O N/C	7	Safely Beam	N/O N/C
4	Outer Sensor SAF	N/O N/C	8	Open Signal	N/O N/C

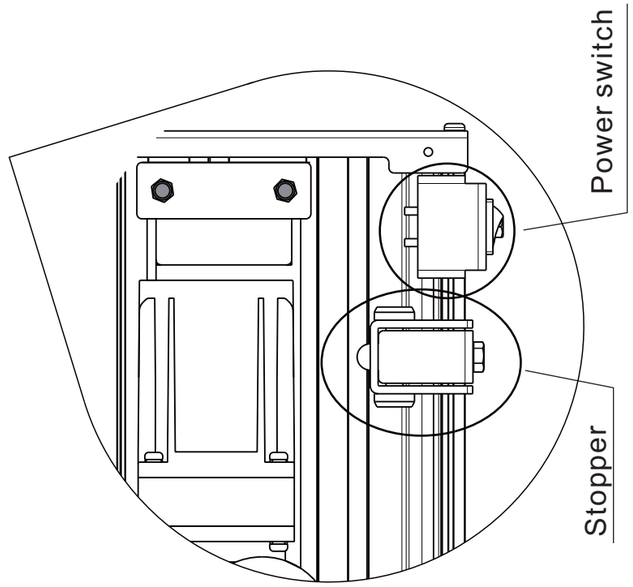
Switch III

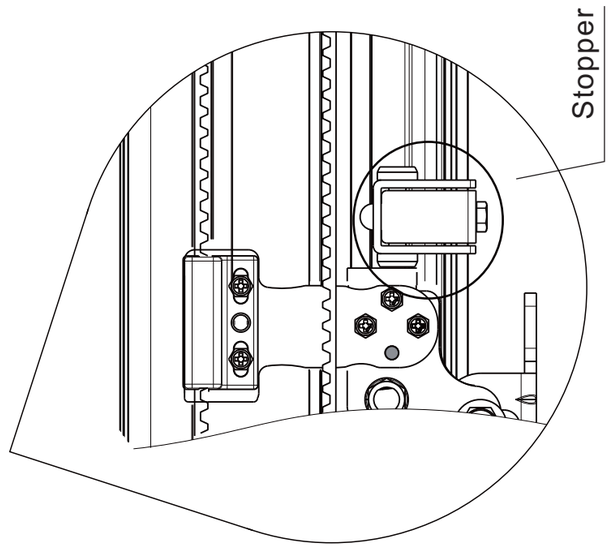
1	Emergency Stop	N.O. N.C.	5	Outer	No Yes
2	Fire Alarm	N.O. N.C.	6	Side(Left)	No Yes
3	Fire Alarm	OPEN CLOSE	7	Side(Right)	No Yes
4	Inner	No Yes	8	Safety Beam	No Yes

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

6 SAFETY DEVICE







7 INSTALL PROCEDURE

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

14 TEST AND ADJUST - 1

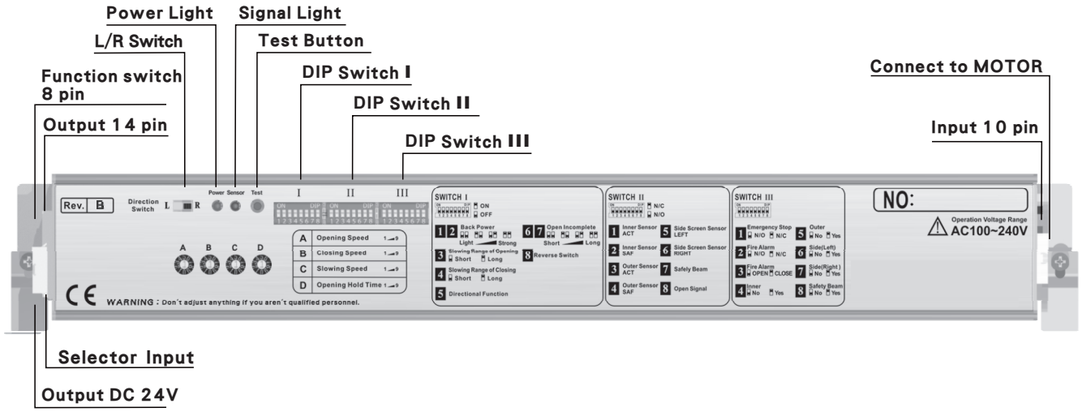
Before turn on the power, make sure the Door-Leaf can be smoothly moved, and the electric link is correct at first.

