Panasonic

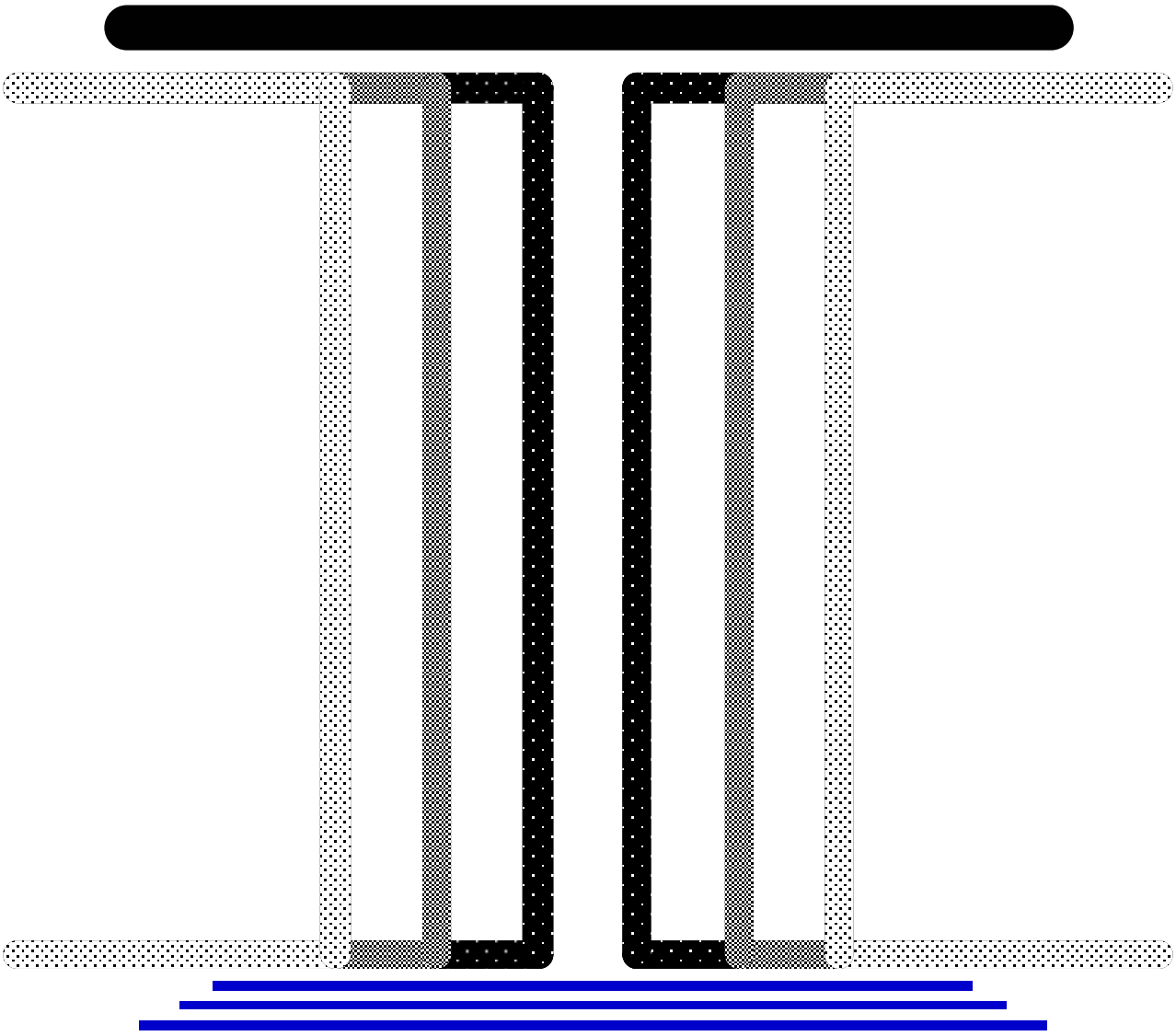
Automatic Door

New ruidi series

Installation Manual

Be sure to install the auto-door by the professional.
Be sure to install the auto-door in accordance with the electric laws and standards.

Request to installer...
- Keeping this manual for maintenance.
- The owner/operator should be instructed on the essentials of the operation of the door.



No.ONACS88438－T 11.03.18

Safety Precautions

●Safety measures are denoted by the following symbols according to their type, and are described below.

⚠ WARNING!	This symbol indicates that serious injury or death may result if the part or procedure is not handled properly.
⚠ CAUTION	This symbol indicates that serious injury or physical damage may result if the part or procedure is not handled properly.

This symbol indicates something that the user must not to do.	This symbol indicates something that the user must do.

⚠ WARNING

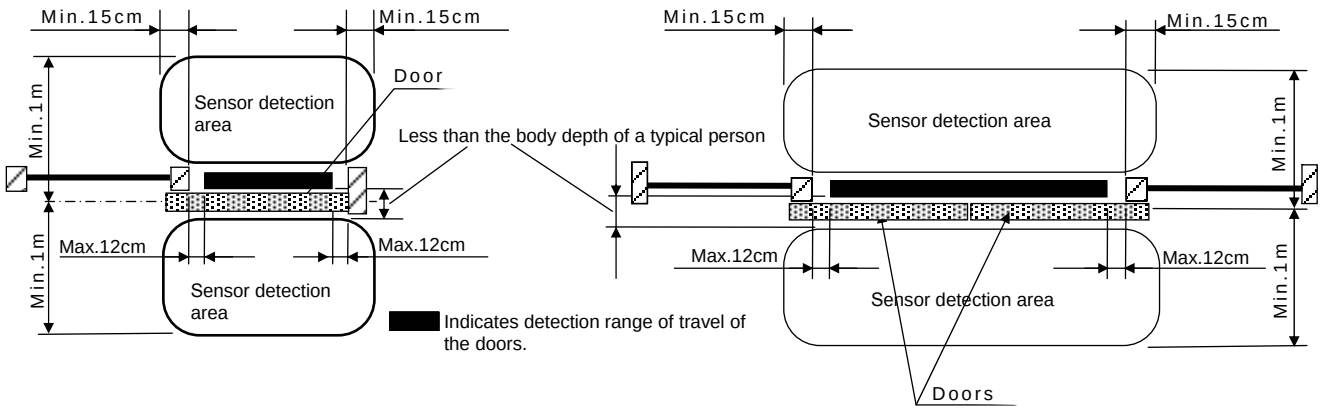
Be sure to perform installation and adjustment according to the installation manual.
If not properly installed or adjusted, fire, electric shock or damage may result.

Do not tamper with any parts, as this may result in fire, electric shock or damage.

Do not use a power supply with a voltage and frequency different from that Indicated, as this may result in fire or electric shock.

Be sure to install and adjust the sensors so that the detection area extends safely beyond the doors and there is no “blind spot.”
If the detection area is too narrow, or if there is a blind spot, a person may be hit by or caught in the doors, leading to injury.

Be sure to install the photo cell sensors such that the detection area covers the entire area of travel of the door. If this is not done, a person may be hit by or caught in the doors, leading to injury.



If the above detection area cannot be secured, request the person responsible for the door to position plants or other obstacles to force people to pass through the detection area.
If the detection area is inadequate, a person may be hit by or caught in the doors, leading to injury .

⚠ CAUTION

- Do not use in a location where there is excessive moisture, vibration, or corrosive gas, as this may result in fire, electric shock or damage.
- Do not use at ambient temperatures outside the range of -20 ℃ to 50℃, as this may result in fire, faulty operation.
- Be sure the space is more than 30mm between the door and doorframe after opening, otherwise finger injury may result.
- Do not cut off the power during operation of the doors, as this may result in injury.
- Be sure to attach the sticker to the door.Failing to do so may lead to injury.
- Do not install any instruments with capacity over DC24V 300mA on Multi-function device of the options, as this may result in fire.

■Other precautions

- Do not use doors which exceed the maximum rated weight. This may result in faulty operation.
- Optional Battery device

  Please run it after 24 hours' charge. Join Multi-function device, turn on the power of engine unit and charge up.
  The battery life is 3 to 5 years in an ambient temperature of between 0 ℃ to 40℃An environment with temperature exceed 0 ℃ ~40℃ will shorten life.
  When the battery can no longer power the opening or closing of the door, even after charging for 24 hours or more, it has reached the end of its life. Replace the battery immediately.
  Check the battery every half a year.
- Optional Electric lock

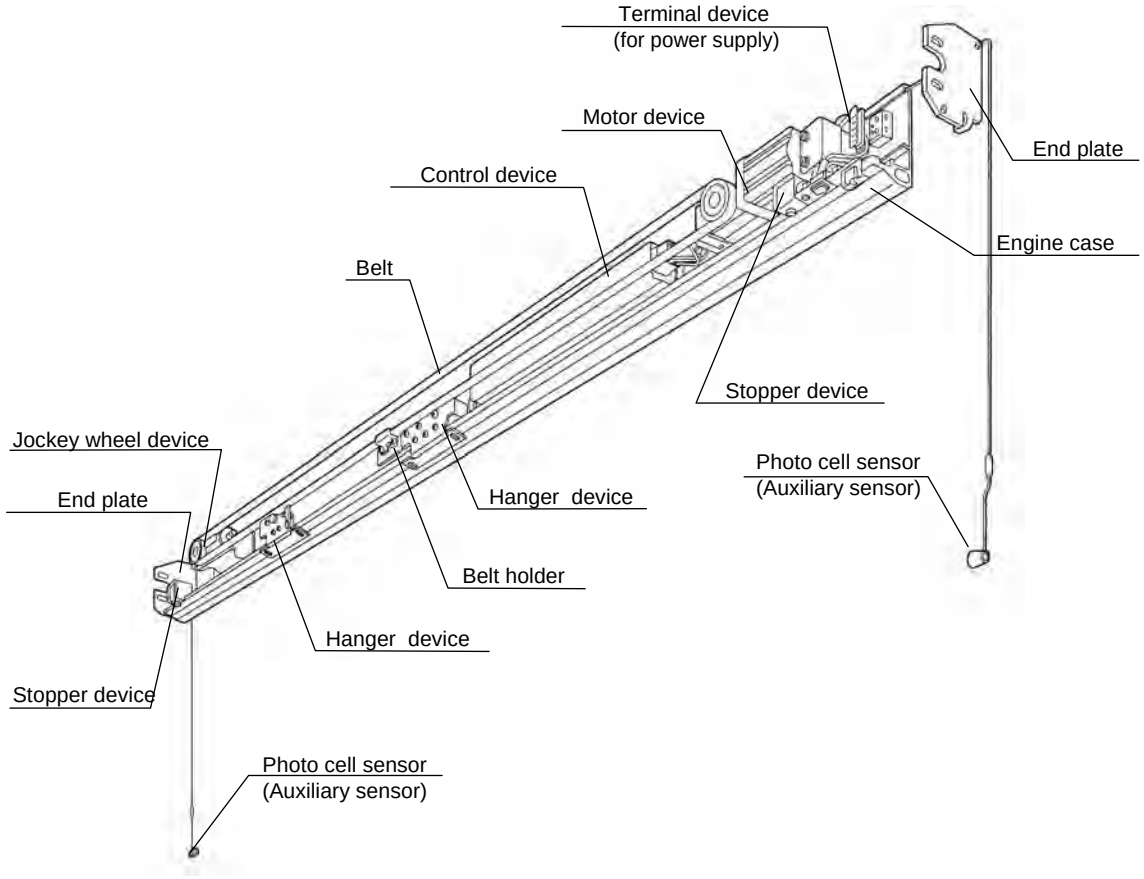
  Do not use at ambient temperature outside the range of 0 ℃ to 40℃,as this may result in fire, faulty operation.
- Pictures in this introduction are for reference only, please take a look at the real products. And please forgive for any modification of the product.

Content

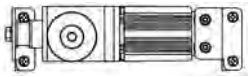
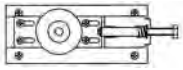
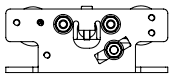
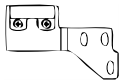
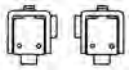
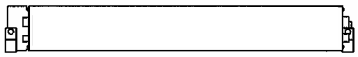
1. Part Names

■Part name

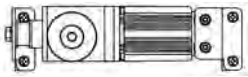
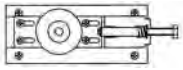
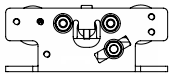
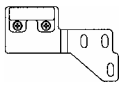
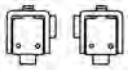
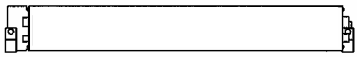
120kg Single Enclosed type (With Photo cell sensor)
(ONACS88425)



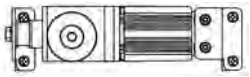
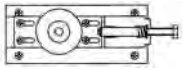
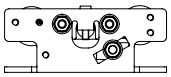
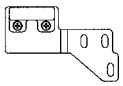
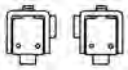
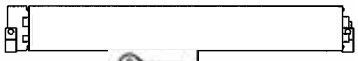
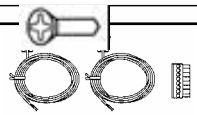
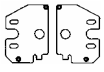
2. Table of Parts for Engine Unit 〈120kg Surface type〉

Engine Unit		With aux sensor	ONACS88426	ONACS88436
		Without aux sensor	ONACS88428	ONACS88438
Door			Single	Double
Door weight			Max.120kg X1	Max.120kg X2
Part name		Model	Sketch map	Quantity
Motor device		ONKA8212652		1 / 1
Jockey wheel device		ONKA8101002		1 / 1
Hanger device		ONACS812403		2 / 4
Belt holder A		ONKA8216608		1 / 1
Belt holder B		ONKA8217608		— / 1
Belt	Single(3.7m)	ONKA8226640		1 / —
	Double(8.2m)	ONKA8217640		— / 1
Stopper device (2pcs/set)		ONKA8116109		1set / 1set
Control device		ONKA8212651		1 / 1
Photo cell sensor (Aux. sensor) Connector		ONACS83492		1set / 1set – / –
Terminal device (for power) (surface type)		ONKA8212611		1 / 1
Terminal device (for remote controller)		ONKA8116112		1 / 1
Belt guide		ONKA8122024		— / 1
Swing stopper		ONKA8216609		1 / 2
Sticker (2pcs/set)		ONKA8216105		1set / 2sets
Lead wire clamp (5pcs/set)		ONKA8116113		1set / 1set
Hanger bolt set		ONKA8101009 Bolt M8x30 (4pcs/ set) Washer (4pcs/ set)		1set / 2sets
Belt fixing bolt		Bolt M6X 12 (3pcs/ set)		1set / 2sets
To user and to construction		—	—	1 / 1
Installation manual		—	—	1 / 1

2. Table of Parts for Engine Unit 〈150kg Surface type〉

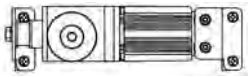
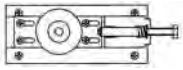
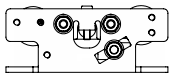
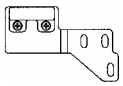
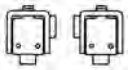
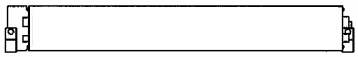
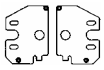
Engine Unit			With aux sensor	ONACS88226	ONACS88236
			Without aux sensor	ONACS88228	ONACS88238
Door				Single	Double
Door weight				Max. 150kgX 1	Max. 150kgX 2
Part name		Model	Sketch map	Quantity	
Motor device		ONKA8212602		1	1
Jockey wheel device		ONKA8101002		1	1
Hanger device		ONKA8226604		2	4
Belt holder A		ONKA8216608		1	1
Belt holder B		ONKA8217608		—	1
Belt	Single(3.7m)	ONKA8226640		1	—
	Double(8.2m)	ONKA8217640		—	1
Stopper device (2pcs/set)		ONKA8116109		1set	1set
Control device		ONKA8212601		1	1
Photo cell sensor (Aux. sensor)		ONACS83492		1set	1set
Connector				—	—
Terminal device (for power) (surface type)		ONKA8212611		1	1
Terminal device (for remote controller)		ONKA8116112		1	1
Belt guide		ONKA8122024		—	1
Swing stopper		ONKA8216609		1	2
Sticker (2pcs/set)		ONKA8216105		1set	2sets
Lead wire clamp (5pcs/set)		ONKA8116113		1set	1set
Hanger bolt set		ONKA8101009 Bolt M8×30 (4pcs / set) Washer (4pcs / set)		1set	2sets
Belt fixing bolt		Bolt M6×12 (3pcs / set)		1set	2sets
To user and to construction		—	—	1	1
Installation manual		—	—	1	1

2. Table of Parts for Engine Unit 〈120kg Enclosed type〉

Engine Unit			With aux sensor	ONACS88425	ONACS88435
			Without aux sensor	ONACS88842	ONACS88437
Door				Single	Double
Door weight				Max.120kg X1	Max.120kg X2
Part name		Model	Sketch map	Quantity	
Motor device		ONKA8212652		1	1
Jockey wheel device		ONKA8101002		1	1
Hanger device		ONACS812403		2	4
Belt holder A		ONKA8216508		1	1
Belt holder B		ONKA8217508		—	1
Belt	Single(3.7m)	ONKA8226640		1	—
	Double(8.2m)	ONKA8217640		—	1
Stopper device (2pcs/set)		ONKA8116109		1set	1set
Control device		ONKA8212651		1	1
Photo cell sensor (Aux. sensor)		ONACS83492		1set	1set
Connector				—	—
Terminal device (for power) (surface type)		ONKA8212511		1	1
Belt guide		ONKA8122024		—	1
Swing stopper		ONKA8216609		1	2
Sticker (2pcs/set)		ONKA8216104		1set	2sets
Lead wire clamp (5pcs/set)		ONKA8116113		1set	1set
End plate		ONKA8116002		1set	1set
End plate bolt set		Self tapping screw M5X20 (4pcs/set)		1set	2sets
Hanger bolt set		ONKA8101009 Bolt M8x30 (4pcs/set) Washer (4pcs/ set)		1set	2sets
Belt fixing bolt		Bolt M6x12 (3pcsx set)		1set	2sets
To user and to construction		—	—	1	1
Installation manual		—	—	1	1

