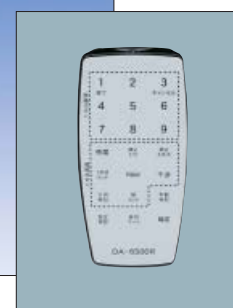# ACTIVE INFRARED DOOR SENSOR
DA-6500E for high performance doors

Remote controller
(Optional) DA-6500R

DA-6500E equipped with directional sensitivity feature can be fit for various types of high performance doors
Installation height range: 2m (6.6ft.) to 6.5m (21.3ft.)

Large and high-density detection area

• The unit offers a high-density protection field (1 to 5 rows). Each row consists of 12 beams (60 beams in total).

• The unit also can offer high and large detection area. (H6.5m x W6.5m x D3.3m / H21.33ft. x W21.33ft. x D10.83ft.)

Directional detection function

• The unit is direction conscious.

• A choice of six directional detection patterns can be selected.

① Detect all directions. ② Ignore approaches from side directions.

③ Ignore approaches from side and diagonal directions.

④ Ignore movements away from the door.

⑤ Ignore approaches from side directions and movements away from the door.

⑥ Ignore approaches from side and diagonal directions and movements away from the door.

Remote controller DA-6500R is available (Optional)

• Remote controller enables easy functional settings when the unit is installed in high positions. (Except pattern angle adjustment)
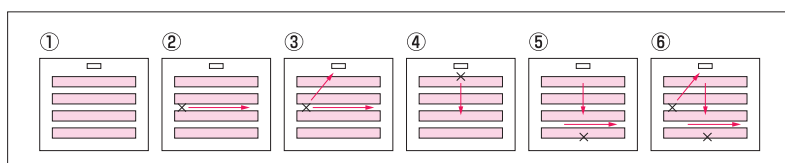
Detection pattern adjustment

• Pattern width is adjustable with the area adjustment gears for right and left areas independently.

• Pattern depth is adjustable with the area adjustment screw and by cutting rows.
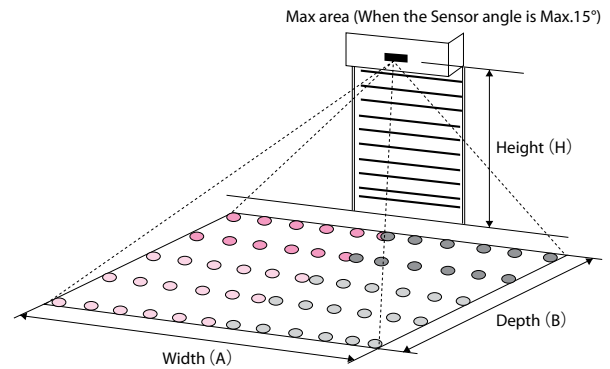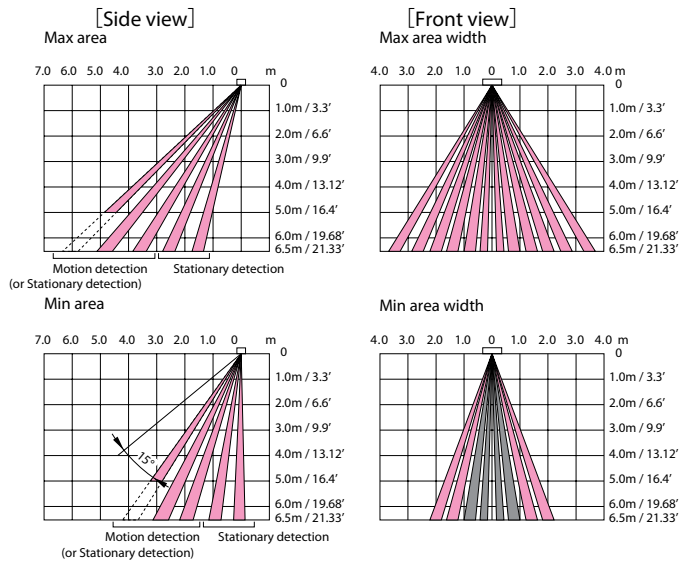
Stationary detection
(Motion detection + Stationary detection)

• The unit offers stationary detection for 1 and 2 rows.

• Stationary detection timer is selectable between 2sec., 60sec., 10min and ∞ .

• Either motion detection or stationary detection can be selected for 3 to 5 rows.
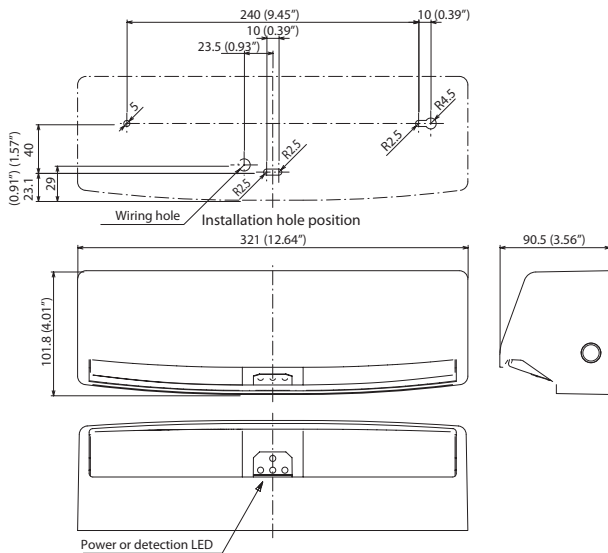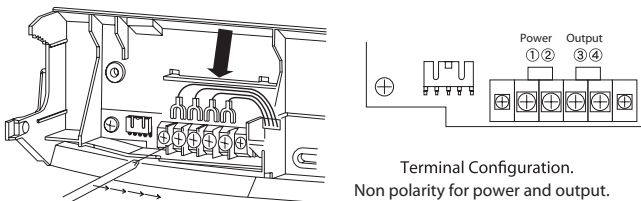
AUTO DOOR SENSOR

