

Autonics

Auto Door Sensor ADS-A

M A N U A L



Thank you very much for selecting Autonics products.
For your safety, please read the following before using.

Caution for your safety

※ Please keep these instructions and review them before using this unit.

※ Please observe the cautions that follow;

Warning Serious injury may result if instructions are not followed.

Caution Product may be damaged, or injury may result if instructions are not followed.

※ The following is an explanation of the symbols used in the operation manual.

Warning : Injury or danger may occur under special conditions.

Warning It may give an electric shock.

- Do not take off its cover on operating the unit. Be sure that this unit does not come in direct touch with water. It may cause human injury or give an electric shock.
- When use this unit with removing cable outlet, this unit must be installed indoor. If installed outdoor, it may give an electric shock or damage by direct touch with water when the water inflows through cable outlet.
- Do not wash the unit with water. Be sure that this unit does not come in direct touch with water. It may cause human injury or give an electric shock.
- Do not repair or disassemble the sensor. It may cause human injury or give an electric shock.

Caution Be careful of human injury by the door.

- Do not install this unit at place higher than 2.7m. It may not detect small children due to lack of sensitivity.
- Please install this unit under 2m. It may not operate normally.
- Please install photo sensor as the safety equipment, the door will close after passing Holding time. It may not be able to detect children or old people continuously and jammed in the door.
- Please install photo sensor as the safety equipment. This unit holds the door for Holding time. When the Holding time passed, the door will be closed. People may be jammed in the door.

Caution People may run against the door.

- When eliminate the Right/Left detecting range, be sure to install the unit at place where a person approaches at the front of the door. If a person approaches at the side direction of the door, the person can run against the door as not detecting him within detection area width.

Caution It may cause malfunction.

- When wire the photoelectric sensor with high voltage line, power line in the same conduit, it may cause malfunction or mechanical trouble. Therefore please wire separately or use different conduit.
- Do not install this unit at place where there are dust or corrosive gas.
- The wire connection shall be used as short as possible in order to avoid malfunction by surge.
- When it is stained by dirt at lens, please clean the lens with dry cloth, but do not use an organic materials such as alkali, acid, chromic acid.

※ The above specifications are changeable without notice anytime.

- Do not use this unit at the other applications, because this sensor is non-contact intelligent type to open or close the door.

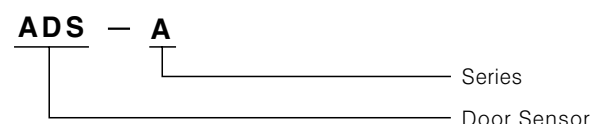
- Detection area
The sensor covers the regular detection area by infrared beam.

- Detection method for ADS-A
The sensor is detecting reflected amount of infrared beam from surface of detection area, and it outputs the signal by changed amount of infrared beam when people(objects) enters in detection area.

- Easy detection and difficult detection
There is an easy detection and difficult detection can be occurred according to amount of infrared beam by material and color of bottom surface, speed and color of entry people (object). If it is not changed reflected amount of infrared beam when people enters in detection area, the unit can not work even if people enter in detection area.

※ It may cause malfunction if above instructions are not followed.