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



Red LED-Power is connected.
Green LED-Input the open door signal.
L/R switch-The direction of the door opening: Left/Right(L/R).

When USER regulates the Speed the Range and the Brake; it will start to accord what USER sets after twice running.

A 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.

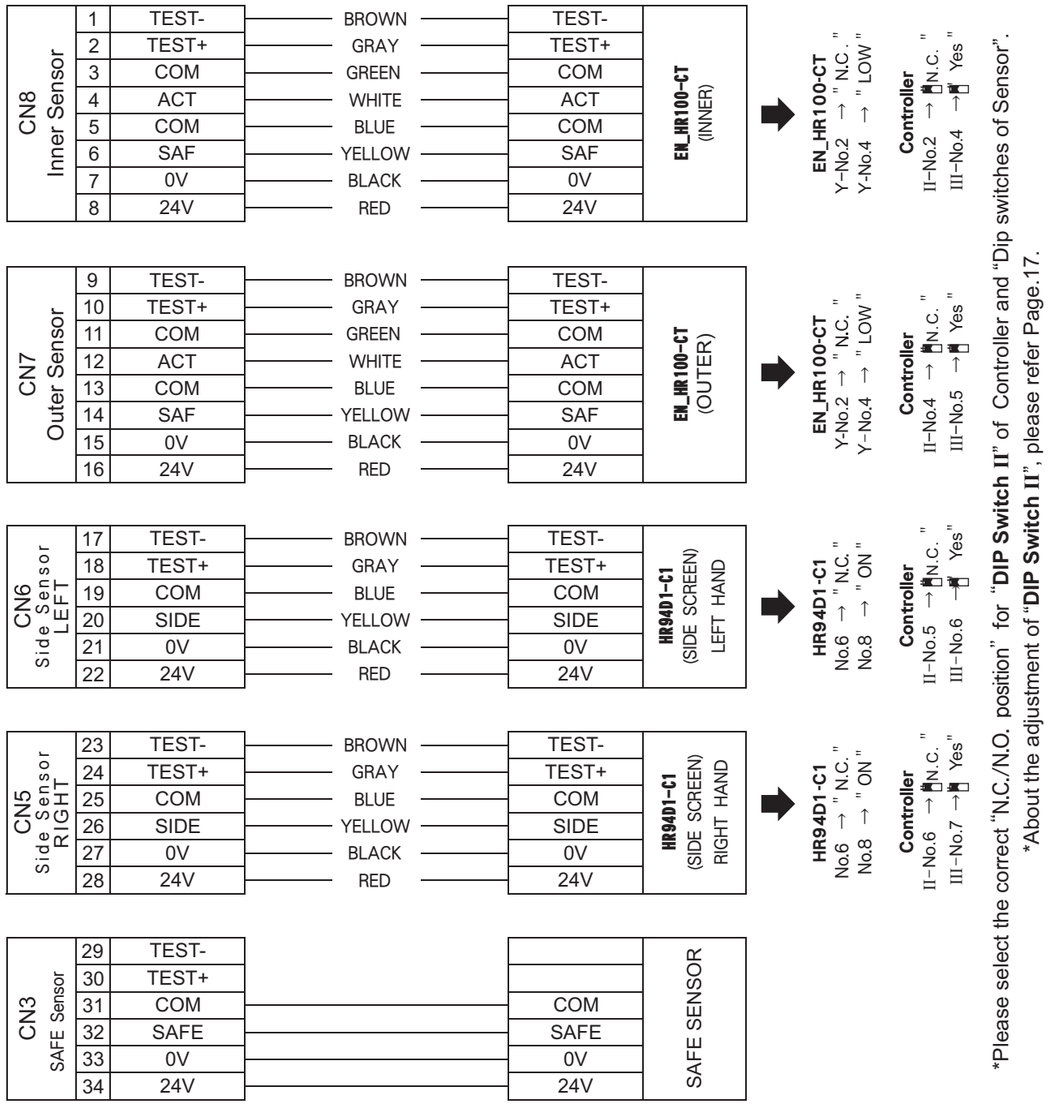
B The closing speed of the door
Adjust the CLOSED SPEED. Higher number, faster speed.
CAUTION: please adjust the number one by one from low to high.