PATTERN

[Side view]
Max area

7.0 6.0 5.0 4.0 3.0 2.0 1.0 0 m

1.0m / 3.3'
2.0m / 6.6'
3.0m / 9.9'
4.0m / 13.12'
5.0m / 16.4'
6.0m / 19.68'
6.5m / 21.33'

Motion detection   Stationary detection
(or Stationary detection)

Min area

7.0 6.0 5.0 4.0 3.0 2.0 1.0 0 m

1.0m / 3.3'
2.0m / 6.6'
3.0m / 9.9'
4.0m / 13.12'
5.0m / 16.4'
6.0m / 19.68'
6.5m / 21.33'

15°

Motion detection   Stationary detection
(or Stationary detection)

[Front view]
Max area width

4.0 3.0 2.0 1.0 0 1.0 2.0 3.0 4.0 m

1.0m / 3.3'
2.0m / 6.6'
3.0m / 9.9'
4.0m / 13.12'
5.0m / 16.4'
6.0m / 19.68'
6.5m / 21.33'

Min area width

4.0 3.0 2.0 1.0 0 1.0 2.0 3.0 4.0 m

1.0m / 3.3'
2.0m / 6.6'
3.0m / 9.9'
4.0m / 13.12'
5.0m / 16.4'
6.0m / 19.68'
6.5m / 21.33'

Max area (When the Sensor angle is Max.15°)

Height (H)

Depth (B)

Width (A)

Detection area

Height (H)	2m / 6.6'	3m / 9.9'	4m / 13.12'	5m / 16.4'	6.5m / 21.33'
Width (A)	2.1m / 6.9'	3.1m / 10.2'	4.2m / 13.78'	5.3m / 17.39'	6.9m / 22.64'
Depth (B)	1.8m / 5.9'	2.7m / 8.86'	3.6m / 11.81'	3.2m / 10.5'	4.2m / 13.78'

• When the product is installed at heigher than 5.0m (16.4ft.), eliminate row 5.

EXTERNAL DIMENTIONS (Unit: mm / inch)

240 (9.45")
10 (0.39")
10 (0.39")
23.5 (0.93")
R4.5
R2.5
R2.5
40
29
23.1
(0.91") (1.57")

Wiring hole
Installation hole position

321 (12.64")
101.8 (4.01")
90.5 (3.56")

Power or detection LED

WIRING CONNECTION

Power   Output
①②   ③④

Terminal Configuration.
Non polarity for power and output.

SPECIFICATIONS

Model	DA-6500E
Detection system	Near infrared reflection type
Installation height	2.0m (6.6ft.) to 6.5m (21.33ft.)
Sensitivity	Sensitivity adjustable for 6 steps with a remote controller or push switches
	Enable or disable environmental mode with a remote controller or push switches
	Automatic sensitivity adjustment function

Pattern adjustments	Pattern depth	Adjustable with the area adjustment screw (Adjustable angle from 0°to 15°)
		or Activate/Inactivate row 3,4 and 5.
	Pattern width	Adjustable with the area adjustment gears
		(Adjustable separately for right and left area from 0°to 10°)
		or cut two outer zones for right and left area with a remote controller or push switches.

Power source	12 to 24V AC/DC ±10%
Current consumption	2.8 VA for 24V AC 2.8VA for 12V AC
	90mA for 24V DC 180mA for 12V DC
Output	Dry contact relay output N.O. 50V DC: 0.1A (Resistive load)
Output holding time	Approx. 0.5 seconds
Presence timer	Selectable for 2sec., 60sec., 10min. or ∞
Directional detection	Selectable for following six patterns.
	①Detect all directions
	②Ignore approaches from side directions
	③Ignore approaches from side and diagonal directions
	④Ignore movements away from the door
	⑤Ignore approaches from side directions and movements away from the door.
	⑥Ignore approaches from side and diagonal directions and movements away from the door.
Operation LED	Red LED lights at detection.
	Green LED lights for standby.
	Green and red LED light alternately when detecting shutter.
	Yellow LED blinks for trouble alarm.
Ambient temperature	-20˚ to +60˚
Weight	830g
Appearance	Silver

Model	DA-6500R (Remote controller for DA-6500E)
Detection distance	Transmission distance 7m or shorter
Power	AAA battery 2 pcs
Battery life	2 years
Ambient temperature	0˚ to 45˚

Please note : This sensor is designed to detect intrusion and to initiate an alarm; it is not a burglary prevention device.
TAKEX is not responsible for damage, injury or loss caused by accident, theft, Acts of God (including inductive lightning surges), abuse, misuse, abnormal usage, faulty installation or improper maintenance.