2. Table of Parts for Engine Unit 〈150kg Enclosed type〉

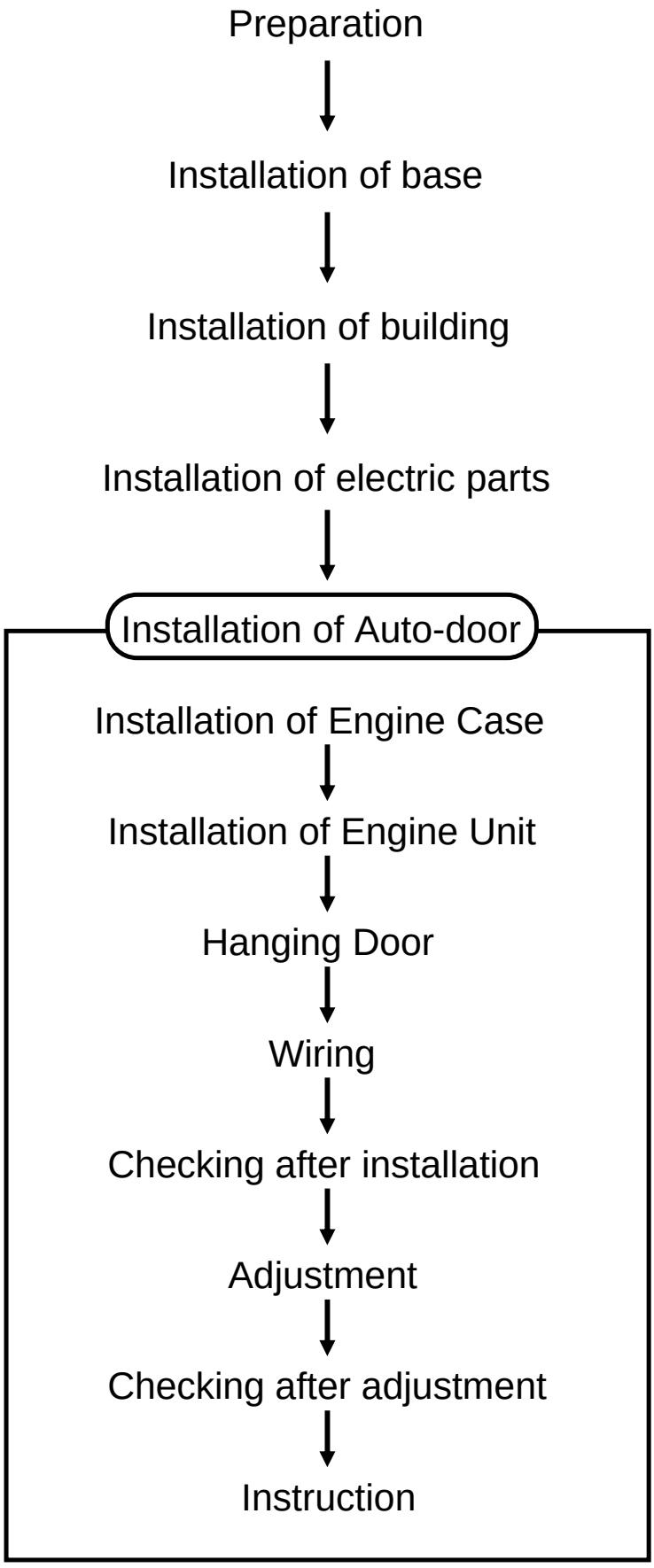
Engine Unit		With aux sensor	ONACS88225	ONACS88235
		Without aux sensor	ONACS88227	ONACS88237
Door			Single	Double
Door weight			Max.150kg x1	Max.150kg x2

Part name		Model	Sketch map	Quantity	
Motor device		ONKA8212602		1	1
Jockey wheel device		ONKA8101002		1	1
Hanger device		ONKA8226604		2	4
Belt holder A		ONKA8216508		1	1
Belt holder B		ONKA8217508		—	1
Belt	Single(3.7m)	ONKA8226640		1	—
	Double(8.2m)	ONKA8217640		—	1
Stopper device (2pcs/set)		ONKA8116109		1set	1set
Control device		ONKA8212601		1	1
Photo cell sensor (Aux. sensor)		ONACS83492		1set	1set
Connector				—	—
Terminal device (for power) (surface type)		ONKA8212511		1	1
Belt guide		ONKA8122024		—	1
Swing stopper		ONKA8216609		1	2
Sticker (2pcs/set)		ONKA8216105		1set	2sets
Lead wire clamp (5pcs/set)		ONKA8116113		1set	1set
End plate		ONKA8116002		1set	1set
End plate fixing bolt		ONKA8116002 M5x20(4pcs/set)		1set	2set
Hanger bolt set		ONKA8101009 Bolt M8x30 (4pcs/ set) Washer (4pcsxset)		1set	2sets
Belt fixing bolt		Bolt M6x12 (3pcs/ set)		1set	2sets
To user and to construction		—	—	1	1
Installation manual		—	—	1	1

3. Selection of Materials and Optional Parts

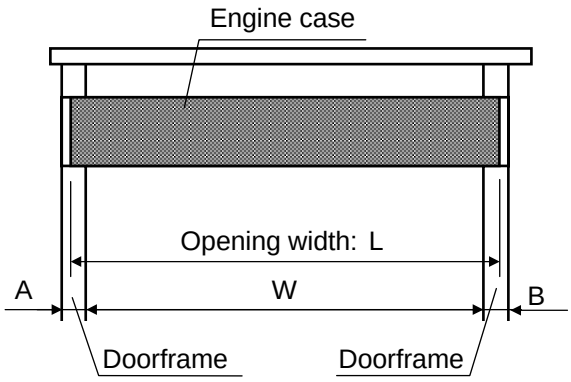
Door			Single		Double	
Installation method			Surface type	Enclosed type	Surface type	Enclosed type
Engine Unit	120kg	With aux sensor	ONACS88426	ONACS88425	ONACS88436	ONACS88435
		Without aux sensor	ONACS88428	ONACS88427	ONACS88438	ONACS88437
	120kg (with 6.1m guide rail)	With aux sensor	———	———	ONACS88446	ONACS88445
		Without aux sensor	———	———	ONACS88448	ONACS88447
	150kg	With aux sensor	ONACS88226	ONACS88225	ONACS88236	ONACS88235
		Without aux sensor	ONACS88228	ONACS88227	ONACS88238	ONACS88237
	150kg (with 6.1m guide rail)	With aux sensor	———	———	ONACS88246	ONACS88245
		Without aux sensor	———	———	ONACS88248	ONACS88247
Materials	Engine Case (Length/mm)	2,500	ONACS85155	ONACS85105	ONACS85155	ONACS85105
		4,200	ONACS85151	ONACS85101	ONACS85151	ONACS85101
		6,100	ONACS85152	ONACS85102	ONACS85152	ONACS85102
Optional Parts	Multi-function device		ONACS85817			
	Relay device		ONACS85862			
	Battery device		ONACS85818K			
	Operation selector		ONACS83710			
	Leading connector (for operation selector) (Length 2m)		ONACS8371001			
	Electric lock (12V) Electrically-locking type		ONACS85986			
	Photo cell sensor (Potoemitter and photoreceptor)		ONACS83491			
	Photo cell sensor and connector set · Photoemitter and photoreceptor · Connector		ONACS83492			
	Partial opening connector		ONACS8103013			
	Remote controller		ONACS85860			
	Terminal device (for remote controller)		ONKA8116112			

4. Installation Flowchart



5. Installation of Engine Case

Surface type



1. Cut the engine case.

Engine case: L= W+ A+ B- 5mm

【Caution】
Do not break guide rail during cutting engine case, as this may result in noise, shorten life of pulley.

2. Drill hole in the transom and doorframe(M6).

3. Drill hole in the engine case (countersinking)(M6).

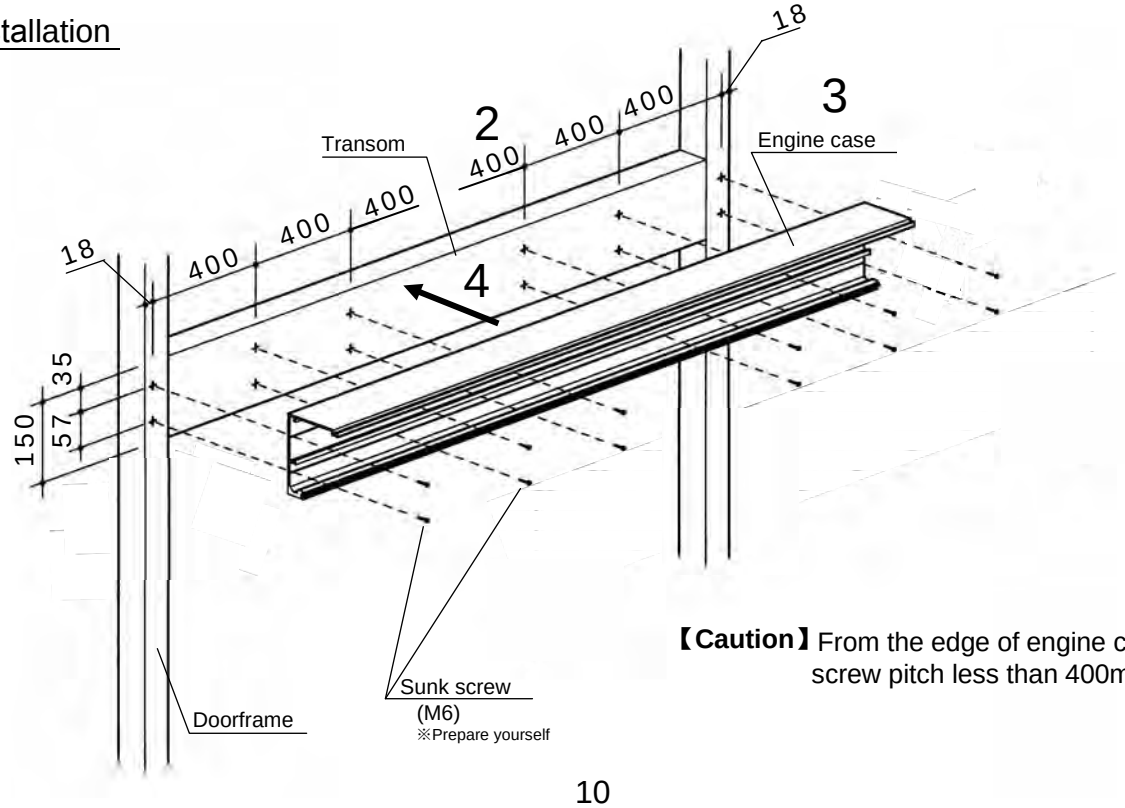
4. Fix the engine case to the transom and doorframe with sunk screws(M6). (Please supply these screws yourself).

【Caution】
- Install the engine case horizontally.
- Keep sunk screw in the hole of engine case, otherwise it may result in faulty operation

Double type
- Joint of two engine cases should be center of the entrance.
- Two engine cases must be installed on one level horizontally.
- Joint should be less than 5mm.

⚠ Installation method (kind of screw, pitch, quantity of screw etc.) must according to this manual. Otherwise It may result in door falling.

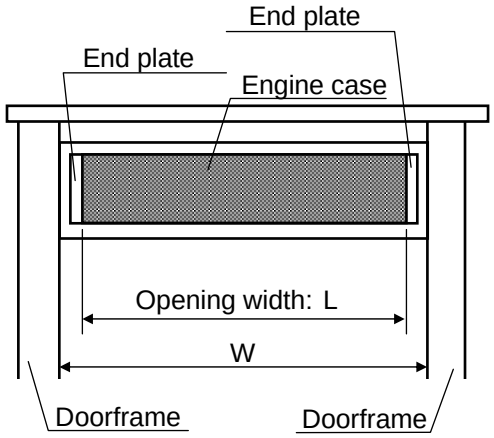
■Installation



【Caution】 From the edge of engine case, keep screw pitch less than 400mm.

5. Installation of Engine Case

Enclosed type



1. Cut the engine case.

Engine case: L=W-10mm
10mm: thickness of end plate

【Caution】
Do not break guide rail during cutting engine case, as this may result in noise, shorten life of pulley.

2. Drill hole in the transom and doorframe(M6).

3. Drill hole in the engine case (countersinkingM6).

4. Mount the end plate on the engine case with sunk screws(M5×20).

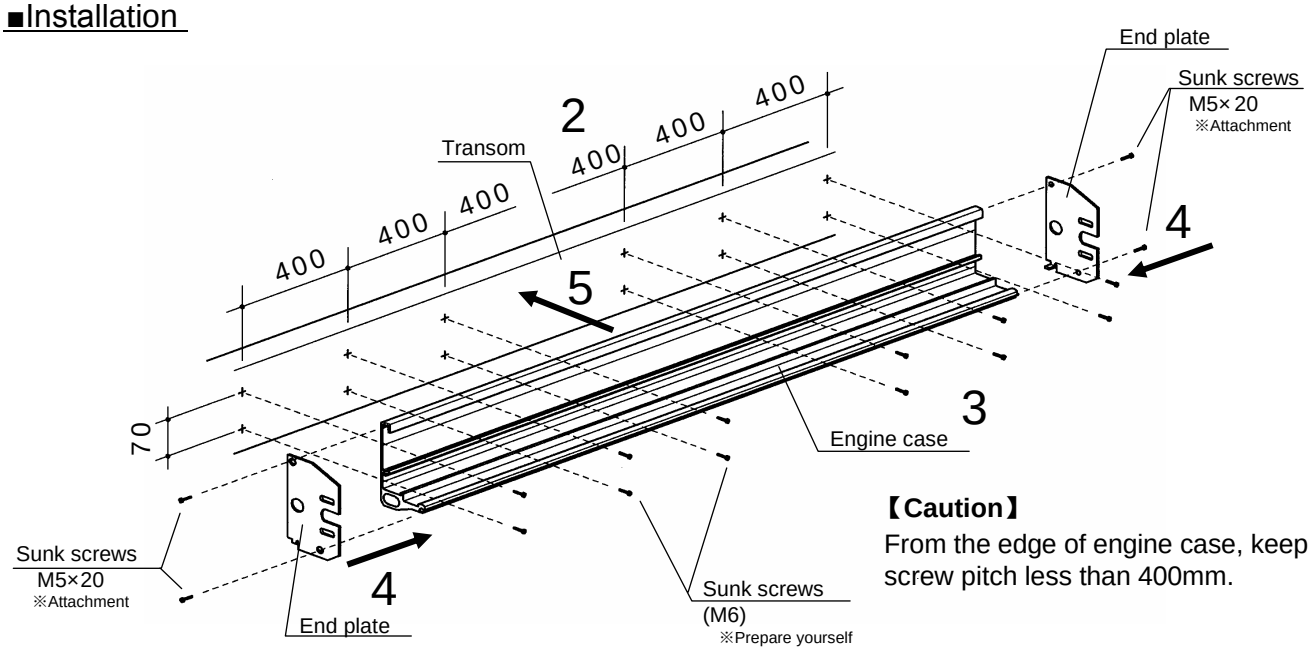
5. Fix the engine case to the transom and doorframe with sunk screws(M6). (Please supply these screws yourself).

【Caution】
- Install the engine case horizontally.
- Keep sunk screw in the hole of engine case, otherwise it may result in faulty operation

Double type
- Joint of two engine cases should be center of the entrance.
- Two engine cases must be installed on one level horizontally.
- Joint should be less than 5mm.

⚠ Installation method (kind of screw, pitch, quantity of screw etc.) must according to this manual. Otherwise It may result in door falling.

■Installation



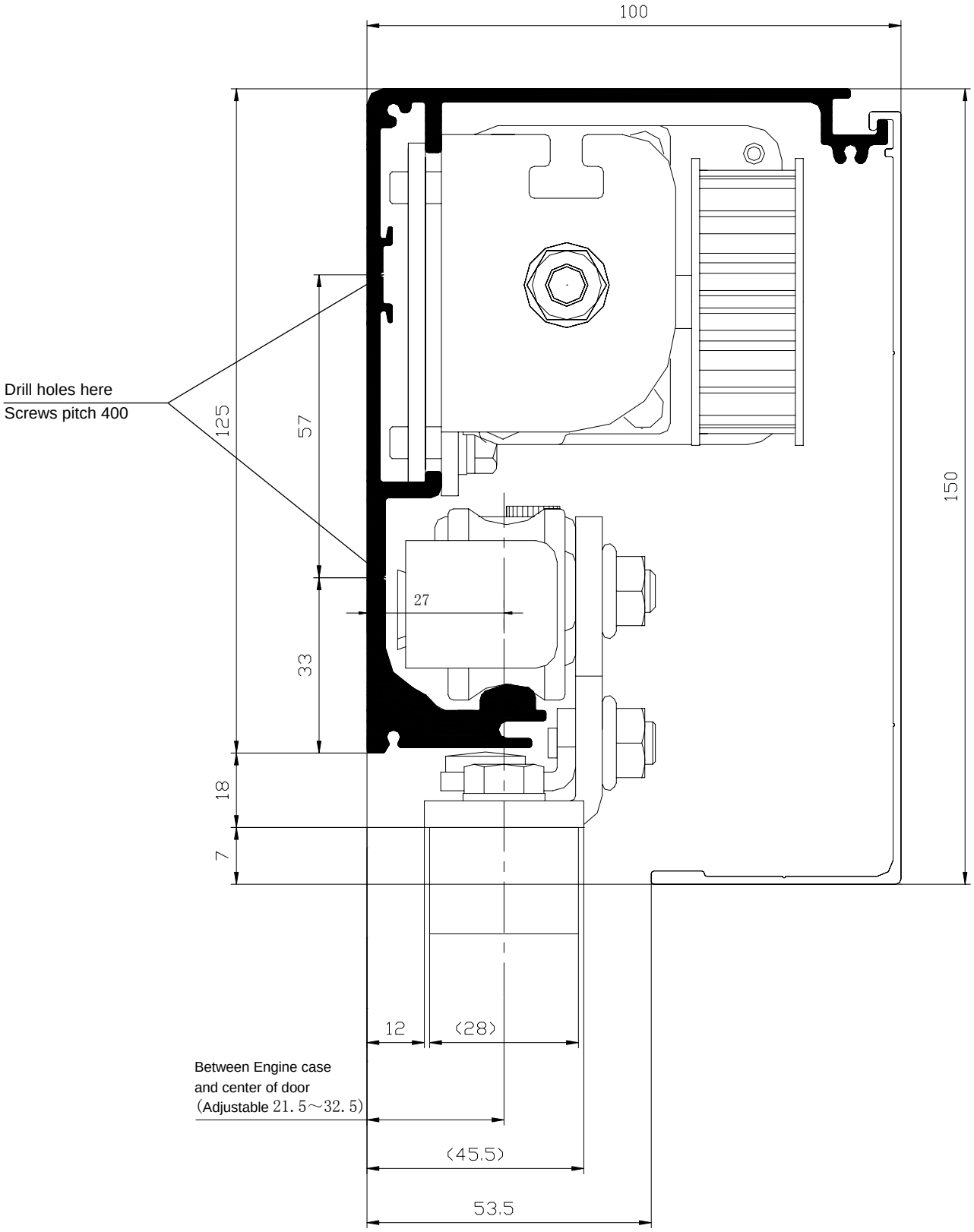
【Caution】
From the edge of engine case, keep screw pitch less than 400mm.