C 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**.

D 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

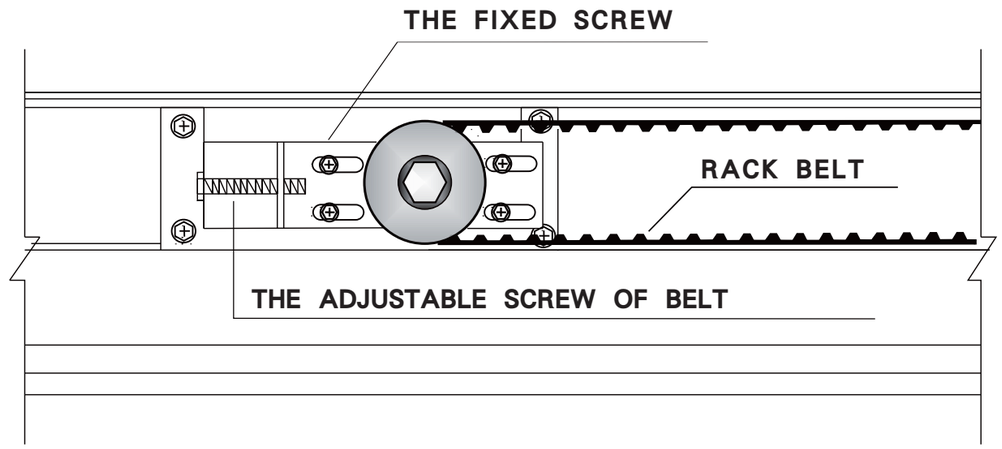
13 CONNECTION (Monitored sensor - 2)