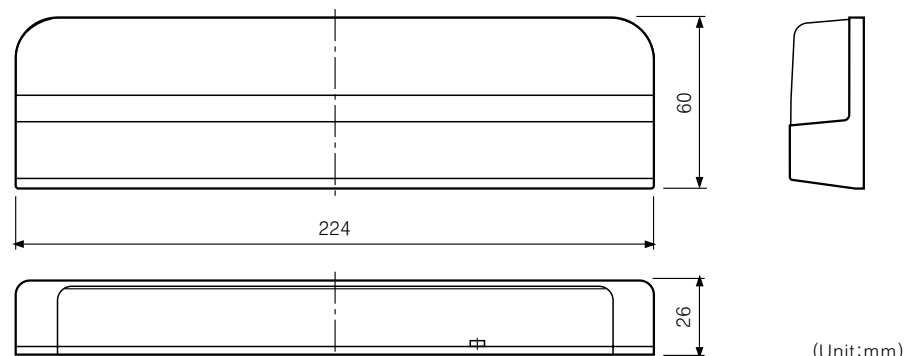
Ordering information



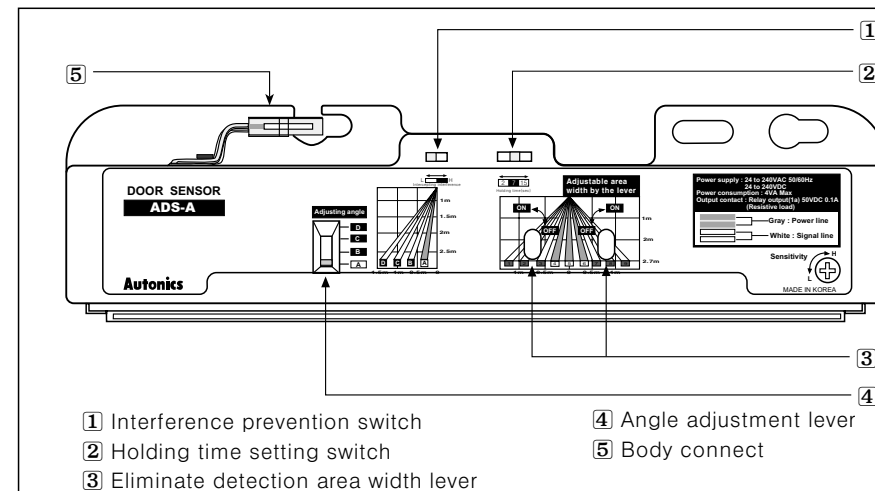
Specification

Model		ADS-A
Power supply	24-240VAC ±10% 50/60Hz, 24-240VDC ±10% (Ripple P-P:Max. 10%)	
Power consumption	Max. 4VA at 240VAC	
Control output	Relay contact output [Relay contact capacity : 50VDC 0.1A(Resistive load) Relay contact composition : 1a	
Mounting height	2.0m ~ 2.7m(Max. detecting distance : 3m)	
Detection area	9 Point(See the drawing chart)	
Detection method	Infrared reflection method(Diffuse reflective type)	
Output holding time	Time delay approx. 0.5sec.	
Holding time of stationary detection	Selectable 2sec, 7sec, 15sec. by slide switch	
Interference prevention	H, L(Interference prevention switch)	
Adjustable detection area	Adjust angle	A Step:7.5° C Step:21.5° B Step:14.5° D Step:28.5° : Adjust angle adjustment lever
	Eliminate Right/Left detecting area	(1, 2, 3 Area), (7, 8, 9 Area) Eliminate each by each : Adjustment with switch for eliminate Right/Left detecting area
Light source	Infrared chip diode(modulated)	
Indication	Normal : Red LED turns on, Detection : Red LED turns off	
Connection	Connector wire connection	
Insulation resistance	Min. 20MΩ(at 500VDC)	
Noise strength	±2kV the square wave noise(pulse width:1μs) by the noise simulator	
Dielectric strength	1,000VAC 50/60Hz for 1 minute	
Vibration	1.5mm amplitude at frequency of 10 to 55Hz in each of X, Y, Z directions for 2 hours	
Shock	100m/s ² (Approx. 10G) in X, Y, Z directions for 3 times	
Ambient illumination	Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx (Illumination of received light side)	
Ambient temperature	-20°C to 50°C(at non-freezing condition), Storage : -20 to +70°C	
Ambient humidity	35 to 85%RH, Storage : 35 to 85%RH	
Accessories	Cable : 2.5m, Mounting screw : 2EA, Mounting template	
Protection	IP50	
Material	Case:ABS, Lens:Acryl	
Weight	Approx. 320g	

Dimension

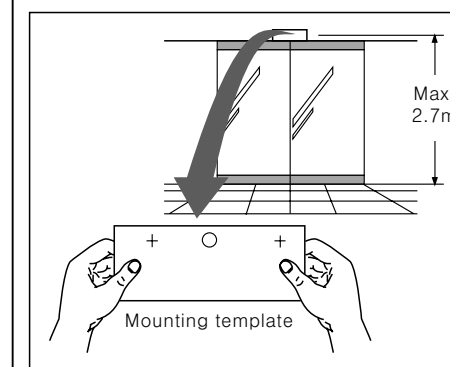


Parts description

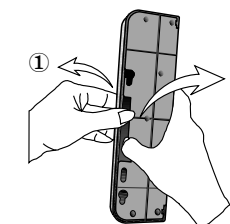


Installation

- #### Installation
- Attach mounting template at mounting position
(※ Mounting height : 2.0m to 2.7m)
 - Drill ϕ 3.4mm hole based on mounting template.
 - In case of wiring the cable on the wall to hide the cable, drill ϕ 9mm hole.
 - Install the unit after removing a mounting template.