TAKEX

TAKEX PHOTOELECTRIC BEAM AUTO DOOR SENSOR
DA-6500

Instruction Manual

We appreciate your purchase of a TAKEX active infrared door sensor. This sensor will provide long and dependable service when properly installed. Please read this Instruction Manual carefully for correct and effective use.
Please Note : This sensor is designed to detect intrusion and to initiate an alarm ; it is not a burglary-preventing device.
TAKEX is not responsible for damage, injury or losses caused by accident, theft, Acts of God (including inductive surge by lightning), abuse, misuse, abnormal usage, faulty installation or improper maintenance.

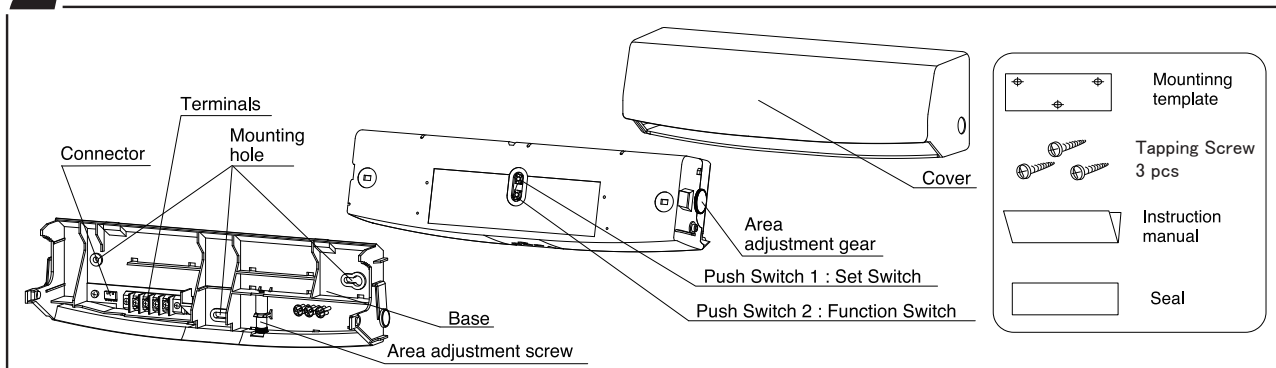Please read this instruction manual carefully before use.

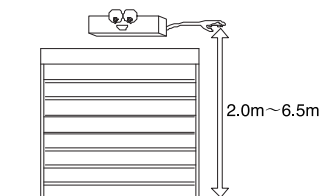| ⚠ Warning	If a person misuses the product, he could face high risk of death or serious injuries.
⚠ Attention	If a person misuses the product, he could face a risk of injuries or cause physical damages.

1 PRODUCT DESCRIPTION

· DA-6500 is an auto door sensor which offers a high-density protection field (5 rows X 12 zones).
· Pattern depth can be adjusted with the area adjustment screw.
· Pattern width can be adjusted with the area adjustment gears.
· The product is equipped with directional detection function.
· Remote controller (Optional) and push switches are available for function settings.

2 PARTS DESCRIPTION

Terminals
Mounting hole
Connector
Cover
Area adjustment gear
Push Switch 1 : Set Switch
Push Switch 2 : Function Switch
Base
Area adjustment screw

Mountinng template
Tapping Screw 3 pcs
Instruction manual
Seal

3 DO'S AND DON'TS

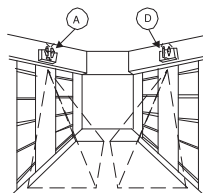**1** Install the unit at a height between 2.0m and 6.5m.

2.0m～6.5m

2 Do not leave any objects which may move in the detection area.
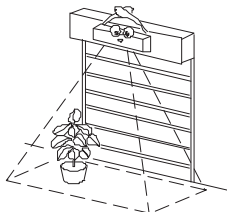
3 Do not install in a place where reflection of sunlight will shine on the unit.
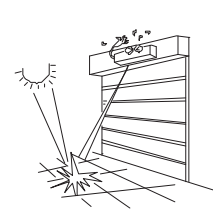
4 Do not install five or more devices in proximity to each other. When using from 2 to 4 devices in proximity, use alternate frequency settings as shown. (Maximum 4 sensors)

Ⓐ Ⓓ

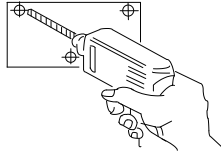**5** Do not install in a smokey or steamy environment.
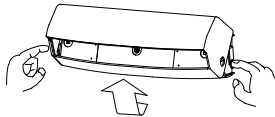
4 INSTALLATION

| ⚠ Warning	When drilling mounting holes, please make sure that there is no wiring near the place to be drilled to avoid the risk of electrical shock.

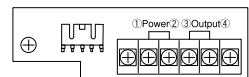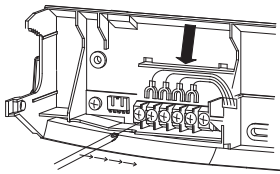**1** Using the mounting template, drill mounting holes (∮3.5mm) and wiring holes (∮10mm).