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

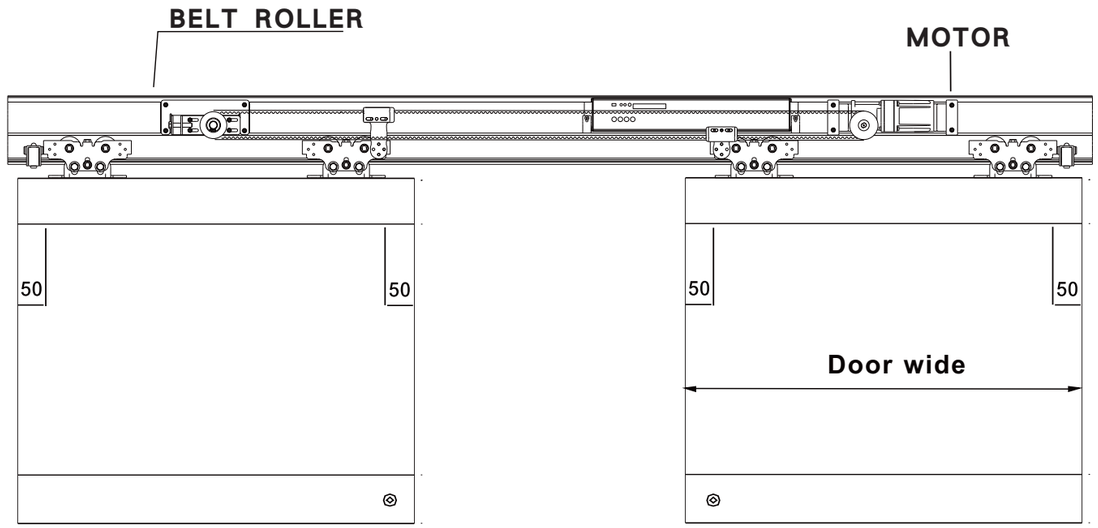
8 INSTALL THE BELT ROLLER & THE POSITION OF THE HANGING TWIN-WHEEL

INSTALL THE BELT ROLLER



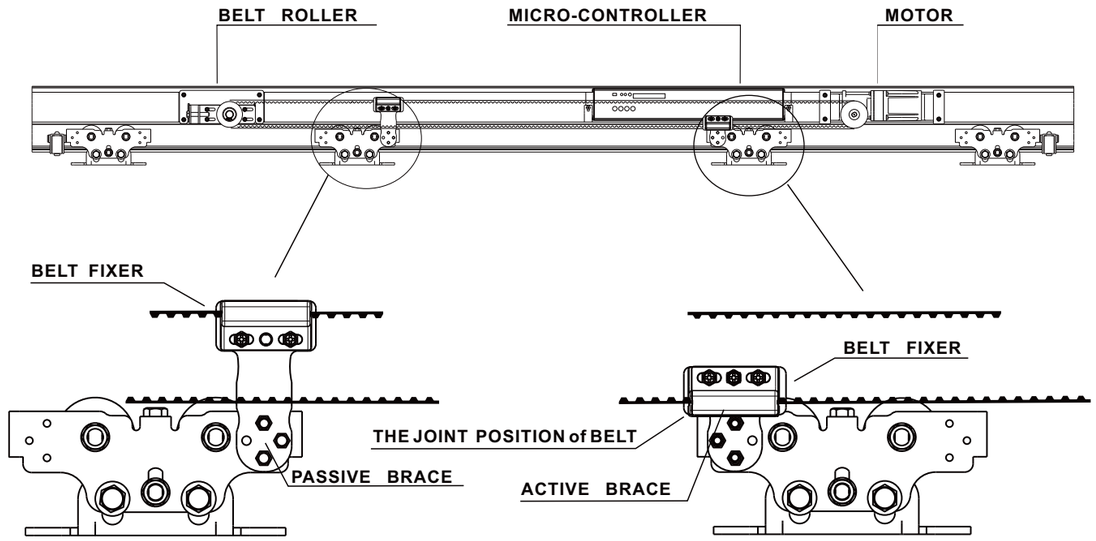
TENSION of BELT can be adjusted by the ADJUSTABLE SCREWof BELT, after that, must tighten the FIXED SCREW of BELT.

THE POSITION OF THE HANGING TWIN-WHEEL

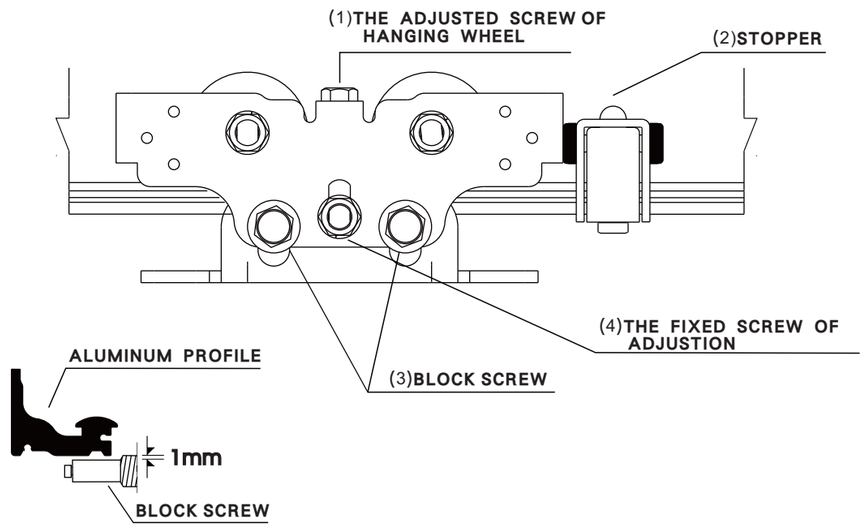


Inside the room, the distance between the HANGING TWIN-WHEEL and the RIM of DOOR must be more than 50mm.