6. Example of installation

120kg Surface type

■Sectional plan

【**Caution**】The scale is not 1:1.

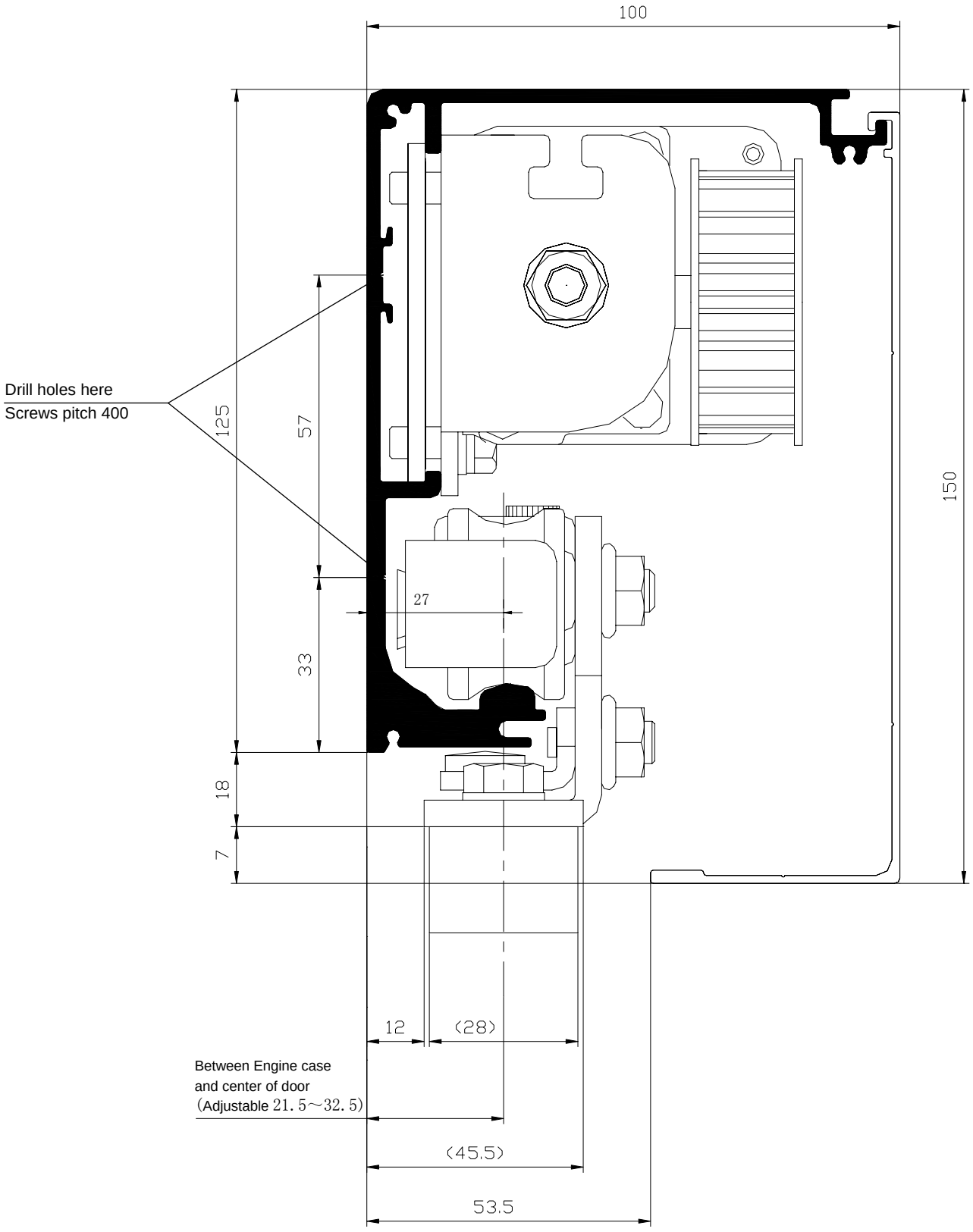


6. Example of installation

150kg Surface type

■Sectional plan

【**Caution**】The scale is not 1:1.

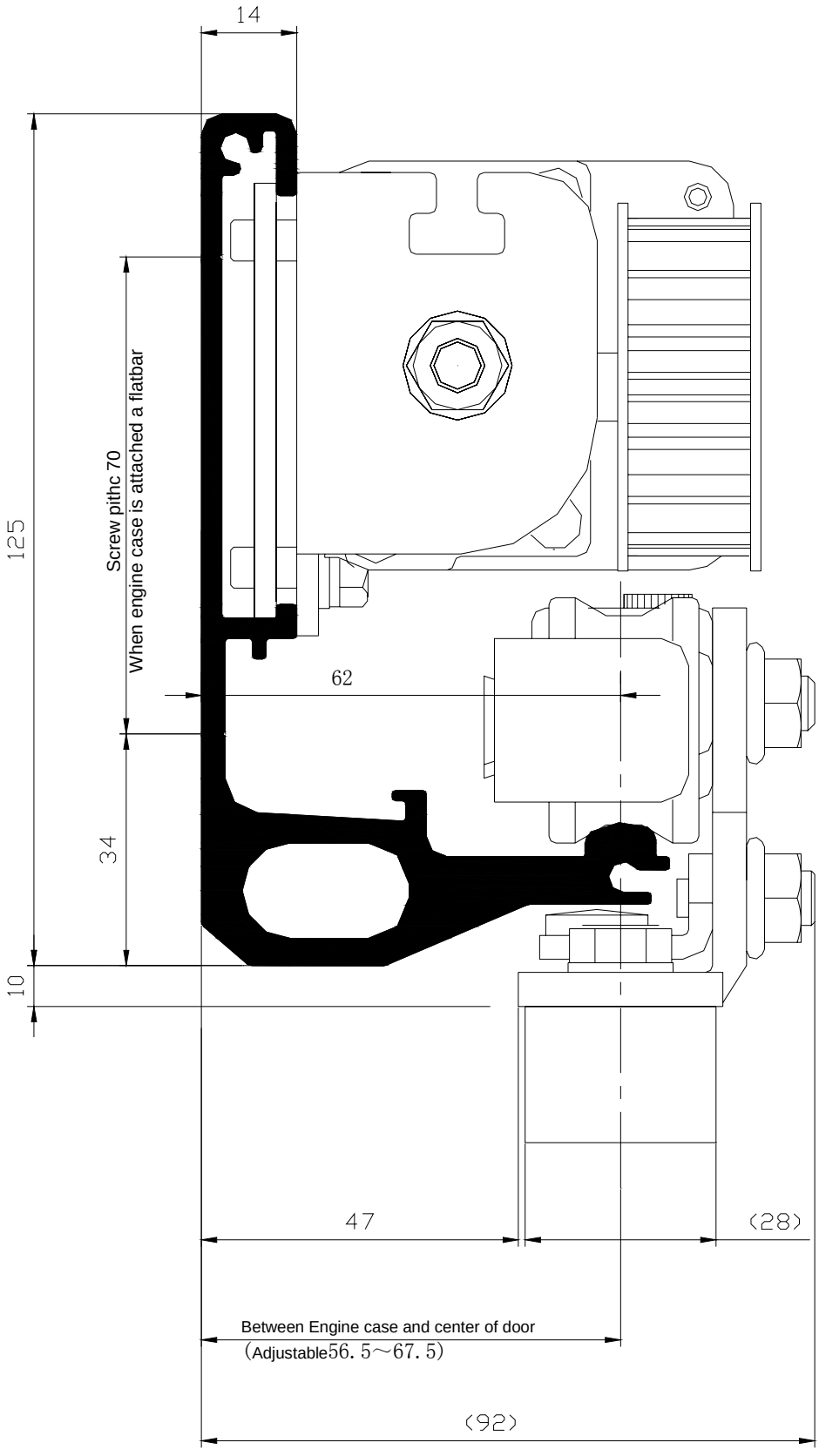


6. Example of installation

120kg Enclosed type

■Sectional plan

【**Caution**】The scale is not 1:1.

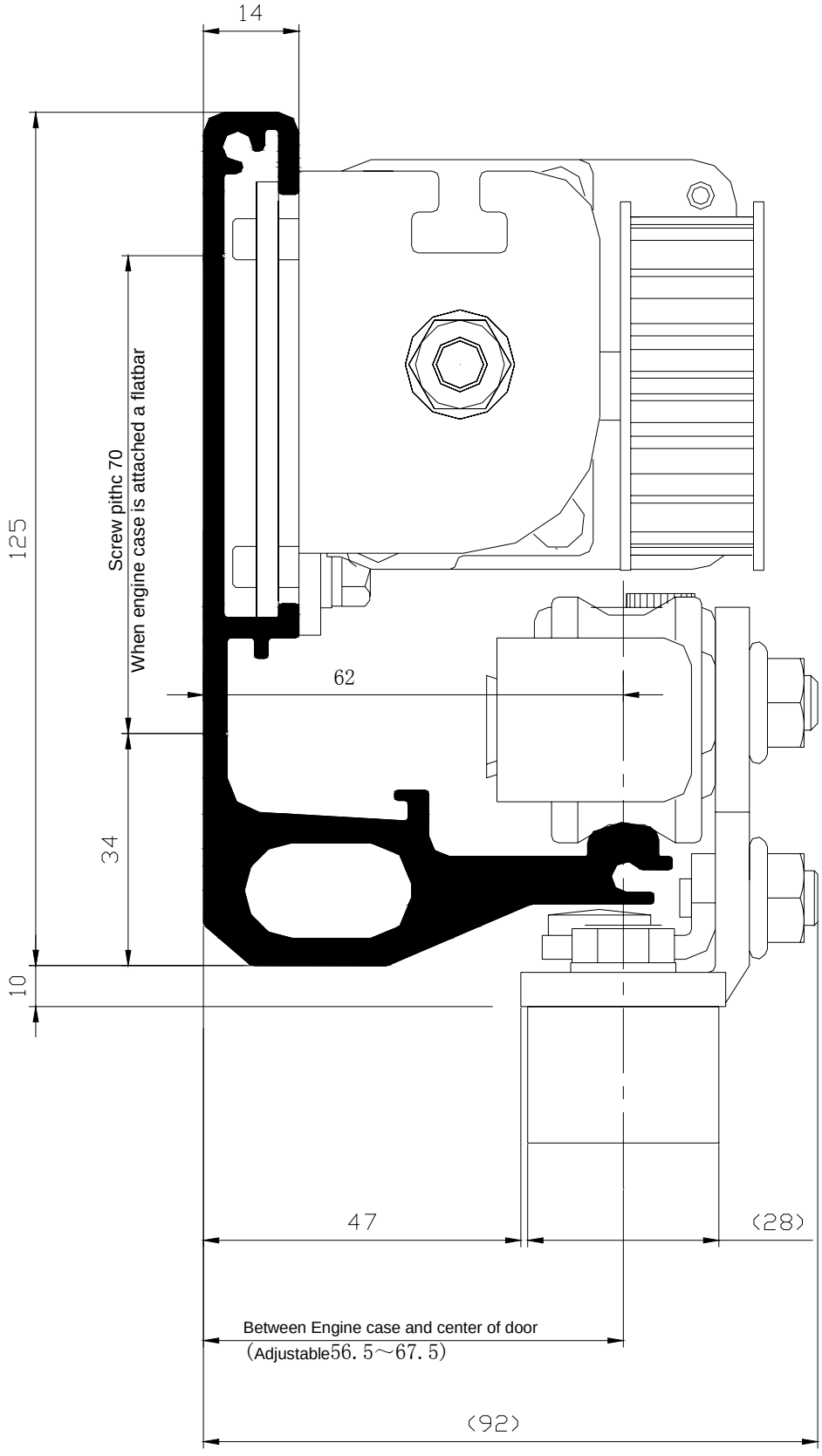


6. Example of installation

150kg Enclosed type

■Sectional plan

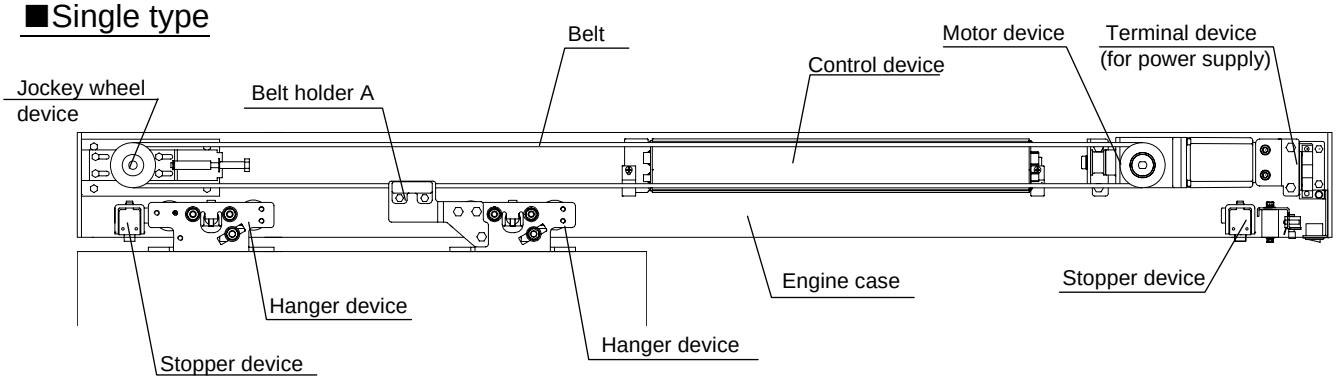
【**Caution**】The scale is not 1:1.



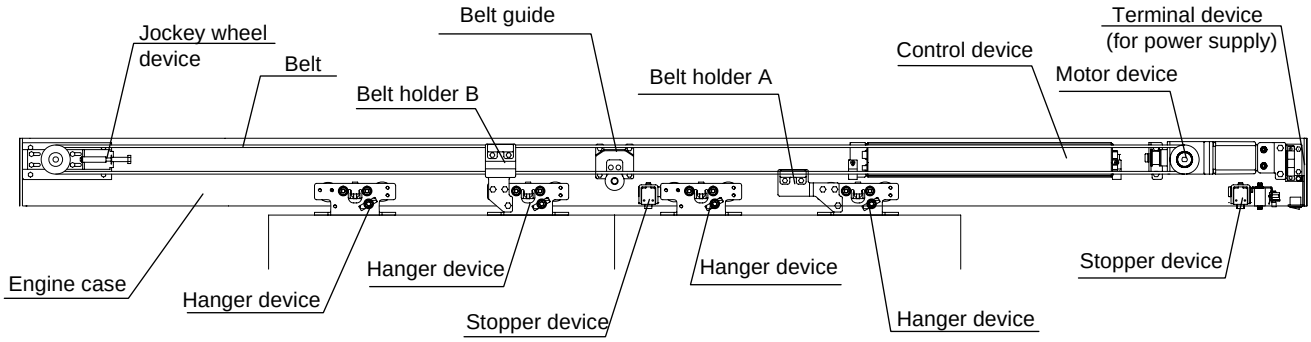
7. Layout for Installation of Engine Unit Parts