2 Remove cover and base from the sensor. Detach the terminal connector.

3 Mount the base with mounting screws. Tighten the screws as follows.
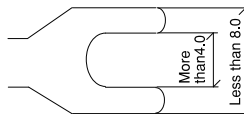①Tighten the screw roughly →②→③→① Tighten the screw fixedly
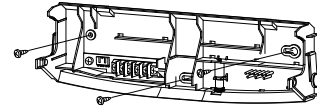
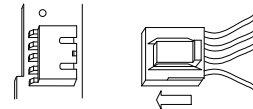**4** Connect power cords and output cords to the terminals.

Please use crimp-type terminal for the end of the power cord and output cord (type Y)

①Power② ③Output④

Terminal Configuration
Non polarity for power and output

More than4.0
Less than 8.0

5 Connect the terminal connector.

6 Install the sensor to the base.
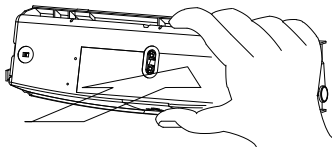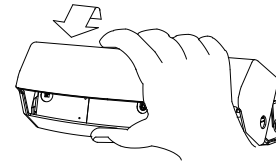
7 Refer to

7. DETECTION AREA

6. REMOTE CONTROLLER AND PUSH SWITCHES,

make settings and adjustments.
When using a remote controller, make adjustments with the cover attached.

8 Attach the cover to the unit.

5 ATTENTIONS WHEN SUPPLYING POWER

⚠ Attention	When supplying power, make sure that the wires are connected properly.
⚠ Attention	Please read this section very carefully and confirm that the unit operates properly.

Sensitivity is adjusted automatically but manual adjustment is also available with a remote controller or push switches.
Please refer to | 6. REMOTE CONTROLLER AND PUSH SWITCHES, | when adjusting sensitivity manually.

Automatic sensitivity adjustment
· Do not enter the detection area for 15 sec. after supplying power to the unit since the sensitivity is adjusted automatically
· If you cannot keep out of the detection area for 15sec. after power is supplied because of installation operation, confirm whether sensitivity is appropriate or not after going out of the area.

Power ON	Do not enter the detection area for 15sec. after power is supplied.	⟹	Stationary detection

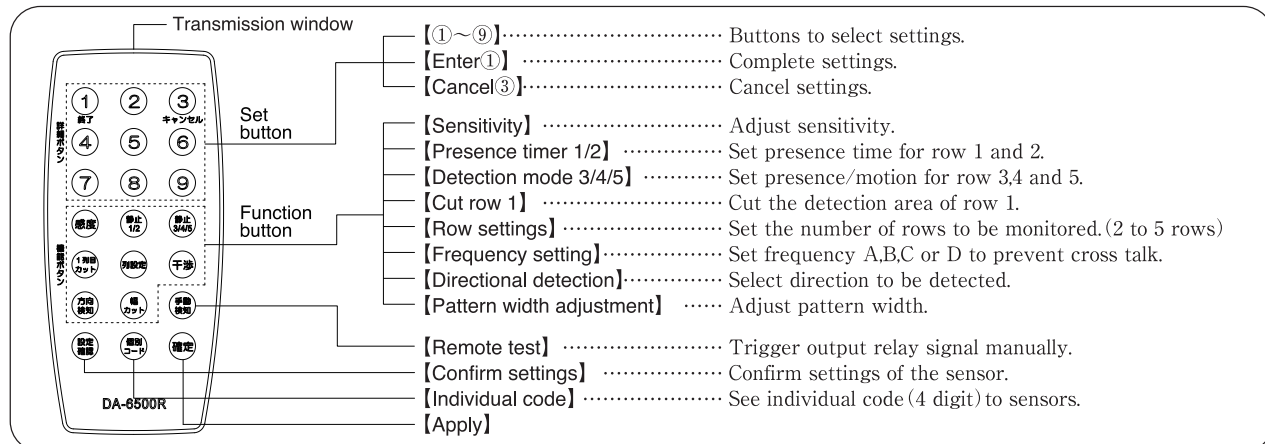| ⚠ Attention	If moving objects including people exist in the detection area after supplying power, the unit will not turn into stationary detection mode. It will turn into stationary detection mode 15 sec. after moving objects are removed from the detection area.
⚠ Attention	When presence timer is selected and there are rapid changes on the state of the surface of the floor, the sensor will keep the shutter or door open. In this case, turn off power and resupply it.
⚠ Attention	Turn off power when · placing something, e.g. cloth mat or resin scraper mat in the detection area or removing them. · changing settings in the detection area.

6.1 Make settings with a remote controller

Parts description of the remote controller

Transmission window

Set button

Function button

DA-6500R

【①～⑨】 ·· Buttons to select settings.
【Enter①】 ··· Complete settings.
【Cancel③】 ··· Cancel settings.

【Sensitivity】 ····································· Adjust sensitivity.
【Presence timer 1/2】 ··············· Set presence time for row 1 and 2.
【Detection mode 3/4/5】 ·········· Set presence/motion for row 3,4 and 5.
【Cut row 1】 ······························· Cut the detection area of row 1.
【Row settings】 ························· Set the number of rows to be monitored.(2 to 5 rows)
【Frequency setting】 ················· Set frequency A,B,C or D to prevent cross talk.
【Directional detection】 ············· Select direction to be detected.
【Pattern width adjustment】 ····· Adjust pattern width.