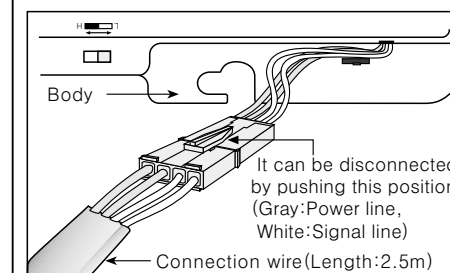


- Please fix this unit with screw bolt after detached protection cover.



- Connect the connector of the extension cable and the connector of the unit.
Please install the connector in order to connect with the body

- Connect the extension cable and the main controller.



Caution

Warning It may give an electric shock.

- When use this unit with removing cable outlet, this unit must be installed indoor. (It may give an electric shock or damage when the water inflows through cable outlet.)

Caution People can be jammed in the door.

- In case of installing the unit over 2.7m height, the unit may not detect children.
- In case of installing the unit lower than 2.0m height the unit may not work normally.

Mounting place

- Install the unit not to get direct touch with water at the detection lens of the unit. In case of being stain with the water at the detection lens, the unit may not operate normally.

Body installation

- The detection lens must be installed face to the door's threshold. If it faces the wall or roof, it is impossible to detect the unit normally.

Caution Fix the unit

- Do not put excessive tightening torque on screw bolt when mount this unit. It may result in fixing hole damage.

Protection cover detachment

- Pulling left thumb toward ①, key lock will be released and pull right thumb toward ②, protection cover and body will be detached.

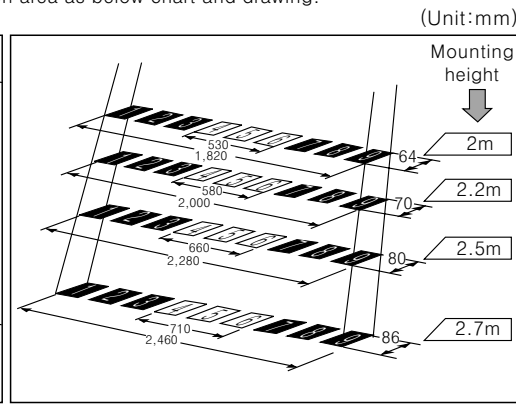
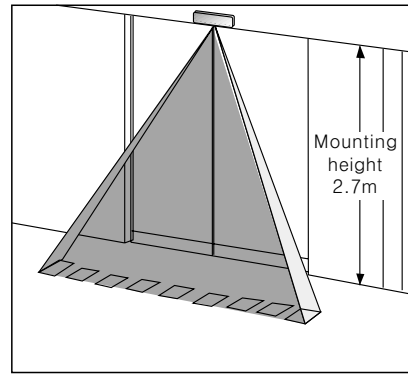
Caution Connection of the connector

- Plug in the connector of the extension cable and the connector of the unit completely. The unit may not work normally by inferior contact.

■ Adjustment(Please turns on the power)

1. Check of the detection area

This unit has characteristic of the detection area as below chart and drawing.

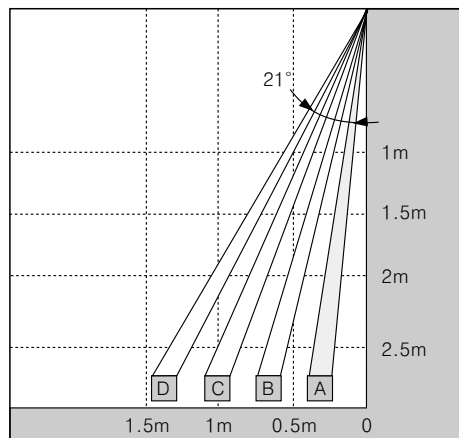


2. Adjustable detection area

Detection area angle(Step) : 7.5° to 28.5°
• Adjustable 7° in each step.