120kg

■Single type

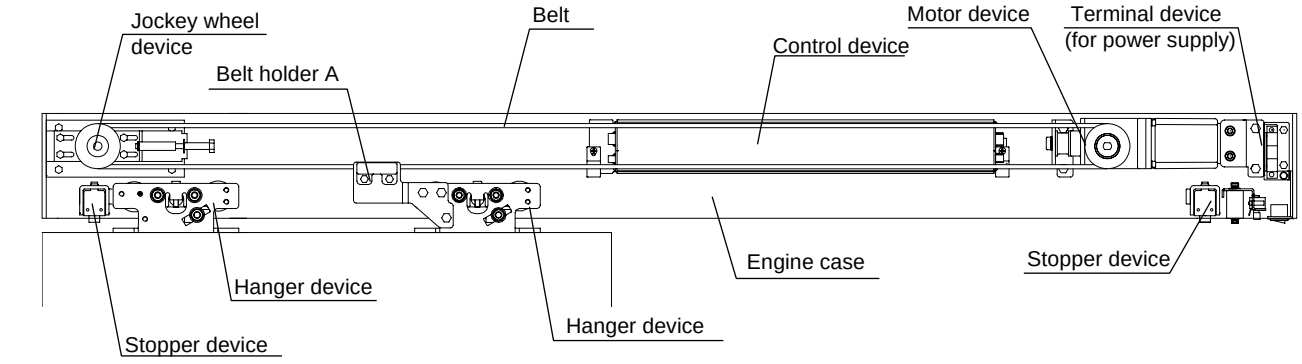


■Double type

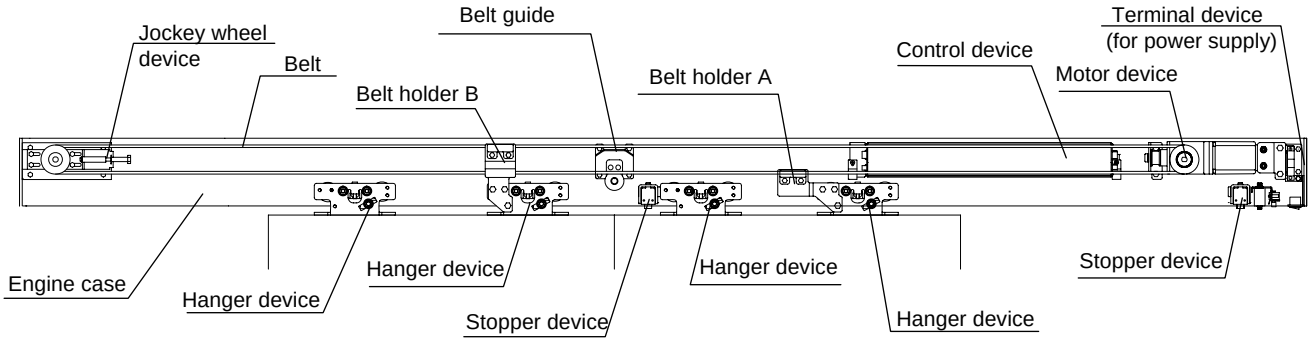


150kg

■Single type



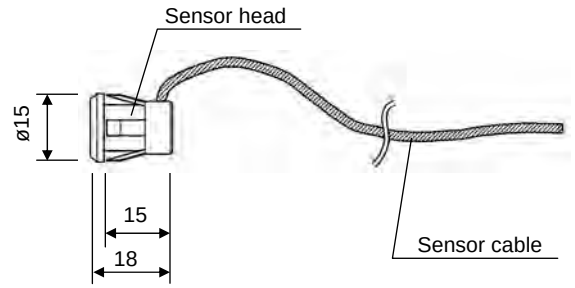
■Double type



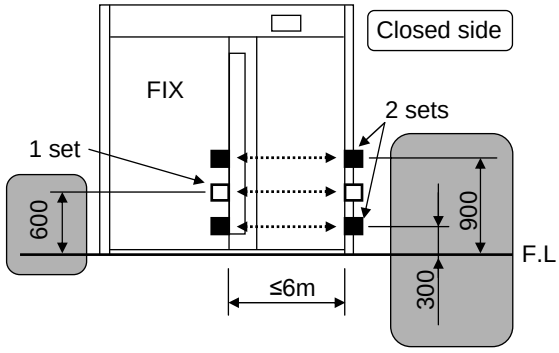
8. Installation of Photo Cell Sensor 〈optional Photo Cell Sensor〉

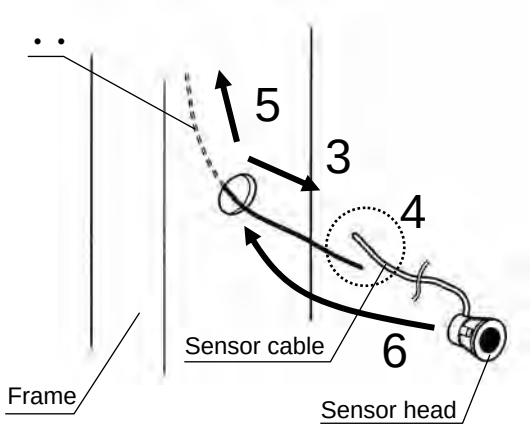
Opposing type

■Sensor outline



■Installation height





1. Drill holes in the frame so that the sensor heads can be mounted in a recessed position with the lenses directly facing each other.

- Hole diameter ø12mm
- Height 600mm when using 1 set
  300mm and 900mm when using 2 sets

【Caution】
The sensors must be less than 6m apart. If they are farther apart, the door may open always.

2. Remove any burrs from cutting edges and surfaces.

【Caution】
If either of the sensor heads is incorrectly aligned so that the heads do not point directly at each other, the light may not enter the sensors, there by preventing the door from closing.

3. Fasten heavy with line that is long enough, insert the line from engine case through hole in the frame.

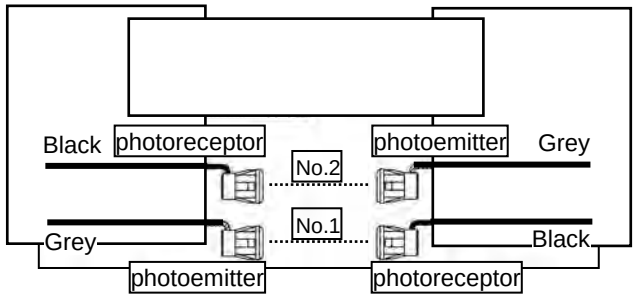
4. Fasten the sensor cable on the line, insert the sensor cable through hole in the frame.

5. Pull the sensor cable into the engine case.

6. Mount the sensor head in the hole in a recessed position.

【Caution】
If either of the sensor heads is incorrectly aligned so that the heads do not point directly at each other, the light may not enter the sensors, there by preventing the door from closing.

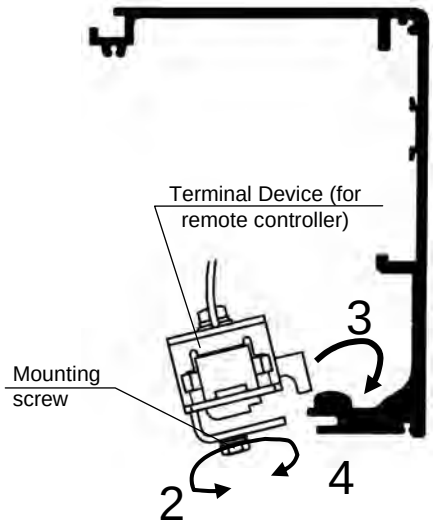
■Setting of 2 sets



【Caution】
If using two sets, install the photoemitter and photoreceptor of the second set on opposite sides from the first set. If two sets install with the same orientation, they will interfere each other and cause faulty operation.

9.Installation of Terminal Device (for remote controller)

〈Optional Terminal Device (for remote controller)〉



Install referring to the below diagram.

【Caution】

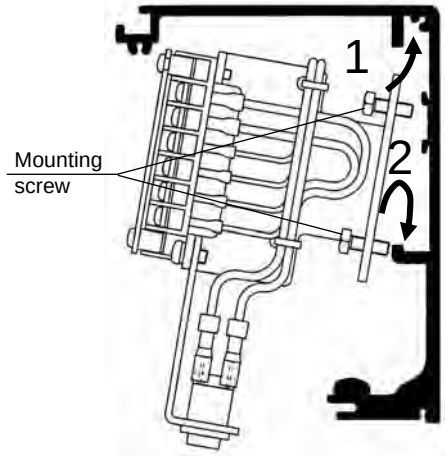
The mounting position is different from different opening direction.

1. **If opening direction is left, release the screw A and adjust the direction as below diagram, tighten the screw A.**
2. **Release the mounting screw.**
3. **Mount the Terminal device on the guide rail.**

   【Caution】

   Do not break guide rail during installation, as this may result in noise, shorten life of pulley.
4. **Move the Terminal device to the mounting position, tighten the mounting screw.**

10.Installation of Terminal Device (for power)

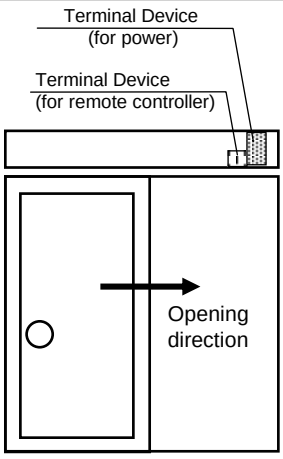
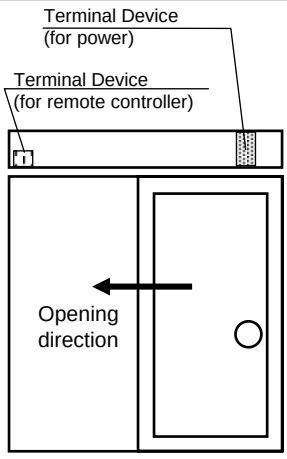
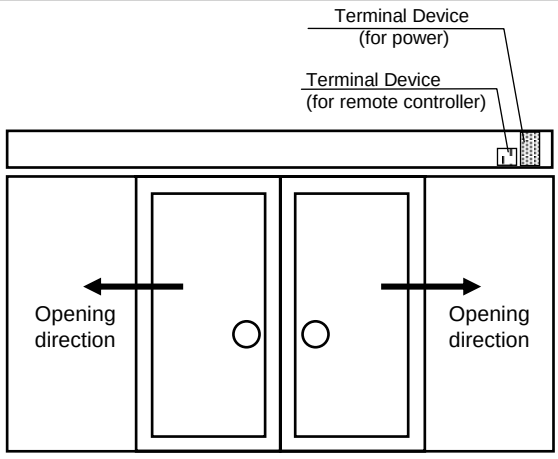
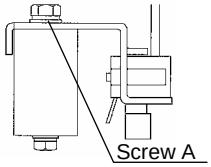
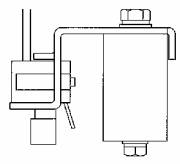
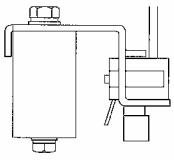


1. **Insert the Terminal device into the upper groove.**
2. **Let it slip into the lower groove.**
3. **Move the Terminal device to the right side of the engine case, tighten the mounting screw.**

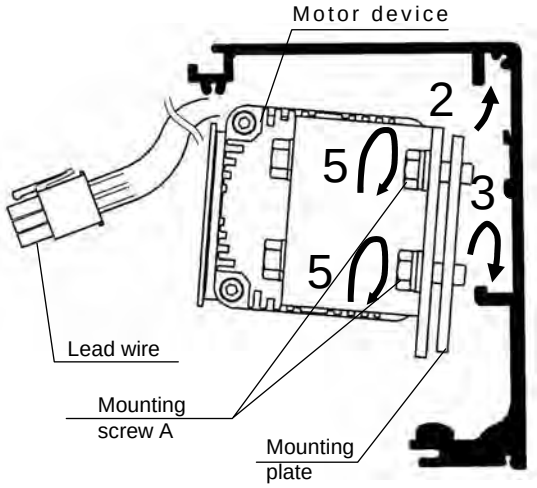
【Caution】

Keep the space for wiring.

■Mounting position and direction 〈Optional Terminal device (for remote controller)〉

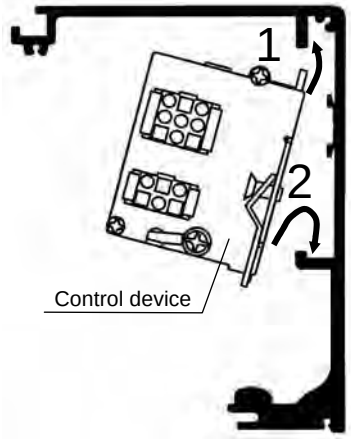
	Single type (open right)	Single type (open left)	Double type
Mounting position			
Mounting direction			

11.Installation of Motor Device



1. **Make sure the leader wire is pointing toward the front of the motor.**
   ⚠ Object falling may result if 2~5 is not handled properly.
2. **Insert the Mounting plate of the Motor device into the upper groove.**
3. **Let it slip into the lower groove.**
4. **Move the Motor device to the right side of the engine case.**
5. **Tighten the mounting screw A.**
6. **Pass the lead wire above the motor and put them on the left side of the motor**

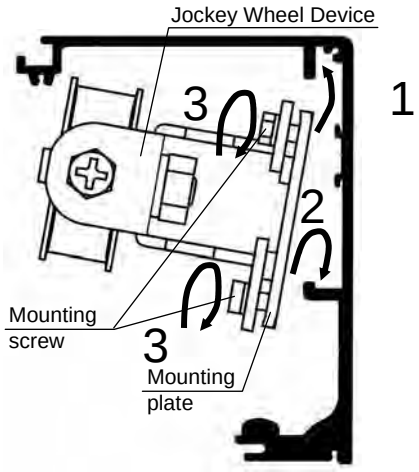
12.Installation of Control Device



⚠ Object falling may result if 1、2 is not handled properly.

1. **Insert the Control device into the upper groove.**
2. **Let it slip into the lower groove.**
3. **Move the control device to the left side of the Motor device.**
4. **Tighten the mounting screw.**

13. Installation of Jockey Wheel Device



⚠ Object falling may result if 1、2 is not handled properly.

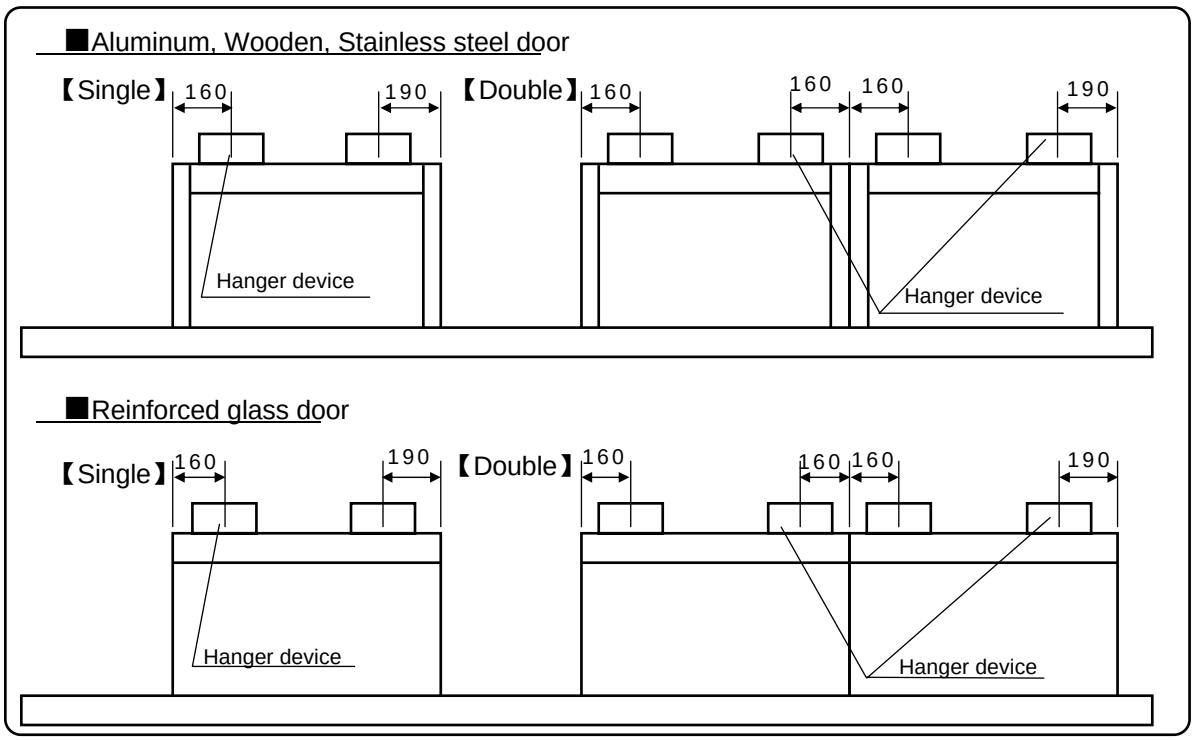
1. **Insert the Mounting plate of the Jockey Wheel device into the upper groove.**
2. **Let it slip into the lower groove.**
3. **Screw the mounting screws loosely to allow the Jockey wheel device to slide freely.**

14.Hanging Doors

1. Install the Hanger device to its designated position on the door panels with hanger bolt

⚠ Object falling may result if it is not handled properly.

■Position of Hanger device



【Caution】

When install hanger device, make sure that the center of the pulley is parallel with the door. Otherwise the life of pulley will be shortened.

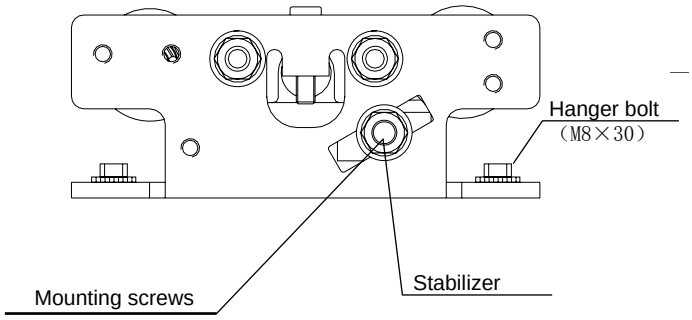
2. Loosen the mounting screws, remove the stabilizer from the Hanger device.

3. Lift the door panels onto the Engine case.

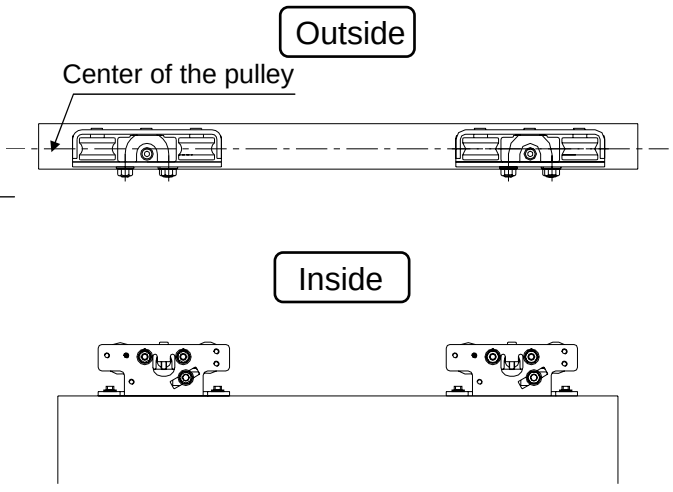
【Caution】

Do not break guide rail during installation, as this may result in noise, shorten life of pulley.