【Remote test】 ························· Trigger output relay signal manually.
【Confirm settings】 ················· Confirm settings of the sensor.
【Individual code】 ····················· See individual code(4 digit) to sensors.
【Apply】

Confirm the operation and check LED when using the remote controller.

◎Handle the remote controller with the cover attached to the sensor.
◎When the unit is installed at a height lower than 3.5m, operate the remote controller outside of the detection area.
◎Operate the remote controller with its transmission window faced to the sensor.

『DA-6500』

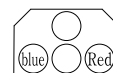Operation LED
Green·Red

Blue Yellow Red
Check LED

⚠ Attention

＊Set functions in accordance with the instructed procedures. Inappropriate settings could cause sensor malfunction.
＊Please note that the sensor doesn't operate during setting functions.
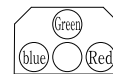＊After function settings, check the operation of the sensor.
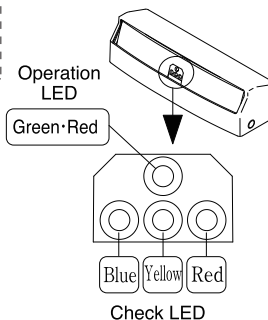
Example, activate 3 rows

① Press［Row settings］

blue Red
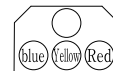
Blue and red LED light.

② Press set switch ［3］

Green LED blinks three times

Green
blue Red

Blue and red LED light.

③ Press ［Apply］

OFF

blue Yellow Red

All check LEDs light

④ Press set button ［1］
［Enter］ and settings are completed.

Green LED blinks.   Green LED light.

Green   Green
blue Yellow Red

All check LEDs turn off.   Monitor mode.
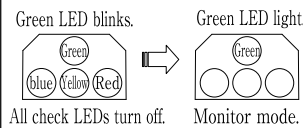
〈Function setting procedure sheet〉

STEP 1	STEP 2						STEP 3	STEP 4		STEP 5	Complete/Cancel
Function button	Set button							Set button			
	【1】	【2】	【3】	【4】	【5】	【6】		【1】	【2】		
【Sensitivity】	High← 1	2	3	4	5	→Low 6	〖Sensitivity〗	Environmental settings Disabled	Environmental settings Enabled	【Apply】	
【Presence timer 1/2】	2sec.	60sec.	10min.	∞							
【Detection mode 3/4/5】	Motion	Presence	＊Presence timer is same as that for【Presence timer 1/2】							【1】 (Enter)	
【Cut row 1】	Not cut	Cut									
【Row activation】		Row 1,2	Row 1,2,3	Row 1,2,3,4	Row 1,2,3,4,5			【Apply】			
【Frequency】	A	B	C	D						【3】 (Cancel)	
【Directional detection】＊	All directions ［Detection pattern 1］	Refer to ［Detection pattern 2］	Refer to ［Detection pattern 3］	Refer to ［Detection pattern 4］	Refer to ［Detection pattern 5］	Refer to ［Detection pattern 6］					
【Pattern width reduction】	Not cut	Left	Right	Right and Left							
【Manual detection】	Output forcibly										

＊ [   ] indicates initial settings. ＊Please see section 6.1.7 Set direction to be detected for the detail.

6.1.1 Sensitivity adjustment

◎Sensitivity is adjustable between 1 and 6. Select ［1］ for the highest sensitivity and ［6］ for the lowest sensitivity. Where the detection area is more likely to be affected by falling snow or flying insects, enable the environmental setting.

Step	Procedure	Operation LED	Check LEDs
①	Press function button【Sensitivity】.	OFF	
②	「1」→Press set button【1】	Green LED blinks once.	
	「2」→Press set button【2】	Green LED blinks twice.	
	「3」→Press set button【3】	Green LED blinks three times.	Red LED blinks.
	「4」→Press set button【4】	Green LED blinks four times.	
	「5」→Press set button【5】	Green LED blinks five times.	
	「6」→Press set button【6】	Green LED blinks six times.	
③	Press function button【Apply】.	OFF	
④	「Disable environmental setting」→Press set button【1】.	Green LED blinks once.	Red LED lights.
	「Enable environmental setting」→Press set button【2】.	Green LED blinks twice.	
⑤	Press【Apply】	OFF	All LEDs blink.
⑥	［Enter］→Press set button【1】	Green LED blinks and then lights.(Monitor mode)	OFF
	［Cancel］→Press set button【3】	Red LED blinks and then Green LED lights.(Monitor mode)	

6.1.2 Set presence timer for row 1 and 2

Step	Procedure	Operation LED	Check LEDs
①	Press function button【Presence timer 1/2】	OFF	
②	「2sec.」→Press set button【1】	Green LED blinks once.	Yellow LED blinks.
	「60sec.」→Press set button【2】	Green LED blinks twice.	
	「10min.」→Press set button【3】	Green LED blinks three times.	
	「∞」→Press set button【4】	Green LED blinks four times.	
③	Press【Apply】	OFF	All LEDs blink.
④	〔Enter〕→Press set button【1】	Green LED blinks and then lights.（Monitor mode）	OFF
	〔Cancel〕→Press set button【3】	Red LED blinks and then Green LED lights（Monitor mode）	