INSTALL THE RACK BELT



ADJUST THE DOOR-LEAF



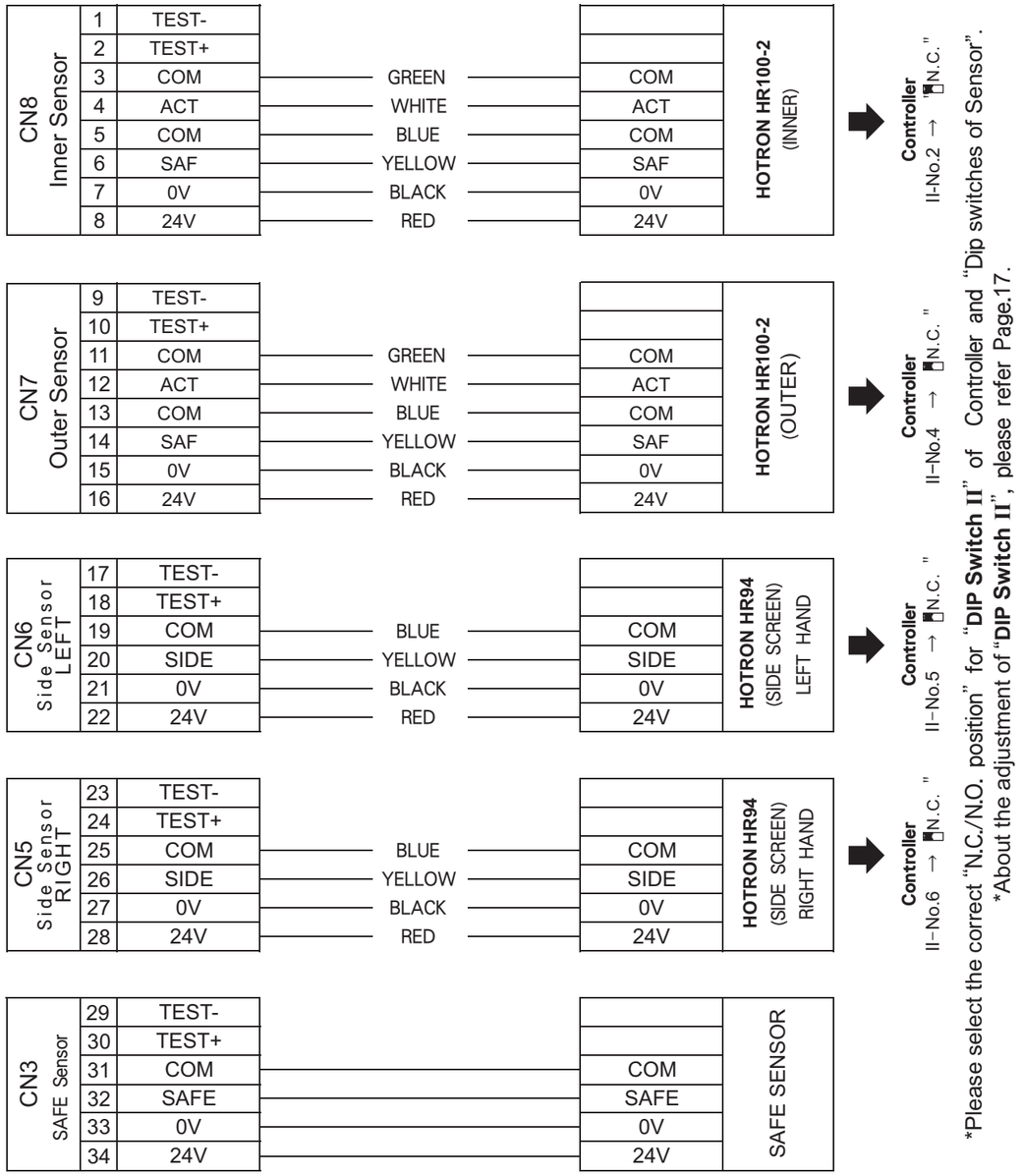
Ⓐ **When Door-Leaf height and interval need to adjust, loose (3) & (4) at first, then adjust (1).**