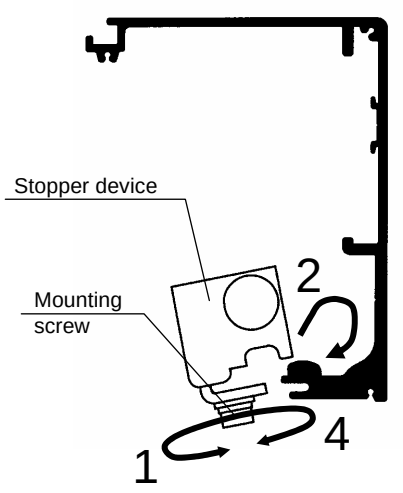
■Hanger device(120/150kg)



■Mounting position of the Hanger device



15. Installation of Stopper Device



1. **Loosen the mounting screw(M8×40).**

2. **Hook the Stopper device on the Engine case refer to 7. Layout for Installation of Engine Unit Parts (P16).**

   【Caution】
   Do not break railway

3. **Slide the Stopper device to the position where the door is to be stopped.**

⚠ Keep the space more than 30mm when the door is opened entirely, otherwise it may result in injury by the door and frame.

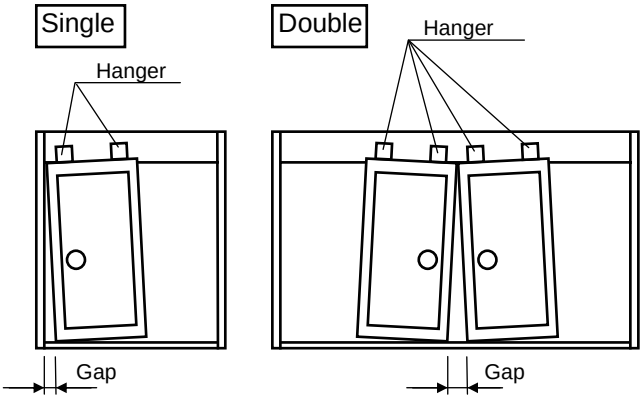
【Caution】
Do not break guide rail.

4. **Tighten the mounting screw firmly.**

⚠ It may result in breaking of the door if installation is not handled properly.

16. Adjustment of Door alignment

120kg



If the door can not be installed horizontally as shown left figure, it can be adjusted after it is hung on the Engine case.

1. **Loosen the mounting screw.**

2. **Adjust height by turning the adjustment screw(M6).**
   - ●Turn clockwise,raiser.
   - ●Turn counterclockwise, lower.

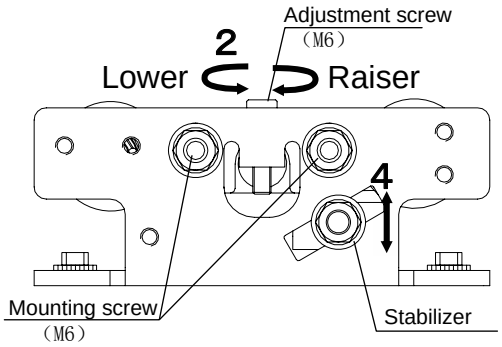
⚠ It may result in falling of the door if step3.4 is not handled properly.

3. **Tighten the mounting screw.**

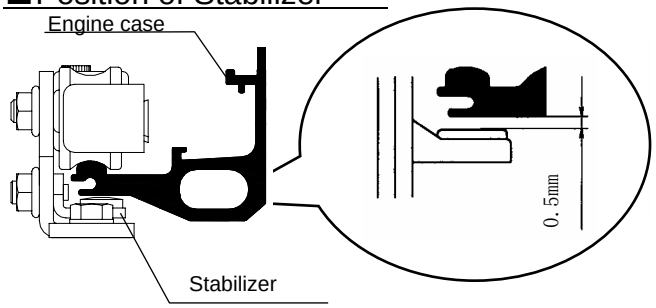
4. **Install the stabilizer.**
   【Caution】
   The gap between Engine case and stabilizer is 0.5mm.

5. **Check the resistance to travel.**
   Check the hanger device can slide on the Engine case.
   Check that the door can be opened an closed by one index finger.
   The resistance to travel should be 33.3N (3.4Kgf) or less.

■Order of adjustment



■Position of Stabilizer

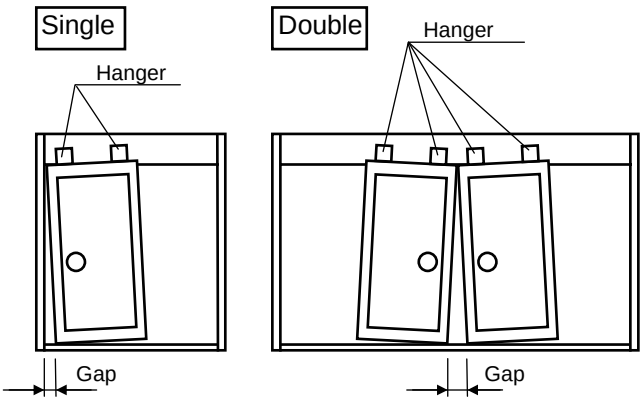


Checking if the resistance is too high.

■There should be no friction between:
1.The door panel and the Swing stopper.
2.The Hanger (Stabilizer) and the Engine case.
3.The Hanger and the Transom.
4.The door and the frame.

16. Adjustment of Door alignment

150kg



If the door can not be installed horizontally as shown left figure, it can be adjusted after it is hung on the Engine case.

1. Loosen the mounting screw.

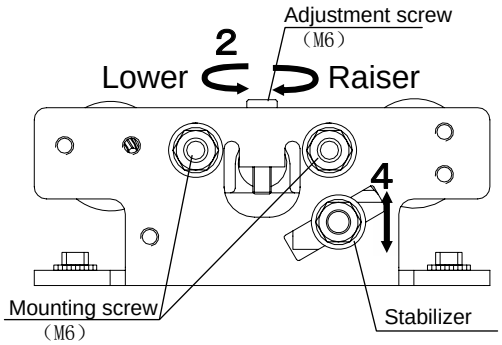
2. Adjust height by turning the adjustment screw(M6).

●Turn clockwise raiser.
●Turn counterclockwise,lower.

⚠ It may result in falling of the door if step3.4 is not handled properly.

■Order of adjustment

3. Tighten the mounting screw.



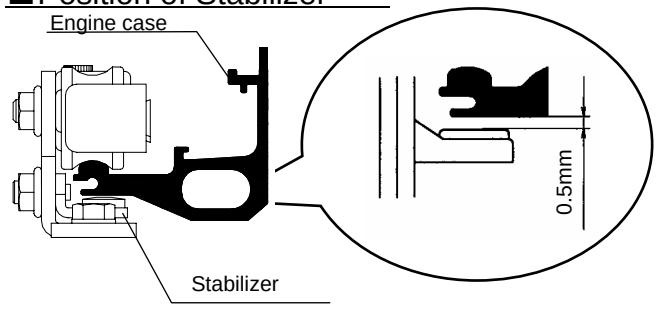
4. Install the stabilizer.

【Caution】
The gap between Engine case and stabilizer is 0.5mm.

5. Check the resistance to travel.

Check the hanger device can slide on the Engine case.
Check that the door can be opened an closed by one index finger.
The resistance to travel should be33.3N (3.4Kgf) or less.

■Position of Stabilizer



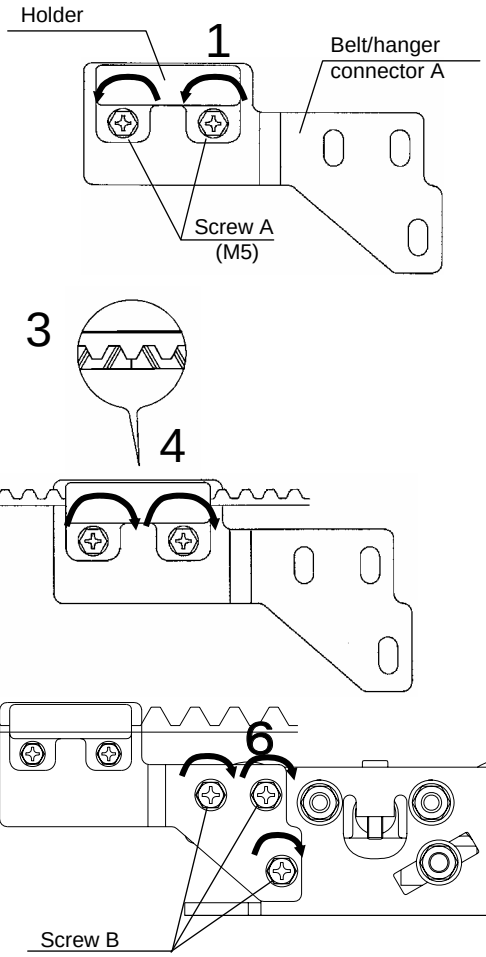
Checking if the resistance is too high.

■There should be no friction between:
1.The door panel and the Swing stopper.
2.The Hanger (Stabilizer) and the Engine case.
3.The Hanger and the Transom.
4.The door and the frame.

17. Installation of Belt

Single

■Mounting order of Belt holder A



1. **Loosen the screw A(M5) and remove the Holder from Belt/hanger connector A.**
2. **Cut the belt according to the Belt length Formula.**

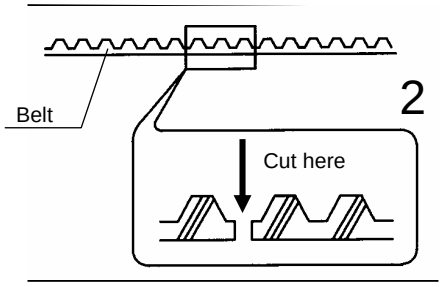
   【Caution】
   Cut belt at the wave bottom.
3. **Put the two ends of belt into the middle of the Holder.**

   【Caution】
   Do not twist the belt.
4. **Mount the Holder on the Belt/hanger connector A with screw A(M5).**

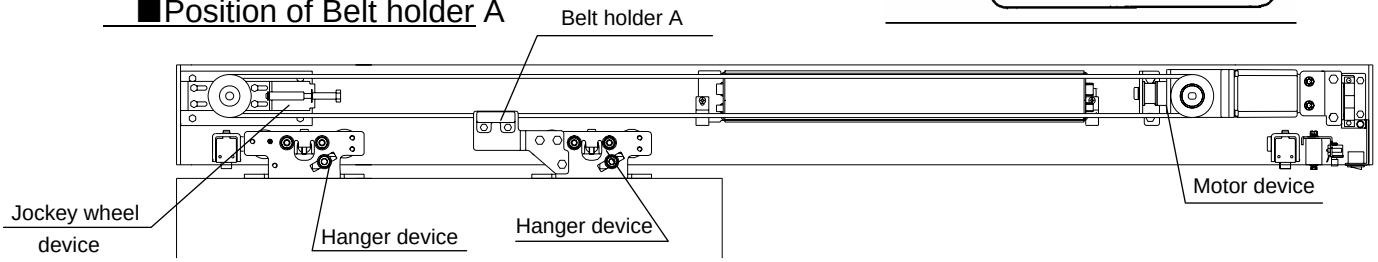
   【Caution】
   Make sure that the direction of the Holder is right.
5. **Hang the Belt to the pulley of Motor device and the pulley of Jockey wheel device.**
6. **Connect the Belt holder A to the Hanger device with 3 screws B(M6×12) according to Position of Belt holder A.**

   【Caution】
   Tighter the screws with a screwdriver.

■Cutting position



■Position of Belt holder A



■Belt length Formula (for Single type)

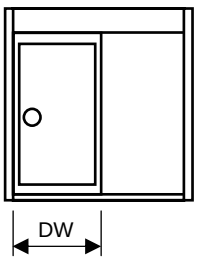
Unit:(mm)

DW= 700~1,000

Belt length=(DW-100) ×4

DW= 1,000~ 1,250

Belt length=3,700

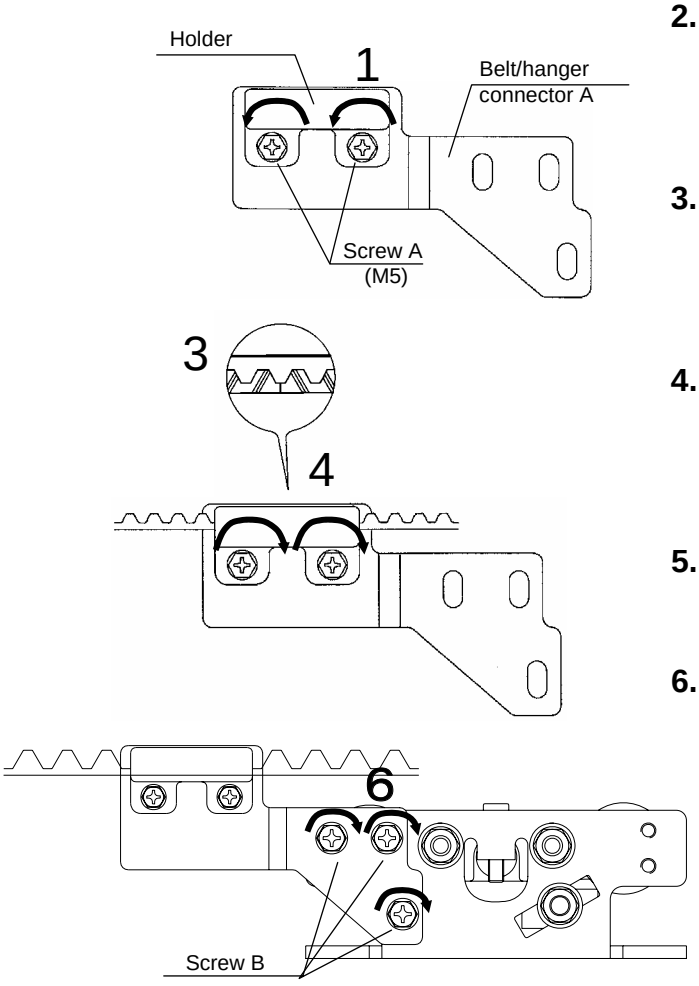


【Caution】
The data above are for referrence, please adjust after checking the real size.

17. Installation of Belt

Double

■Mounting order of Belt holder A



1. **Loosen the screw A(M5) and remove the Holder from Belt/hanger connector A.**

2. **Cut the belt according to the Belt length Formula.**

   【Caution】
   Cut belt at the wave bottom.

3. **Put the two ends of belt into the middle of the Holder.**

   【Caution】
   Do not twist the belt.

4. **Mount the Holder on the Belt/hanger connector A with screw A(M5).**

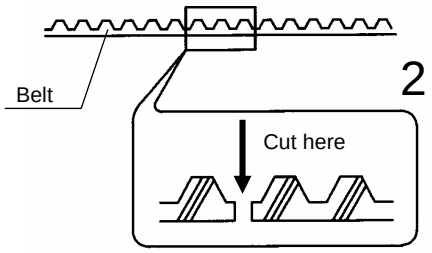
   【Caution】
   Make sure that the direction of the Holder is right.

5. **Hang the Belt to the pulley of Motor device and the pulley of Jockey wheel device.**

6. **Connect the Belt holder A to the Hanger device with 3 screws B(M6×12) according to Position of Belt holder B(P.25).**

   【Caution】
   Tighter the screws with a screwdriver.

■Cutting position



■Belt length Formula (for Double type)

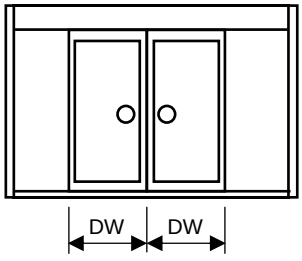
Unit (mm)

DW=700~1,050

Belt length=(2× DW-100) ×4

DW=1,050~1,250

Belt length=8,200

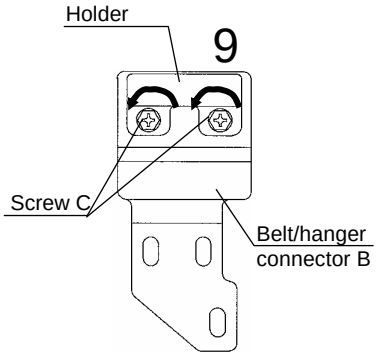


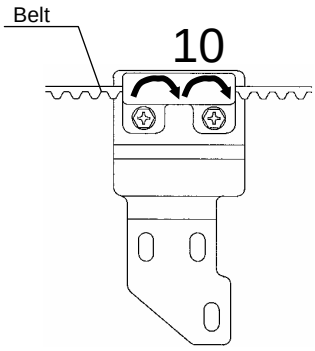
【Caution】
The data above are for referrence, please adjust after checking the real size.

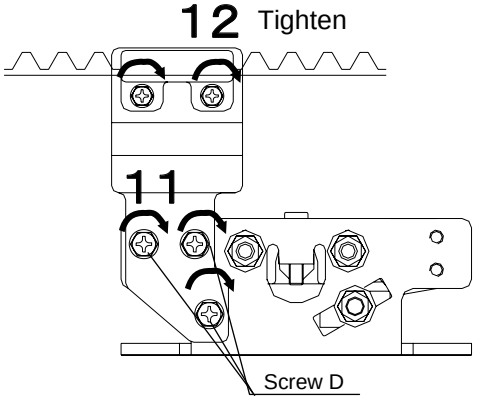
17. Installation of Belt

Double

■Mounting order of Belt holder B







7. **According to 18• Belt Tension Adjustment (P.26), adjust the belt tension.**

8. **Close the doors entirely.**
   Lock the doors if you have lock.