6.1.3 Presence timer for row 3, 4 and 5

Step	Procedure	Operation LED	Check LEDs
①	Press function button【Presence timer 3/4/5】	OFF	
②	「Disable presence timer setting」→Press set button【1】	Green LED blinks once.	Blue LED blinks.
	「Enable presence timer setting」→Press set button【2】	Green LED blinks twice.	
③	Press【Apply】	OFF	All LEDs blink.
④	〔Enter〕→Press set button【1】	Green LED blinks and then lights.（Monitor mode）	OFF
	〔Cancel〕→Press set button【3】	Red LED blinks and then Green LED lights.（Monitor mode）	

6.1.4 Activate/Inactivate row 1

Step	Procedure	Operation LED	Check LEDs
①	Press function button【Cut row 1】	OFF	
②	「Activate row 1」→Press set button【1】	Green LED blinks once.	Yellow and red LED light.
	「Inactivate row 1」→Press set button【2】	Green LED blinks twice.	
③	Press【Apply】	OFF	All LEDs blink.
④	〔Enter〕→Press set button【1】	Green LED blinks and then lights.（Monitor mode）	OFF
	〔Cancel〕→Press set button【3】	Red LED blinks and then green LED lights.（Monitor mode）	

6.1.5 Set the number of rows to be activated

◎The number of rows to be activated can be set for 2 to 5 rows.＊
　　Please refer to 7. DETECTION AREA, adjust detection area.

| Step	Procedure	Operation LED	Check LEDs
①	Press function button【Row settings】	OFF	
②	「Activate row 1&2」→Press set button【2】	Green LED blinks twice.	Blue and red LED light.
	「Activate row 1,2&3」→Press set button【3】	Green LED blinks three times.	
	「Activate row 1,2,3&4」→Press set button【4】	Green LED blinks four times.	
	「Activate row 1,2,3,4&5」→Press set button【5】	Green LED blinks five times.	
③	Press【Apply】	OFF	All LEDs blink.
④	〔Enter〕→Press set button【1】	Green LED blinks and then lights.(Monitor mode)	OFF
	〔Cancel〕→Press set button【3】	Red LED blinks and then green LED lights（Monitor mode）	

＊Row 1 is the closest row to the shutter/door. Row 2 is the second closest row. The same follows to Row 5.

6.1.6 To avoid cross talk between sensors installed in proximity, set different frequency to each sensor.

Step	Procedure	Operation LED	Check LEDs
①	Press function button【Frequency setting】	OFF	
②	「A」→Press set button【1】	Green LED blinks once.	Blue and yellow LED light.
	「B」→Press set button【2】	Green LED blinks twice.	
	「C」→Press set button【3】	Green LED blinks three times.	
	「D」→Press set button【4】	Green LED blinks four times.	
③	Press【Apply】	OFF	All LEDs blink.
④	〔Enter〕→Press set button【1】	Green LED blinks and then lights.（Monitor mode）	OFF
	〔Cancel〕→Press set button【3】	Red LED blinks and then green LED lights.（Monitor mode）	

6.1.7 Set direction to be detected

Step	Procedure	Operation LED	Check LED
①	Press function button【Directional detection】	OFF	Blue and red LED blink alternately
②	［Detection pattern 1］ Detect all directions→Press set button【1】	Green LED blinks once.	
	［Detection pattern 2］ Detect straight enter and go away movements Detect diagonal entrance by two or more rows Cancel cut across detection →Press set button【2】	Green LED blinks twice.	
	［Detection pattern 3］ Detect straight enter and go away movement Detect diagonal entrance by three or more rows Cancel cut across detection →Press set button【3】	Green LED blinks three times.	
	［Detection pattern 4］ Detect straight enter and cut across movement Cancel go away detection →Press set button【4】	Green LED blinks four times.	
	［Detection pattern 5］ Detect straight enter and diagonal entrance by two or more rows Cancel go away and cut across detection →Press set button【5】	Green LED blinks five times.	
	［Detection pattern 6］ Detect straight enter and diagonal entrance by three or more rows Cancel go away and cut across detection →Press set button【6】	Green LED blinks six times.	
③	Press【Apply】	OFF	All color LED blink.
④	［Enter］→Press set button【1】	Green LED blinks and then lights.（Monitor mode）	OFF
	［Cancel］→Press set button【3】	Red LED blinks and then green LED lights（Monitor mode）	
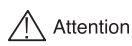
⚠ Attention
・The product detects direction that the targeted people enters into the area.
But if other people or moving objects enter into the area when the targeted people enters, the product could not identify the direction to be detected and could cause no detection. In this case, reenter the area after making sure that there is no moving objects in the area.
・Directional detection function could be disabled depending on installation height, surrounding environment, the size of the targeted objects and how they move.

6.1.8 Pattern width adjustment（Cut two outer zones electrically）

Step	Procedure	Operation LED	Check LED
①	Press function button【Pattern width adjustment】	OFF	Blue and yellow LED blink alternately.
②	「No area cut」→Press set button【1】	Green LED blinks once.	
	「Cut left area」→Press set button【2】	Green LED blinks twice.	
	「Cut right area」→Press set button【3】	Green LED blinks three times.	
	「Cut both right and left area」→Press set button【4】	Green LED blinks four times.	
③	Press【Apply】	OFF	All color LED blinks.
④	［Enter］→Press set button【1】	Green LED blinks and then lights.（Monitor mode）	OFF
	［Cancel］→Press set button【3】	Red LED blinks and then green LED lights（Monitor mode）	

Left area means the left facing the sensor.