Ⓑ **Need to fasten (3) & (4)after adjust Ⓐ .**

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

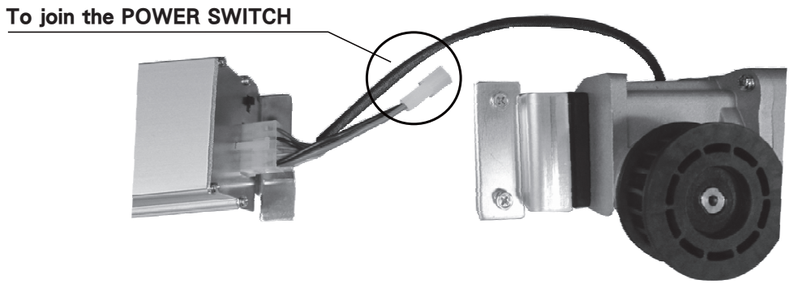
CN8 Inner Sensor	1	TEST-	BROWN	TEST-	SSR-3 (INNER)	➡	**SSR-3 SENSOR** X–No.6 → " N.C. " Y–No.6 → " ON "
	2	TEST+	GRAY	TEST+			**Controller** II–No.2 → ■ N.C. " III–No.4 → ■ Yes "
	3	COM	GREEN	COM			
	4	ACT	WHITE	ACT			
	5	COM	BLUE	COM			
	6	SAF	YELLOW	SAF			
	7	0V	BLACK	0V			
	8	24V	RED	24V			
CN7 Outer Sensor	9	TEST-	BROWN	TEST-	SSR-3 (OUTER)	➡	**SSR-3 SENSOR** X–No.6 → " N.C. " Y–No.6 → " ON "
	10	TEST+	GRAY	TEST+			**Controller** II–No.4 → ■ N.C. " III–No.5 → ■ Yes "
	11	COM	GREEN	COM			
	12	ACT	WHITE	ACT			
	13	COM	BLUE	COM			
	14	SAF	YELLOW	SAF			
	15	0V	BLACK	0V			
	16	24V	RED	24V			
NC6 Side Sensor LEFT	17	TEST-	BROWN	TEST-	HR94D1-C1 (SIDE SCREEN) LEFT HAND	➡	**HR94D1-C1** No.6 → " N.C. " No.8 → " ON "
	18	TEST+	GRAY	TEST+			**Controller** II–No.5 → ■ N.C. " III–No.6 → ■ Yes "
	19	COM	BLUE	COM			
	20	SIDE	YELLOW	SIDE			
	21	0V	BLACK	0V			
	22	24V	RED	24V			
CN5 Side Sensor RIGHT	23	TEST-	BROWN	TEST-	HR94D1-C1 (SIDE SCREEN) RIGHT HAND	➡	**HR94D1-C1** No.6 → " N.C. " No.8 → " ON "
	24	TEST+	GRAY	TEST+			**Controller** II-No.6 → ■ N.C. " III-No.7 → ■ Yes "
	25	COM	BLUE	COM			
	26	SIDE	YELLOW	SIDE			
	27	0V	BLACK	0V			
	28	24V	RED	24V			
CN3 SAFE Sensor	29	TEST-			SAFE SENSOR		
	30	TEST+					
	31	COM		COM			
	32	SAFE		SAFE			
	33	0V		0V			
	34	24V		24V			

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

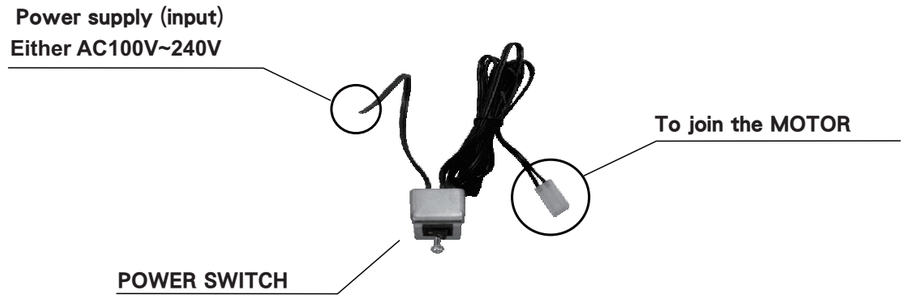


*Please select the correct "N.C./N.O. position" for "**DIP Switch II**" of Controller and "Dip switches of Sensor".
*About the adjustment of "**DIP Switch II**", please refer Page.17.