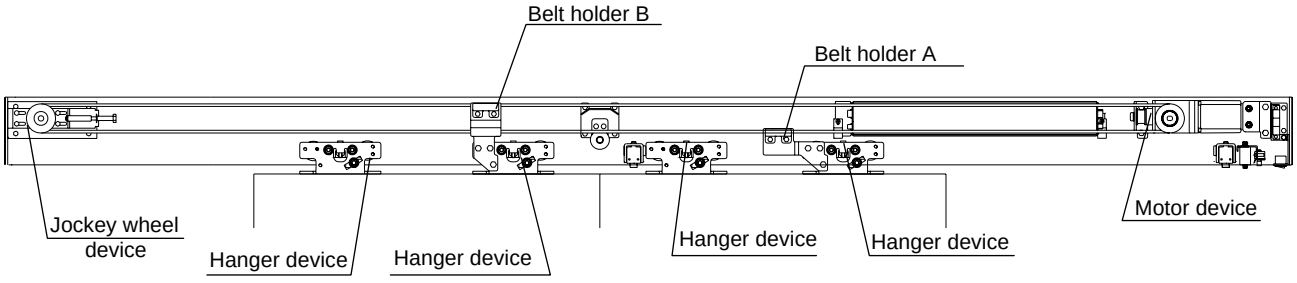
9. **Loosen the screw C(M5) and remove the Holder from Belt/hanger connector B.**

10. **According to Position of Belt holder B, insert the belt into the Holder and mount the Holder to the Belt/hanger connector B with screws C(M5).**

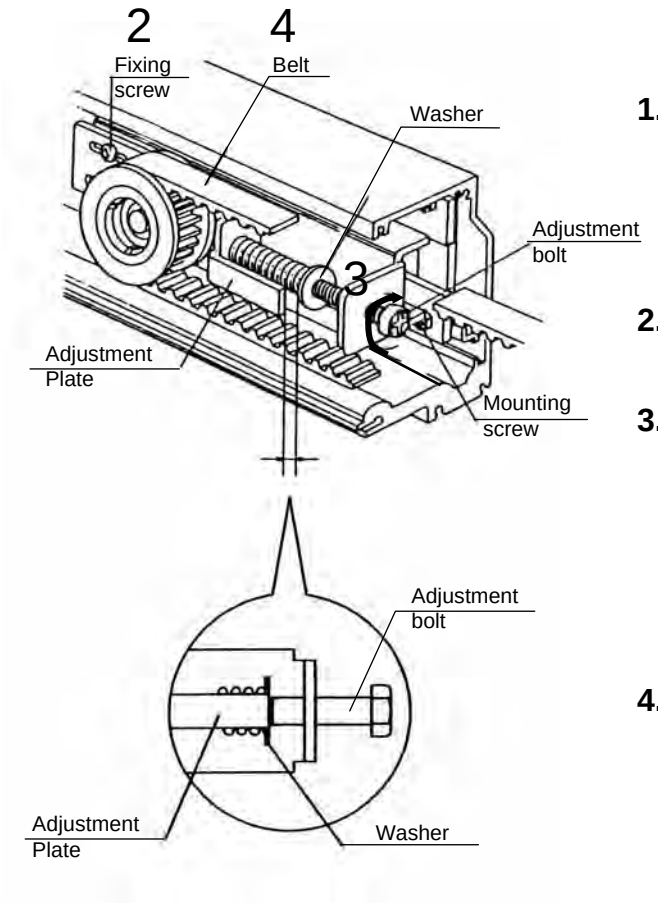
11. **Connect the Belt holder B to the Hanger device with 3 screws D(M6×12).**

12. **Tighten the screw D(M6×12) after adjusting the door position.**
    【Caution】
    Tighter the screws with a screwdriver.

■Position of Belt holder B



18. Belt Tension Adjustment



1. **Pull the Jockey wheel device to the left side by hand to tighter the belt, then, keeping the belt taut, tighten the 4 mounting screws.**

2. **Loosen the 4 fixing screws.**

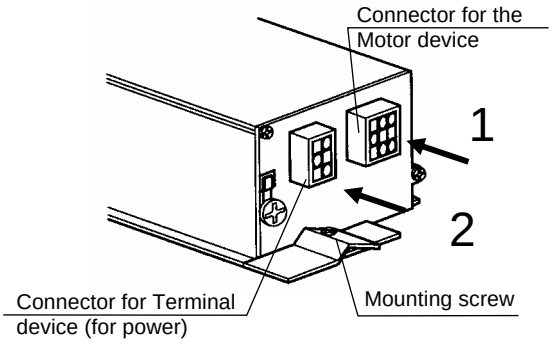
3. **Turn the adjustment bolt clockwise to adjust the belt tension.**

   【Caution】
   The adjustment is correct when the end of adjustment plate just overlaps the washer (as viewed from the front).

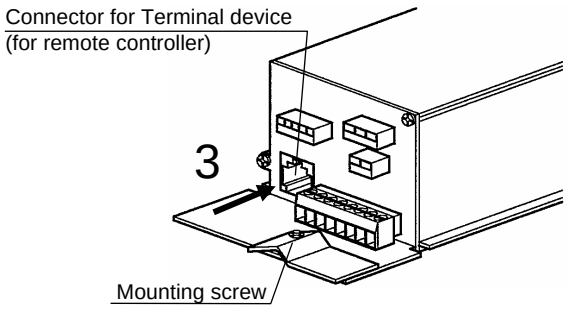
4. **Tighter the 4 fixing screw firmly.**

19. Anchoring the Control Device

■Right side of the Control device



■Left side of the Control device



1. **Connect the Motor device lead wire to the Control device.**
   【Caution】
   It may result in faulty operation if the connection is not handle properly.

2. **Connect the Terminal device (for power) lead wire to the Control device.**
   【Caution】
   Pass the lead wire above the Motor device.
   It may result in faulty operation if the connection is not handle properly.

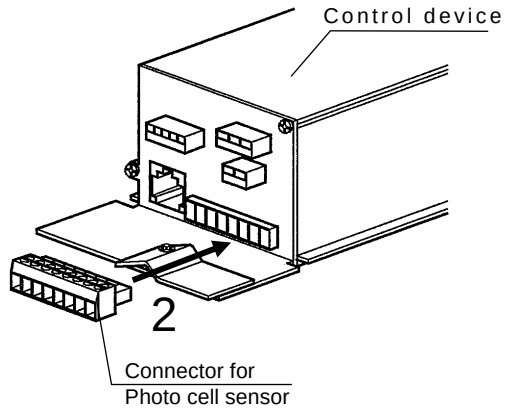
3. **Connect the Terminal device (for remote controller) lead wire to the Control device.**
   {Optional the Terminal device (for remote controller)}

4. **Fasten the wires firmly with the clamp.**
   【Caution】
   It may result in faulty operation if this item is not handle properly.

5. **Tighten the mounting screw.**
   【Caution】
   It may result in falling if this item is not handle properly.

20. Connecting the Photo Cell Sensors 〈Optional the photo cell sensors〉

■Connector for Photo cell sensor



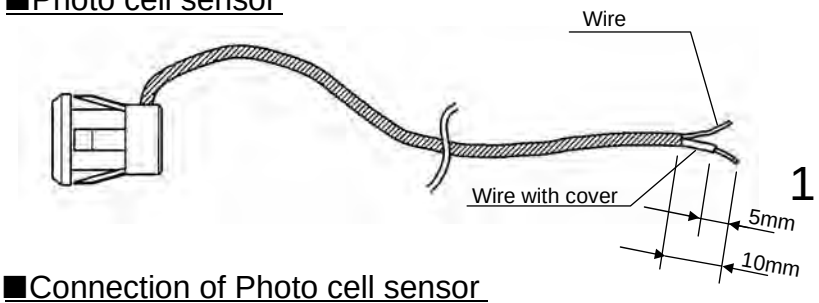
1. Peel the external cover of the Photo cell sensor cable, and connect it to the connector.

【Caution】
Connect according to the figure below.
Incorrect connection will result in faulty operation.

2. Plug the connector with the cable to the Control device.

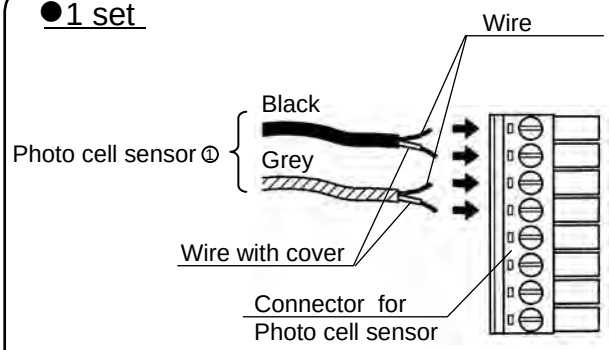
【Caution】
Plug the connector to the end.
It may result in faulty operation if the connection is not handled properly.

■Photo cell sensor

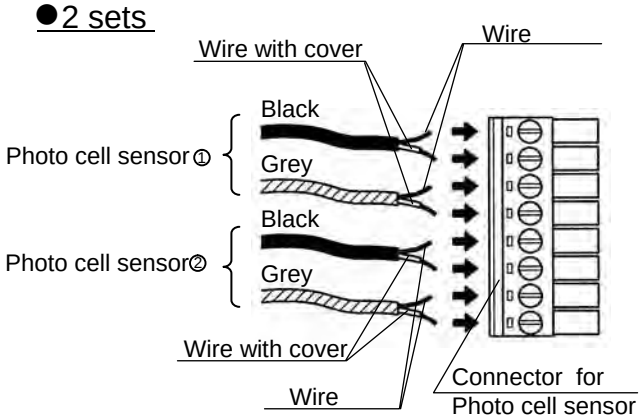


■Connection of Photo cell sensor

●1 set

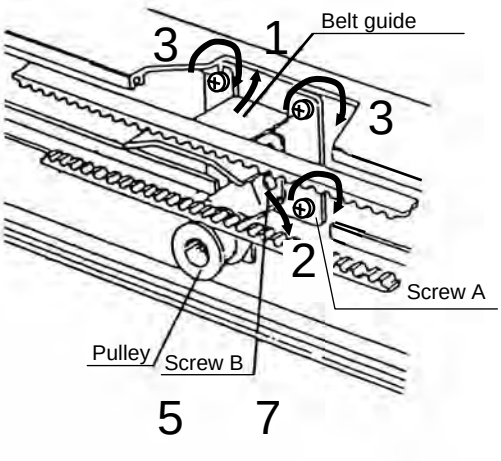


●2 sets



【Caution】
Match the color during connecting.
Incorrect connection will result in faulty operation

21. Installation of Belt Guide(Optional Double)

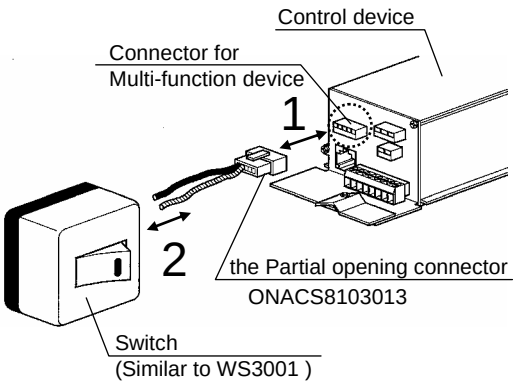


⚠ Incorrectly handle item 1~3 will result in falling.

1. **Insert the Belt guide into the upper groove.**
2. **Let it slip into the lower groove.**
3. **Tighten the screw A firmly.**
4. **Pass the belt above the pulley.**
5. **Loosen the screw B.**
6. **Adjust the pulley up or down to keep the belt horizontally.**
7. **Tighten the screw B.**

22. Connecting the Partial opening connector

〈**Optional the Partial opening connector**〉



Please prepare the switch similar to WS3001 (Matsushita production).

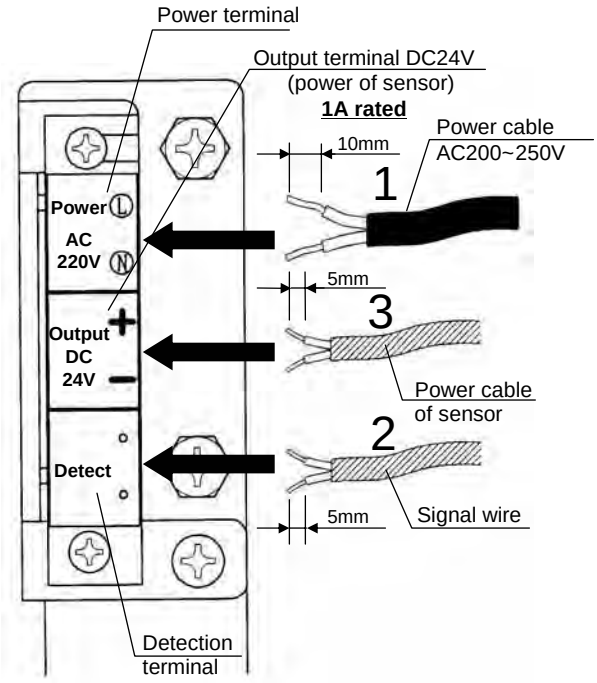
1. **Connect the Partial opening connector (ONACS8103013) to the control device.**
2. **Connect the lead wire of Partial opening connector to the switch.**

【Caution】

Use wire of 0.5mm in thickness and no more than 10m in length.

Please mount the switch in place where it can not be touched by unauthorized persons or children.

23. Connecting Power and Sensor



1. **Connect the power cable to the power terminal securely.**

⚠ Power supply should be AC200~250V.

It will result in fire and electric shock if contact with the power.

The length of cable cover peeled off is shown in the left figure. Please do not contact the wire with any other part beside the power terminal, otherwise, there will result in electric shock.

Do not insert power cable into the other terminal, otherwise, there will result in failure.

Please connect securely, otherwise, there will result in fire because of bad transmission.

2. **Connect the signal wire of sensor(yellow and white) to the detect terminal.**

⚠ Please connect securely, otherwise, there will result in fire and electric shock because of bad transmission.

3. **Connect the power cable of sensor (grey) to the output terminal(DC24V).**

⚠ Do not use any instrument that its rated current over 1A, otherwise, there will result in fire and failure.

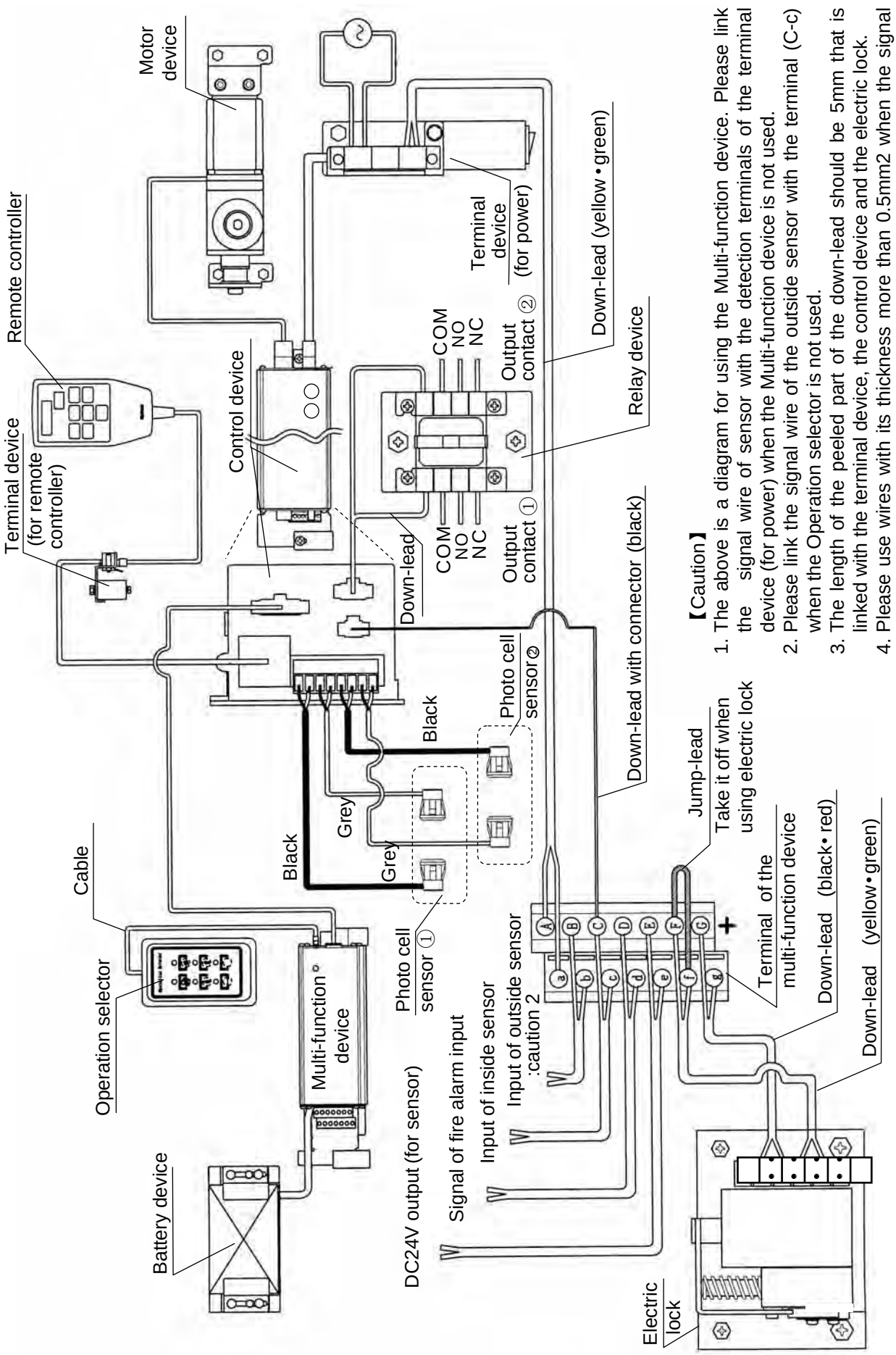
【Caution】

Please use a sensor that its voltage is accordant.