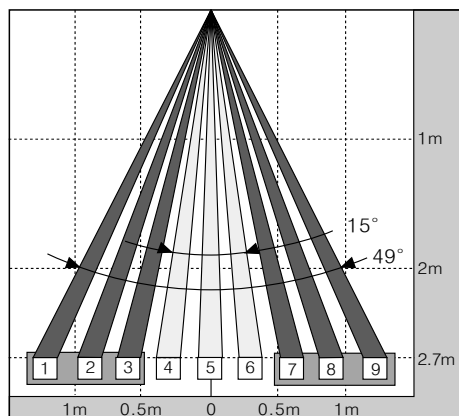
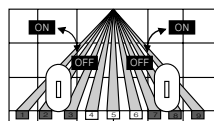
Adjusting angle

- D Step : 28.5°
- C Step : 21.5°
- B Step : 14.5°
- A Step : 7.5°



3. Adjustment of Left, Right detection area width.

- Detection area width ①②③ can be eliminated by left lever, ⑦⑧⑨ by right lever.□
- Use the unit as removing non-detection area by the lever adjusting width at narrow detection area.
- ※ Turn the adjuster till stopping it toward arrow direction by a (-)driver.



⚠ Caution People can be jammed in the door.

- Be sure to install a photo sensor as the safe equipment.
- Even if the unit is installed at narrow area from the door, the rail of the door is dangerous.
- Old man or children can be injured by the door as not detecting them continuously.

◀Installation environment▶

- If the object which can be moved by wind is located in the door close, the unit may not work normally as detecting it.



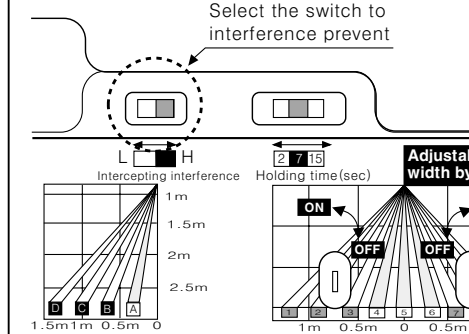
⚠ Caution People may run against the door.

- When eliminate the Right/Left detecting range, be sure to install the unit at place where a people approaches at the front of the door.
- In case of eliminating detection area width. If a people approaches at the side direction of the door, people may run against the door as not detecting people at detection area width.

※ It can eliminate ①②③ by left lever and ⑦⑧⑨ by right lever at the once. But cannot eliminate individually.

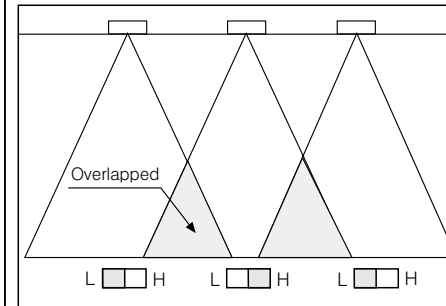
4. How to set the switch for interference prevention

- In case of using several door sensors as installing them close, please set the interference prevention switches differently.



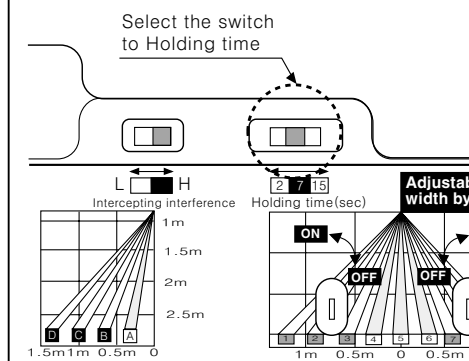
◀Interference prevention switch▶

- If detection area of the door sensors is overlapped, set each switch in difference or install the unit on non-overlapped detection area.



5. Holding time switch setting

- It can be set Holding time by the Holding time switch. (Selectable 2sec./7sec./15sec.)



⚠ Caution People can be jammed in the door.

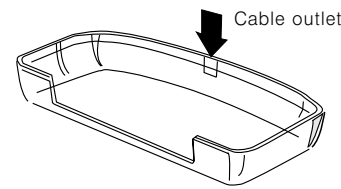
- Be sure to install a photo sensor as the safe equipment.
- The door will close after passing setting time by the holding time switch.

◀Holding time▶

- When people or objects stay in detection area after auto tuning(Set 7sec. for Holding time), it will detect the stationary people or objects for setting time by the holding time switch, and then the sensor's output turns off after setting time.)

6. Unit cover

- Mount the cover on the unit, in case of using outlet to wire as form of the exposed cable, take off ↓ point.