6.1.9 Remote test（Trigger an output manually)

Step	Procedure	Operation LED	Check LED
①	Press the button【Remote test】	Red LED lights（Detection mode）	OFF

6.1.10 Confirm settings

Step	Procedure	Operation LED	Check LEDs
①	Press the button【Confirm settings】	OFF	OFF
②	Press function button which corresponds to the setting to be confirmed.	Green LED blinks same number of times as the number of set button chose in step ② for the selected setting.	Same indication of LED as in step ② corresponds to the selected setting.＊

＊For sensitivity setting, red lights for enabled environmental setting.　Red blinks for disabled environmental settinng.

6.1.11 Set individual code

Step	Procedure	Operation LED	Check LED
①	Press the button【Individual code】	OFF	Each color LED blink sequentially.
②	Press set button from【1】to【9】 (Input 4 digit numbers)	Every time inputting numbers, Green LED lights for approx. 1sec	
③	Press【Apply】	OFF	All color LEDs blink.
④	［Enter］→Press set button【1】	Green LED blinks and then lights（Monitor mode）	OFF
	［Cancel］→Press set button【3】	Red LED blinks and then green LED lights（Monitor mode）	

6.1.12 Make settings after setting individual code

Step	Procedure	Operation LED	Check LED
①	Press the button【Individual code】	OFF	OFF
②	Press set button from【1】to【9】 (Input 4 digit numbers)	Every time inputting numbers, Green LED lights for approx. 1 sec	After inputting 4 digit number, all color LEDs light.
③	Make settings according to each setting procedure.	－	－

If you forget the individual code, return to initial settings following the below.

6.1.13 Return to initial setting

Stop	Procedure	Operation LED	Check LED
①	Press【Apply】	OFF	All color LEDs blink.
②	Press set button【9】		
③	〔Enter〕→Press the button【Confirm settings】	Green LED blinks and then lights. (Monitor mode)	OFF
	〔Cancel〕→Press set button【3】	Red LED blinks and then green LED lights. (Monitor mode)	

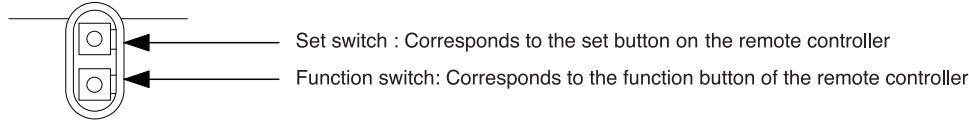Press the button【Individual code】before step ① if it was set.

6.1.14 Specifications of the remote controller

Model	DA-6500R
Detection distance	Max. transmission distance 7m （Depending on installation environment and use conditions）
Power source	AAA battery 2 pcs 3.0V DC
Battery life	Approx. 2 years（Transmitting 20 times a day with manganese battery）
Ambient temperature Weight	0 to 45 degrees Approx. 35g (Battery excluded)
Accessories	AAA battery: 2 pcs, Instruction manual

6.1.15 External dimensions for remote controller

48   14

100

17

[Uni t: mm]
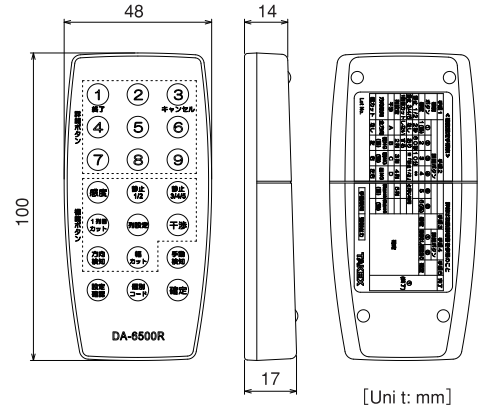
6.2 Make settings with the push switches

Set switch : Corresponds to the set button on the remote controller

Function switch: Corresponds to the function button of the remote controller

⚠ Attention | When changing the settings with push switches, the settings can be changed without individual code even when the individual code is set to the sensor.
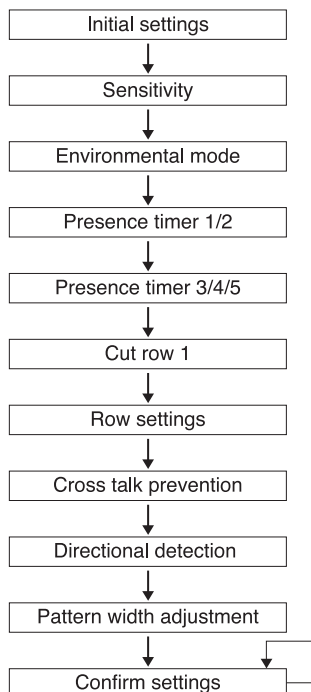
6.2.1 Monitoring input

⚠ Attention | Push the switch slowly and make sure to push it for 1 sec. or longer.
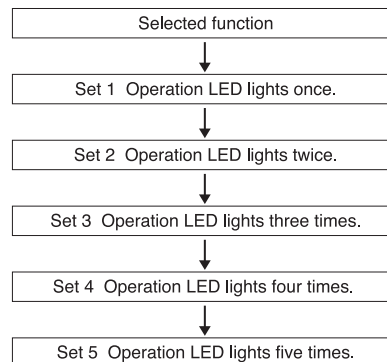
6.2.2 Select function with switches