Please read sensor manual carefully before install it.

There will result in failure if installation is not handled properly.

24.Connection Diagram



【Caution】

1. The above is a diagram for using the Multi-function device. Please link the signal wire of sensor with the detection terminals of the terminal device (for power) when the Multi-function device is not used.
2. Please link the signal wire of the outside sensor with the terminal (C-c) when the Operation selector is not used.
3. The length of the peeled part of the down-lead should be 5mm that is linked with the terminal device, the control device and the electric lock.
4. Please use wires with its thickness more than 0.5mm2 when the signal wire is to be prolonged.

25. Checking after installation

Item	Confirm
1. All parts install correctly.	
2. There is on resistance to travel when opening and closing the door by hand.	
3. Lead Wire is connected correctly.	
4. Fasten the lead wires firmly with the clamp.	
5. There should be no dust deposits in the Engine case (especially on guide rail) .	

26.Operation of the Remote Controller

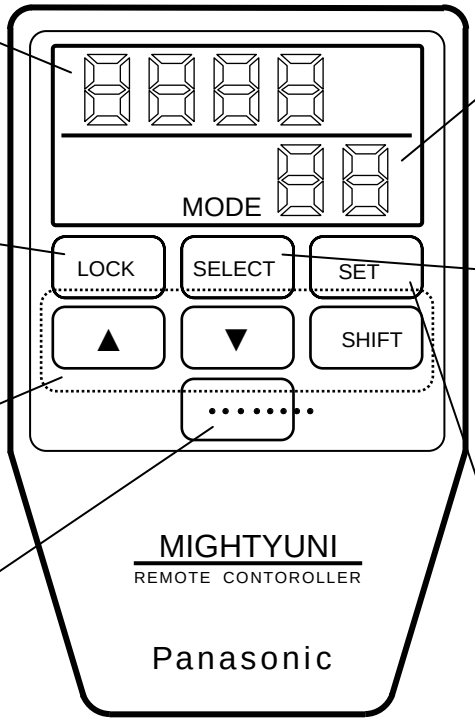
■Introduction to the display and operation parts of the remote controller

Main display part
Display setting data of all items and the user's input data and the number of performances.

Lock-up switch
The switch for the forbidding and relieving of data changes.

▲up ▼down
Change the number of mode and data.

Testing switch
Button for testing the opening and closing of the door. (The same with the input detection signal)



Display part of mode number
(Mode display part)
Display the numbers items.
Status of detection of the outside sensor and the photo cell sensor.

Selection switch
1)Perform with display: standard display/display the opening width/display the records of abnormity/switch of setting data display
2)In the mode of data change: switch between the Main display part and the Mode display part.

Setting switch
Save setting data.

1.Power on.

Operation order	Display part
Close the door by hand. ↓ Connect the cable of the remote controller to the terminal device (for remote controller) . ↓ Power on ↓ Start the simulating action. (Open and close the door once with a low speed.) ↓ The simulating action is over.	C A L MODE d o o r MODE →Standard display

Check the opening width by the action described above.
Take this state (the Main display part :『door』) as the standard dispaly.

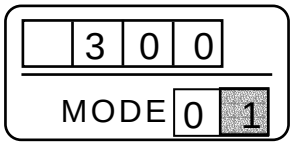
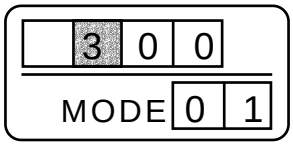
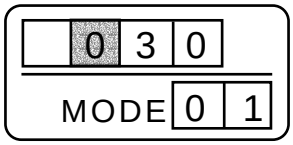
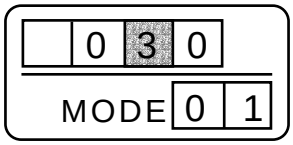
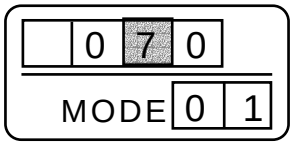
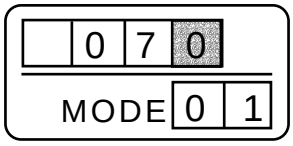
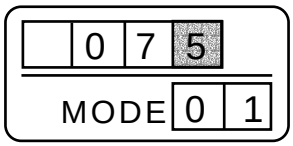
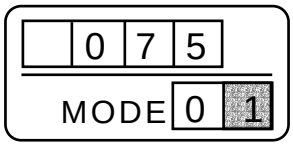
【Caution】
Once the action is over, when turn on the power again, the Main display part is 『door』 instead of 『CAL』 and the stimulating action is performed.

26.Operation of the Remote Controller

2.Set the gross weight

※**Default setting is 300kg.**

e.g.) Change the setting to 75kg

Operation order	Display part
LOCK Press LOCK once to set data. The Mode display part flickers.	
SELECT Press SELECT once. Flash moves to the Main display part.	
▼ Press three times. 【**Caution**】Display the minimal weight is 30kg.The change is 3→0.	
SHIFT Press once. Flash digital moves to shadow portion.	
▲ Press four times. 【**Caution**】The change is 3→7.	
SHIFT Press SHIFT once. Flash digital moves to shadow portion.	
▲ Press once. 【**Caution**】The change is 0→5.	
SET Press SET once. Flash moves to the Mode display part. 【Caution】 Please keep pressing SET. If the flash does not move to the Mode display part, the setting is not over**.** Ending LOCK Press LOCK to enter standard display	 Flash

Input initial setting data into the items in advance according to the gross weight of the door.

See more in List of the initial setting data (P.33).

26.Operation of the Remote Controller

3.Set the opening direction.

※Default setting is right (r).

e.g.) Change the setting to left

Operation order	Display part
LOCK Press once, ▲ Press once. ↓ Mode display part flickers.	r MODE 0 2
SELECT Press once. ↓ The flash moves to the Main display part.	r MODE 0 2
▼ Press once. ↓	L MODE 0 2
SET Press once. Flash moves to the Mode display part. 【Caution】 Please keep pressing SET. If the flash does not move to the Mode display part, the setting is not over. ↓ Ending ⚠ If the set is over, the door starts to move.	L MODE 0 2 Flash

The initial setting is finished with the above steps done.

Refer to “4.change of other items” if other items are expected to be changed (P.34).

List of the initial setting data

※Except the following items, other items are irrelated to the weight of the door (Refer to “List of set items”).

NO	Function	Gross weight of the door (mode No.1) input				unit
1	weight of the doors	30~ 90	95~ 180	185~240	245~ 300	kg
2	opening direction	r	r	r	r	—
3	opening speed	550	500	450	400	mm/ sec
4	amble space of opening	13	10	10	10	grade
5	closing speed	500	450	400	350	mm/sec
6	amble space of closing	13	10	10	10	grade
7	open time	1	1	1	1	sec
8	opening power	8	8	8	8	grade
9	break force of opening	8	8	8	8	grade
10	amble speed of opening	50	50	50	50	mm/sec
11	closing power	8	8	8	8	grade
12	break force of closing	8	8	8	8	grade
13	amble speed of closing	50	50	50	50	mm/sec
14	amble space of opening in partial opening mode	14	9	10	10	grade
15	amble space of closing in partial opening mode	13	8	9	9	grade

26.Operation of the Remote Controller

4. Change other items

Refer to the “List of setting items” (P.41).

【Caution】

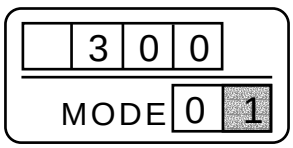
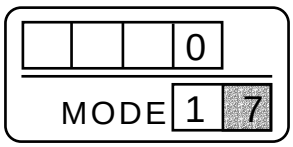
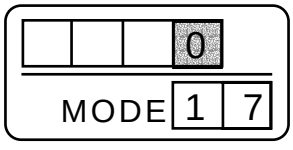
Items of No.1-35 are changeable. Others are unchangeable.
Refer to “When using photo cell sensor” if the photo cell sensor is used (P.34).
Be sure to set the photo cell sensor.
Without carefulness, there will result in faulty operation.

Operation order
LOCK Press once. Mode display part flickers.
▲ ▼ Press ▲ ▼ ,and select the setting item expected to be changed.
SELECT Press once. Flash moves to the Main display part.
SHIFT Press SHIFT and ▲ ▼ change the setting data.
SET Press once. Flash moves to the Mode display part. 【Caution】 Please keep pressing SET. If the flash does not move to the Mode display part, the setting is not over. Ending LOCK Press LOCK to enter the standard display.

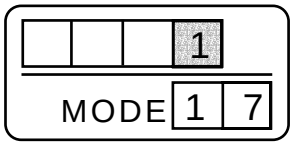
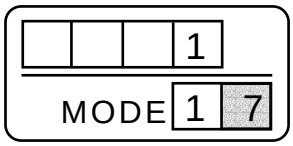
■When using the photo cell sensor

1. Set the photo cell sensor.

e.g.) When setting the photo cell sensor

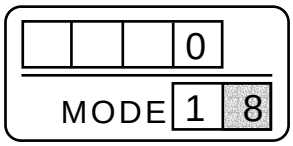
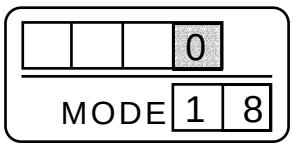
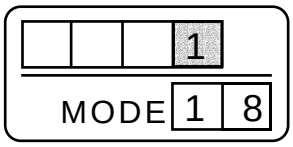
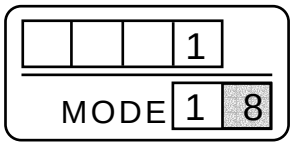
Operation order	Display part
LOCK Press LOCK once. Mode display part flickers.	
SHIFT Press SHIFT and ▲ ▼ change Mode NO. to 17.	
SELECT Press SELECT once. The flash moves to the Main display part.	

26.Operation of the Remote Controller

▲ Press ▲	
SET Press SET once. The flash moves to the Mode display part. 【Caution】 Please keep pressing SET. If the flash does not move to the Mode display part, the setting is not over. Ending	 Flash

2. Valid/invalid of the photo cell sensor when door is closed.

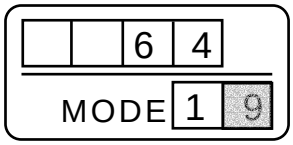
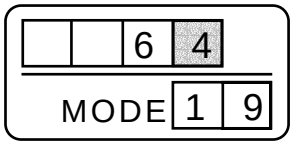
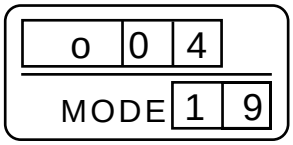
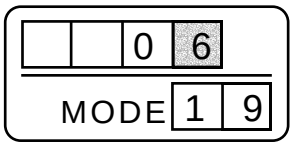
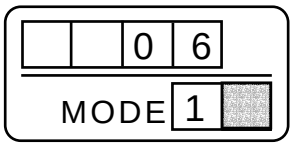
e.g.) when door is closed, set the photo cell sensor 1 to be valid

Operation order	Display part
SHIFT Press SHIFT and ▲ ▼ change Mode NO. to 18.	
SELECT Press SELECT once. The flash moves to the Main display part.	
▲ Press ▲ once.	
SET Press SET once. The flash moves to the Mode display part. 【Caution】 Please keep pressing SET. If the flash does not move to the Mode display part, the setting is not over. Ending	 Flash

26.Operation of the Remote Controller

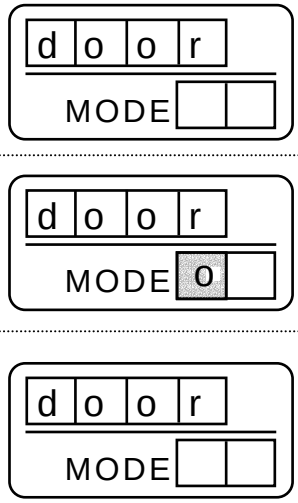
3. Adjust sensitivity of the photo cell sensor.

e.g.) Adjust sensitivity of the photo cell sensor 1

Operation order	Display part
SHIFT ↓ Press SHIFT and ▲ ▼ change Mode NO. to 19.	
SELECT ↓ Press SELECT once. The flash moves to the Main display part.	
SHIFT ↓ Keep pressing SHIFT and ▼ till the left side lights. The left side of the Main display part displays『o』.	
▲ ↓ Press ▲ and adjust gradually till the light of the left side of the Main display part is off. Set a grade of 1-2 grades higher and make sure that the light on the left side is off.	
SET ↓ Ending Press SET once. The flash moves to the Main display part. 【Caution】 Please keep pressing SET. If the flash does not move to the Mode display part, the setting is not over. LOCK Press LOCK to enter the standard display.	 Flash

26.Operation of the Remote Controller

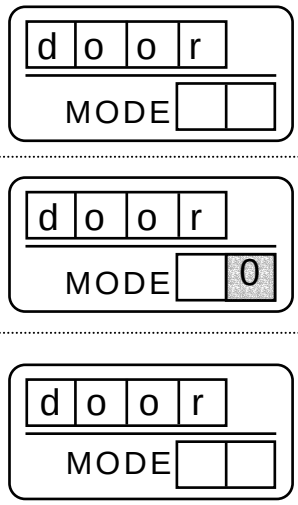
4.Confirm the detecting status of the photo cell sensor

Operation order	Display part
The Main display part displays『door』 ↓ Cut the beam of the photo cell sensor. ↓ The left side of the Mode display part lights and displays 『o』. Get right of the photo cell sensor. ↓ The light on the left side of the Mode display part is off. Perform the above operation repeatedly, confirm an end if there is no problem.	

【Caution】

When performing the above operation, if the light is on or off abnormally, please turn back to “3.Adjust sensitivity of the photo cell sensor” (P.36) and readjust the sensitivity.

■Confirm the detecting status of the sensor

operation order	display part
The Main display part displays『door』. ↓ Make the sensor enter the detecting status. ↓ The light on the right side of the Mode display part is on and displays『o』 Stop detection of the sensor. ↓ The light on the right side of the Mode display part is off. Perform the above operation repeatedly, confirm an end if there is no problem.	

26.Operation of the Remote Controller

■The initialization of the remote controller

※With the following operation the default setting can be resumed.
(Refer to the “List of set items” (P.41)) .

【Preconditions of initialization】

1. Readjustment is expected for the confusion resulted in adjustments.
2. Apply default setting in other scenes.

【Mode of initialization】

Initialization modes No.1 to 30 (Please refer to the “List of set items” (P.41)).
No initializations for other modes.

【Method of initialization】

Operation order
Switch off the power of Engine unit. ↓ Link the remote controller and switch on the power when pressing LOCK ↓ Confirm the remote controller displays『Clr』and cut off the power. ↓ Initialization is over. Please adjust with the power on again.

26.Operation of the Remote Controller

■Introduction to mode

There are 3 modes for the operation of remote controller.

【Main Mode】	It is the standard mode. It can change the display of the width of the door opening and 2 mode changes underneath.
【Data Mode】	Consult the setting data of all set items.
【Data Changing Mode】	Change the setting data of all set items.

Please refer to “Operation flow of the remote controller” for the operation flow of the remote controller (P.40).

【About the Main Mode】

In the status of the display of『door』in standard display, press SELECT , displays will be in the order of

『display of the opening width』→『display of abnormal record』→『display of the setting data』→『door』→『display of the opening width』.

『display of the opening width』

Display the current opening width.
Checking of the opening width depends on the simulation action when power is on.

『display of abnormal record』 (Modes No.39~43)

Display the abnormal status of the last operation.

▲ ▼ Press ▲▼, and the past abnormal records can be confirmed.

(for the last 5 times only)

『display of the setting data』=【Data Mode】 (Modes No.1~47)

Display the current setting gross weight of the door.

▲ ▼ Press ▲ ▼ and the current setting data can be confirmed.

Please refer to “List of the set items” for all set items (P.41)

About 【Data Changing Mode】(Modes No.1~35)

In the status of Main mode, press LOCK , it is changed into 【Data Changing Mode】

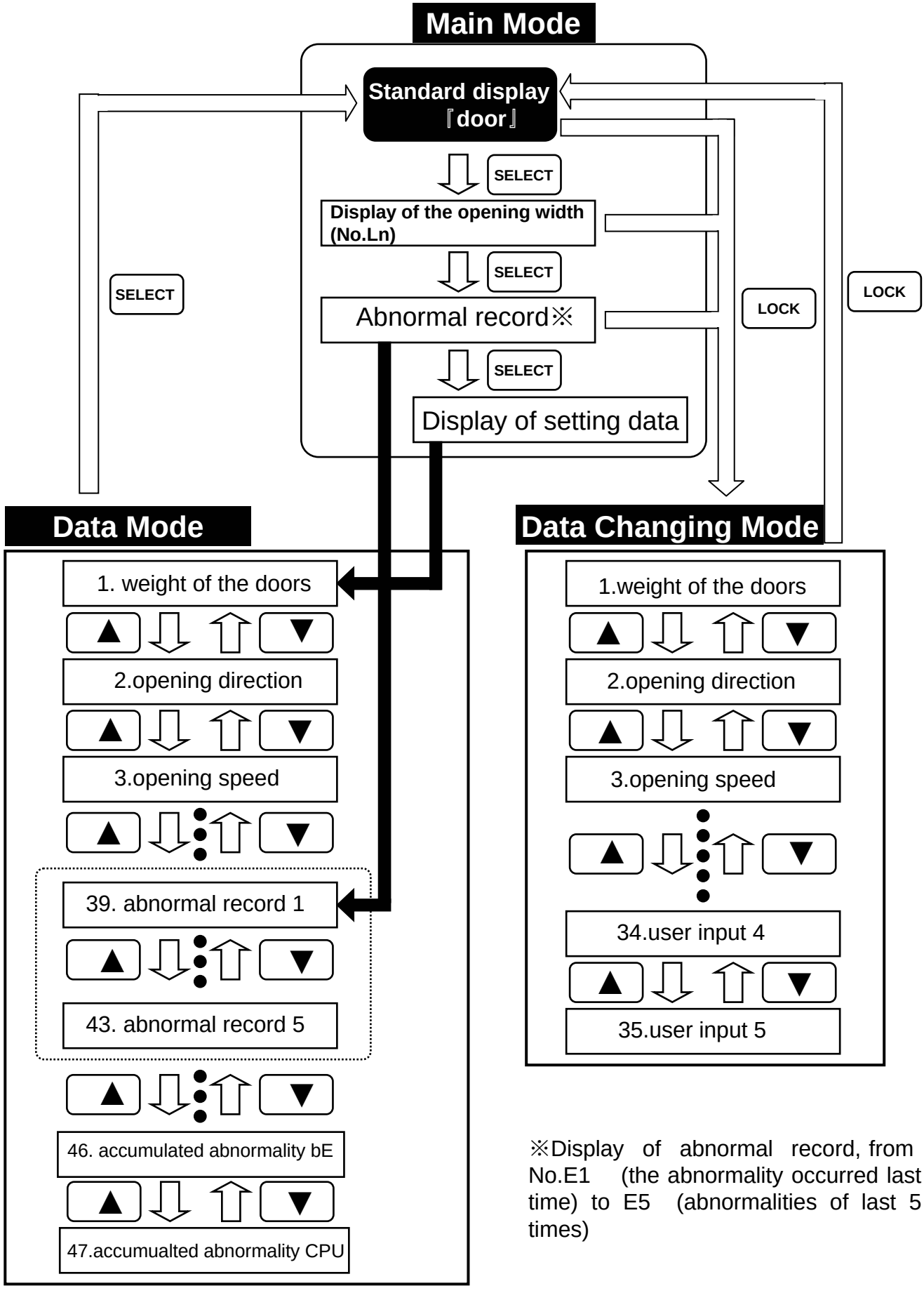
Press ▲ ▼ to select set items and the setting data can be changed.