⚠ Warning It may give an electric shock.

- Do not take off its cover on operating the unit.
- In case of using the cable outlet, the unit must be installed in inner position of door.
- Be sure that this unit does not come in direct touch with water. It may cause human injury or give an electric shock.

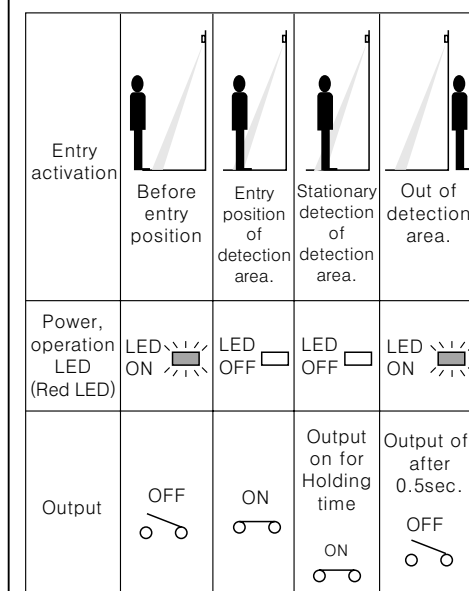
7. Auto tuning when power on

- When power turns on, keep 10sec. Without any moving objects within detection area.

- If auto tuning time does not keep for 10sec, the stationary people or objects may not be detected.

8. Check of detecting operation

- Check detecting operation as follow drawing.



◀Easy detection or difficult detection▶

- To detect the object easily or difficultly can be occurred according to reflected amount of infrared beam by material and color of bottom surface, speed and color of entry people (object).
- If it is not occurred change of infrared beam amount which is compared reflected amount of infrared beam from bottom surface when people enters in detection area, the unit can not operate even if people enter in detection area.

◀It may work without detecting person▶

- In case of occurring sudden change of bottom surface as sweeping water or placing objects within detection area.
- When dogs and cats come in detection area.
- By fog or waste gas, snow, rain, but this unit is designed to be operated for regular amount of it.

◀Environment▶

- Do not install the equipment occurring strong electric wave or noise such as neon lamp, the fluorescent light, etc.
- Do not place the moving object, it may cause malfunction

9. Maintenance

- If the detection lens is unclean, the unit may cause malfunction, in this case, please clean it with dry tissue and natural detergent.
- Do not use an organic chemistry such as benzene, etc.

⚠ Warning It may give an electric shock.

- Do not wash the unit with water.
- Do not repair or disassemble the unit.

10. Please see ◀ Caution for safety ▶ again.

■ Trouble shooting

Trouble	Check	Correction action
It is not work.	<ul style="list-style-type: none"> ● Power voltage ● Cable cut, disconnection 	<ul style="list-style-type: none"> ● Check the power cable and adjust power voltage. ● Check connector and wiring.
Sometimes it is not work.	<ul style="list-style-type: none"> ● The detection lens make unclean 	<ul style="list-style-type: none"> ● Clean it with dry tissue and natural detergent.
It is operated even if people does not enter in detection area.	<ul style="list-style-type: none"> ● There is moving objects. 	<ul style="list-style-type: none"> ● Check status of installation.
	<ul style="list-style-type: none"> ● By occurring sudden change of bottom surface. 	<ul style="list-style-type: none"> ● Check surrounding environment for installation.
	<ul style="list-style-type: none"> ● Detection area is overlapped. 	<ul style="list-style-type: none"> ● Install the unit to avoid overlap for detection area. ● Set the switch intercepting interference.
	<ul style="list-style-type: none"> ● There is the equipment occurring strong noise. 	<ul style="list-style-type: none"> ● Do not install the equipment occurring strong noise from the sensor.
	<ul style="list-style-type: none"> ● A drop of water is placed at the lens. 	<ul style="list-style-type: none"> ● Remove a drop of water.

■ Main products

- COUNTER
- TIMER
- TEMPERATURE CONTROLLER
- PANEL METER
- TACHOMETER
- LINE SPEED METER
- DISPLAY UNIT
- PROXIMITY SWITCH
- PHOTOELECTRIC SENSOR
- FIBER OPTIC SENSOR
- PRESSURE SENSOR
- ROTARY ENCODER
- SENSOR CONTROLLER
- POWER CONTROLLER
- STEPPING MOTOR & DRIVER & CONTROLLER

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