ELECTRIC CONNECTION



The ILLUSTRATED of CONTROLLER and MOTOR.

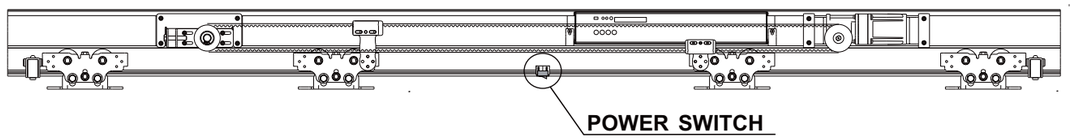


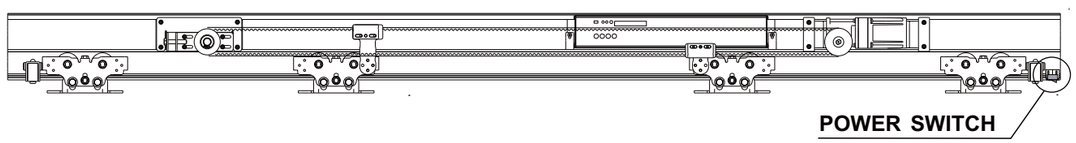
Warning

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

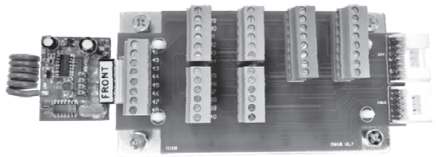
It can be installed at the MIDDLE of the ALUMINUM PROFILE or the SIDE.



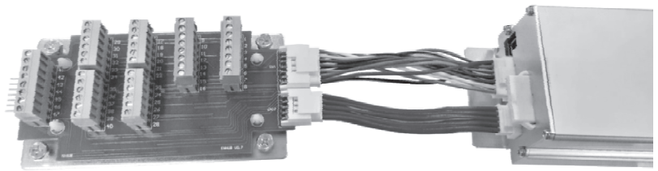


The ILLUSTRATED of WIRING.

REMOTE CONTROL
(OPTIONAL DEVICE)

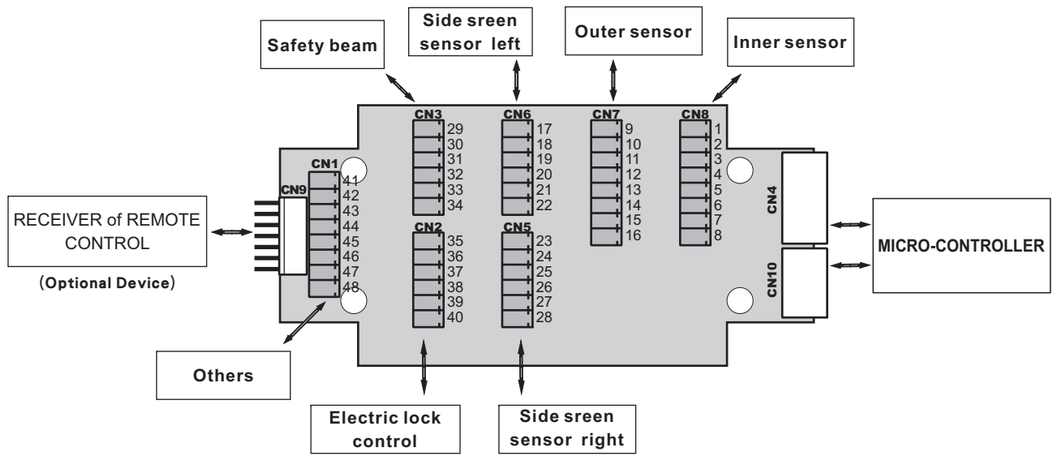


COMBINED TERMINAL BLOCK



COMBINED TERMINAL BLOCK MICRO-CONTROLLER

Wiring diagram



(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 of leaves will become slow. Untill the door opens fully, then close at normal speed.