In the status of【Data Changing Mode】, press LOCK again and turn back to standard display of 『door』.

Please refer to “4. change other items” when changing setting data (P.34).

26.Operation of the Remote Controller

■Operation flow of the remote controller



※Display of abnormal record, from No.E1 (the abnormality occurred last time) to E5 (abnormalities of last 5 times)

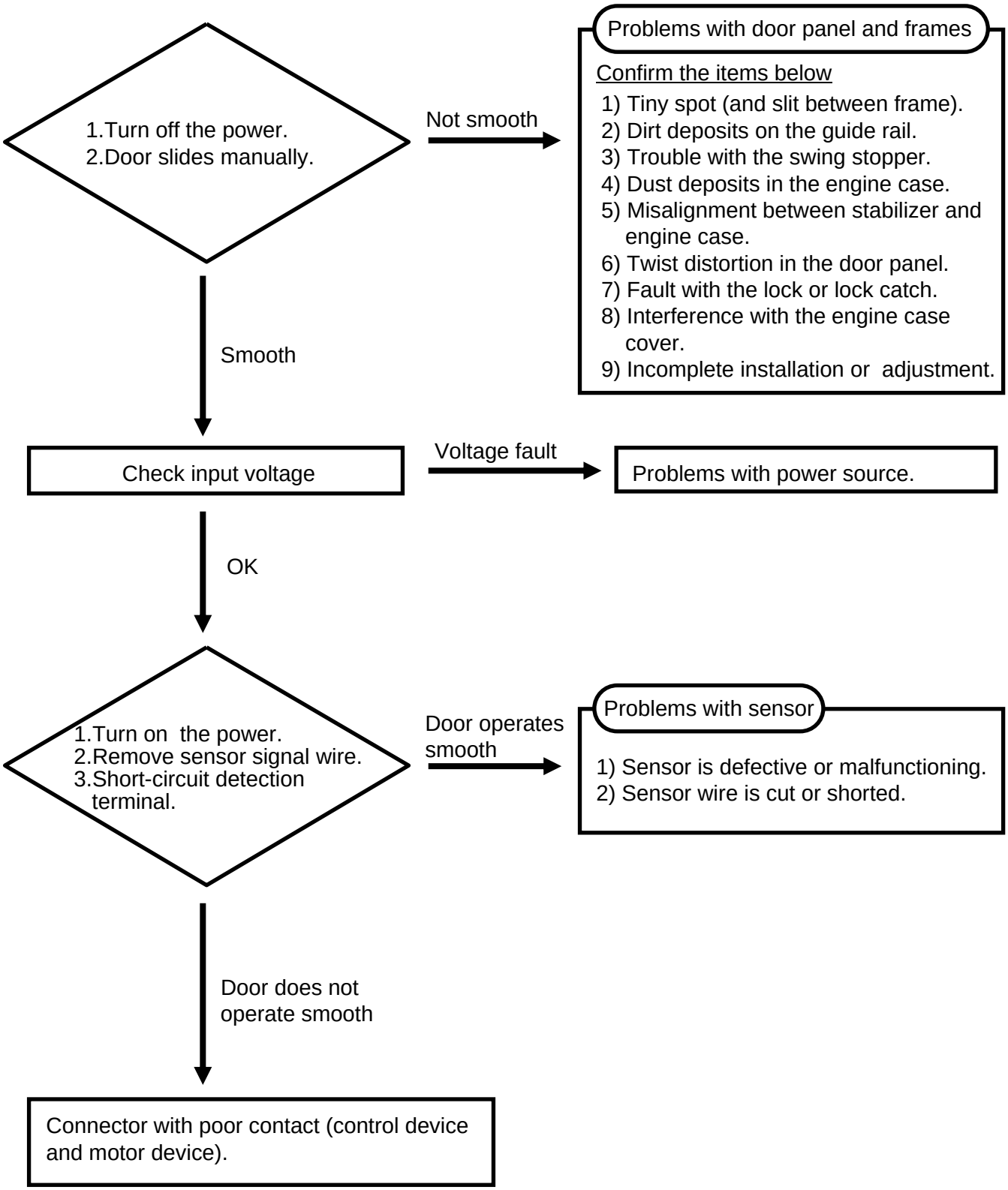
26.Operation of the Remote Controller

■List of set items

set NO	Item	Introduction to the enginery	Setting range	Default setting	Unit
1	Weight of the doors	Set the gross weight of the doors.	30~300 (scale value 5kg)	300	kg
2	Opening direction	Set the direction of the door's opening.	r (right) / L (left) , the double type is set to be r	r	—
3	Opening speed	Set the opening speed.	150~600 (scale value 50mm)	400	mm/sec
4	Amble space of opening	Set the amble space of opening.	0 ~25 (0 is the min)	10	grade
5	Closing speed	Set the closing speed.	100~500 (scale value 50mm)	350	mm /sec
6	Amble space of closing	set the amble space of closing.	0~ 25 (0 is the min)	10	grade
7	Open time	Set the time from opening to closing.	0 ~9	1	sec
8	Open power	Set the power intensity of opening.	0~ 8 (0 is the min)	8	grade
9	Break force of opening	Set the power intensity of break force of opening.	0~ 8 (0 is the min)	8	grade
10	Amble speed of opening	Set the amble speed of opening.	30, 50, 70	50	mm / sec
11	Closing power	Set the power intensity of closing.	0~ 8 (0 is the min)	8	grade
12	Break force of closing	Set the power intensity of break force of closing.	0~ 8 (0 is the min)	8	grade
13	Amble speed of closing	Set the amble speed of closing.	30, 50, 70	50	mm / sec
14	Amble space of opening in partial opening mode	Set the amble space of opening in partial opening mode.	0~25 (0 is the min)	10	grade
15	Amble space of closing in partial opening mode	Set the amble space of closing in partial opening mode.	0~ 25 (0 is the min)	9	grade
16	Action of power on	Set the action of power on.	0 (low speed closing→ normal action) ,1 (low speed opening→ normal action) ,2 (checking→ low speed action)	1	—
17	Photo cell sensor	Set the photo cell sensor.	0 (unused) ,1 (use 1 only) , 2 (use 2 only) , 3 (use 1 and 2) 4 (for feet controlling switches (ratchet enginery))	0	—
18	Photo cell sensor of closing	Set the photo cell sensor of closing.	0 (invalid) 1 (valid)	0	—
19	Sensitivity of the photo cell sensor 1	Adjust the sensitivity of photo cell sensor 1 in use.	00~64 (0 is the bluntest).	64	grade
20	Sensitivity of the photo cell sensor 2	Adjust the sensitivity of photo cell sensor 2 in use.	00~ 64 (0 is the bluntest).	64	grade
21	Security enginery	Set the action when the door is nipped.	0 (stop) 1 (reverse)	1	—
22	Sensitivity of security	Set the sensitivity of the security enginery.	0~4 (4 is the bluntest).	3	—
23	Pressure-adding operation	Set the status of closing.	0 (stop) 1 (pressure-adding action)	0	—
24	Ratchet enginery	The sensor senses opening and senses closing.	0 (invalid) 1 (valid)	0	—
25	Operation in disaster	Set the action of the door when abnormal signal occurs.	0 (stop the door) ,1 (open the door) , 2 (close the door)	0	—
26	Operation when power is off	Set the action when power is off (The battery device is need.).	0 (stop the door) ,1 (open the door) , 2 (close the door)	0	—
27	Output contract	Set the signal output in opening status.	0 (opening signal output) 1 (door bell signal output)	0	—
28	Electric lock	Set whether the electric lock is to be used.	0 (unused) 1 (used)	0	—
29	Partial position	Set the opening width in partial opening mode.	20, 30, 40, 50, 60, 70, 80, 90	60	%
30	Measurement of the opening width	Set the measuring calculagraph of the opening width.	0 (measurement with power on) 1 (auto-change after the measurement)	0	—
31	User input 1	User input1 — Input construction date and refit date. e.g.) April 10th, 2001 →0104	0000~9999	0000	—
32	User input2	User input2	0000~9999	0000	—
33	User input3	User input3	0000~9999	0000	—
34	User input4	User input4	0000~9999	0000	—
35	User input5	User input5	0000~9999	0000	—
36	Operation times	Display the times of the operation.	0000~9999	0000	1000times
37	Times of safe operation	Display the times of safe operation.	0000~9999	0000	time
38	Times of power input	Display the times of power input.	0000~9999	0000	time
39	Abnormal record 1	Display the abnormal record. (the last time)	•OC (overloaded current inside the controller) •OL (overloaded inside the controller) •bE- (belt cutting-off) •CPU (communication abnormal inside the electric parts). ※See more in "27.Thoubleshooting"(P42).	—	—
40	Abnormal record 2	Display the abnormal record. (the 2nd time)		—	
41	Abnormal record 3	Display the abnormal record. (the 3rd time)		—	
42	Abnormal record 4	Display the abnormal record. (the 4th time)		—	
43	Abnormal record 5	Display the abnormal record. (the 5th time)		—	
44	Accumulated abnormality OC	Display the accumulated times of OC.	0000~9999	0000	time
45	Accumulated abnormality OL	Display the accumulated times of OL.	0000~9999	0000	time
46	Accumulated abnormality bE-	Display the accumulated times of bE-.	0000~9999	0000	time
47	Accumulated abnormality CPU	Display the accumulated times of CPU.	0000~9999	0000	time

27.Troubleshooting

■Checking order



27.Troubleshooting

Symptom	Possible Cause	Check	Solution
Door movements are too slow.	●Door opening or closing speed is set too low.	Check the data of opening or closing speed.	Change the setting date
	●Amble space is set too long.	Check the data of Amble space.	Change the setting date
	●A person was hit by the closing door, causing an error mode.		Let the door close by the sensor detection of people pass.
	●The sliding friction of The door is too high.	Turn the power off, slide the door by hand. • Check for dirt deposited on the guide rail. • Check for a loose lock catch at the bottom of the door. • Check if the swing stopper is damaged or loosened, and interfering with the lock catch. • Check for the presence of obstacles.	• Clean the guide rail. • Secure the lock. • Replace or retighten the swing stopper. • Remove the obstacle.
Space between the doors is too small when closing	●Amble speed is too quick.		Reduce the amble speed.
	●Amble space is too short.		Increase the amble space.
Door remains inoperative	●The power is turn off.	Check the circuit breaker.	Turn on the power. 【Caution】 If breaker turn off again, please contact with construction unit.
		Check the power switch for the Engine unit.	Turn on the switch.
	●Sensor malfunctions	Short-circuit sensor detection terminal to confirm whether the door operate.	Replace the sensor.
	●sensor signal wire cut off		Replace the sensor signal wire.
	●Door is locked.	Confirms the door whether is locked	Unlock the door.
	●Dirt deposits on the guide rail.	Turn the power off and check whether the door slide smoothly.	Clean the guide rail.
	●The sliding friction is too high.	Turn the power off ,slide the door by hand, then check the sliding friction .	Remove the obstacle and garbage.
		Check the display of remote controller • Display OC └Turn on the power ├Display OC ,no operation. └Display door ,operate normally • Display OL ├Turn power off and check obstacles. └Whether weight of the door and setting is accordant. • Display bE- └Check whether belt is sever. • Display CPU └Turn on the power ├Display CPU, no operation. └Display door, operate normally	 Replace control device Normal Cleaning Change setting date. Replace the belt. Replace control device Normal
The door does not open completely.	●The door is in partial opening mode.	Check the partial switch or operation selector.	Switch to normal opening Mode.
	●the weight setting of remote controller is wrong.	Whether weight of the door and setting of remote controller is accordant. Ex.) The doors are 150k× 2, if the setting data is 75, the door will not operate.	Change the setting data..

27.Troubleshooting

Symptom	Possible Cause	Check	Solution
The door does not close.	●Sensor is continuously activated.	There is a moving object in the detection area.	Remove the object.
		There is not a moving object in the detection area.	Replace the sensor.
	●Photo cell sensor is continuously activated.	There is dirt on the sensor head.	Clean the sensor head.
		Either of the sensor heads is incorrectly aligned.	Adjust the sensor head.
	●Sensor signal wires are short-circuited.	Whether the door dose close after remove the signal wire.	Replace the sensor signal wire.
The door dose not operate properly at random.	Sensor malfunctions ♦Using Active Infrared sensors: ●Dirty detection window.		Clean the window with a soft cloth with detergent.
	♦Using Passive Infrared sensors: ●Sensitivity is too low.		Adjust sensitivity.
	●Temperature of detection area is close to man's temperature.		Change sensor type.
	●Forklifts, pushcarts		Adjust the detection area.
	●Supply voltage is unstable	Check the sensor power supply terminal.	Correct the supply voltage.
The door opens or closes when no one is at the door.	Sensor malfunctions ♦Using Active Infrared sensors ●A moving object exists in the detecting area.		Adjust the detection area. Remove the moving object.
	●A strong source of radio waves is in the vicinity.		Remove the source of radio waves.
	●Dogs,cats		Normal
	●The detection area overlaps with that of another sensor.		Set the different frequency switch.
	●Fluorescent or neon lamps exist in the detection area.		Adjust the detection area. Remove the Fluorescent and neon lamps.
	●Some condition has changed in the detection area. Ex. Snow has fallen and footprints have been left in it.		Normal
	●The door is in the detection area.	The sensor is activated by door movements.	Adjusts the detection area.
	●Using Passive Infrared sensors:	♦Refer to items above of Active Infrared sensors.	
	●Using other type sensors: Sensitivity is too high.		Adjust the sensitivity.

28. Specification

■120kg series

Engine unit	With aux sensor	ONACS88425	ONACS88426	ONACS88435	ONACS8436
	Without aux. sensor	ONACS88427	ONACS88428	ONACS88437	ONACS88438
Door		Single		Double	
Installation method		Enclosed type	Surface type	Enclosed type	Surface type
Door wgt		120kg×1		120kg×2	
Door width		600~1,250mm			
Motor		DC24V 50W brushless motor			
Open speed		16~44cm/sec (adjustable)		14~30cm/sec (adjustable)	
Close speed		11~40cm/sec (adjustable)		10~29cm/sec (adjustable)	
Opening time		0~9sec (adjustable)			
Partial opening		Adjustable 20~90% of Full-open width, need partial opening connector ONKA8103013			
Manual force		55.8N (6.0kgf)		83.3N (8.5kgf)	
Knock detector		Bounce back in knocking test (setting by remote contro)l			
Voltage		AC200~250V 50/60Hz			
Input current (AC200V) ●without sensor	Standby	0.3A			
	Operation	4.8A		5.0A	
Env temp.		-20~+50℃			
Operation mode		Detect→ door opening→ brake→ slow move→ stop (open status) →door closing→ brake→ slow move→ stop (closed status)			

※Average speed of moving 60cm from opening or closing position.

■150kg series

Engine unit	With aux sensor	ONACS88225	ONACS88226	ONACS88235	ONACS88236
	Without aux. sensor	ONACS88227	ONACS88228	ONACS88237	ONACS88238
Door		Single		Double	
Installation method		Enclosed type	Surface type	Enclosed type	Surface type
Door wgt		150kg×1		150kg×2	
Door width		600~1,250mm			
Motor		DC24V 50W brushless motor			
Open speed		14~41cm/sec (adjustable)		14~34cm/sec (adjustable)	
Close speed		10~39cm/sec (adjustable)		10~34cm/sec (adjustable)	
Opening time		0~9sec (adjustable)			
Partial opening		Adjustable 20~ 90 of Full-open width, need partial opening connector NKA8103013			
Manual force		27.1N (2.8kgf)		38.2N (3.9kgf)	
Knock detector		Bounce back in knocking test (setting by remote control)			
Voltage		AC200~250V 50/60Hz			
Input current (AC200V) ●without sensor	Standby	0.09A			
	Operation	1.40A		1.40A	
Env temp.		-20~+50℃			
Operation mode		Detect→ door opening→ brake→ slow move→ stop (open status) →door closing →brake →slow move →stop(closed status)			

※Average speed of moving 60cm from opening or closing position.

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