Function switch

Every time pushing the switch, functional mode changes as below

Initial settings
↓
Sensitivity
↓
Environmental mode
↓
Presence timer 1/2
↓
Presence timer 3/4/5
↓
Cut row 1
↓
Row settings
↓
Cross talk prevention
↓
Directional detection
↓
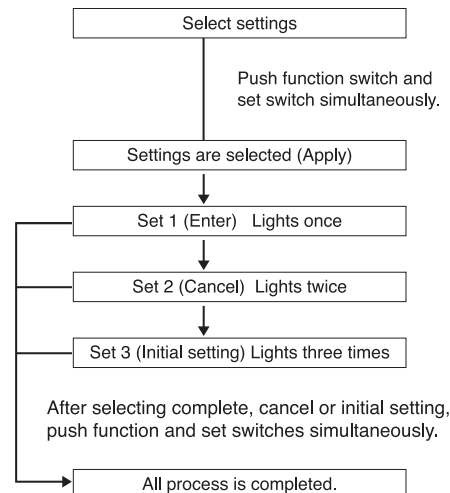Pattern width adjustment
↓
Confirm settings

Set switch

The number of times the switch is pushed corresponds to the number of the set button of the remote controller
The maximum number depends on the selected function. (2 to 6)

Selected function
↓
Set 1 Operation LED lights once.
↓
Set 2 Operation LED lights twice.
↓
Set 3 Operation LED lights three times.
↓
Set 4 Operation LED lights four times.
↓
Set 5 Operation LED lights five times.

After selecting the number of the set switch, push function switch and set switch simultaneously and the setting is selected.
(Same functionality as the 【Apply】button.)

Complete settings

Select enter, cancel or initial settings.
Then push function switch and set switch simultaneously again, and all process will be completed.

Select settings

Push function switch and set switch simultaneously.

Settings are selected (Apply)
↓
Set 1 (Enter)   Lights once
↓
Set 2 (Cancel) Lights twice
↓
Set 3 (Initial setting) Lights three times

After selecting complete, cancel or initial setting, push function and set switches simultaneously.

All process is completed.
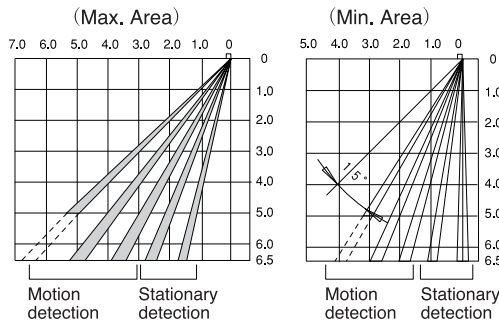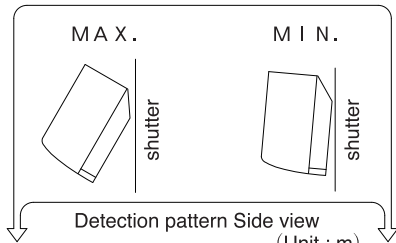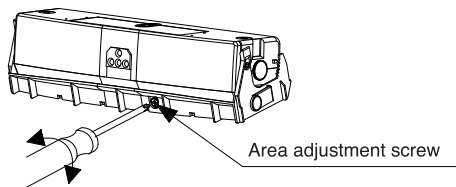
7 DETECTION AREA

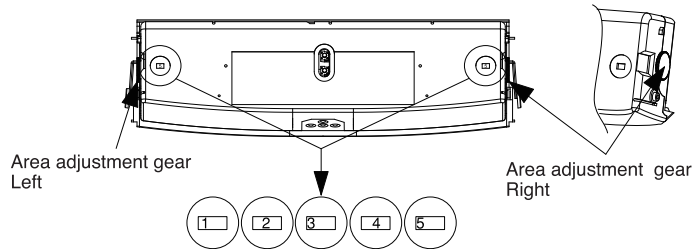| ⚠ Attention	Following patterns are based on designed value and do not represent precise figures after the product is actually installed. Make sure to check detection area and sensitivity after installing the product because detection area varies depending on installation environment, targets to be detected and adjustments etc.

1 Pattern Depth Adjustment

The body of the sensor can be rotated from 0° to 15°
Detection area can be adjusted by turning
the area adjustment lever with a screw driver.

Area adjustment screw

2 Pattern Width Adjustment

Width of the detection area can be adjusted
by the area adjustment gears.
Left and right area can be ajdusted independently.

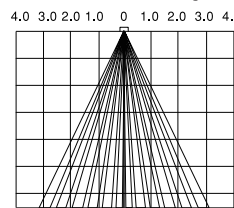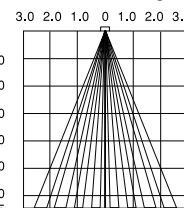Area adjustment gear Left

Area adjustment gear Right

1 2 3 4 5

MAX.   MIN.

shutter   shutter

Detection pattern Side view
(Unit ; m)

(Max. Area)

7.0 6.0 5.0 4.0 3.0 2.0 1.0 0
0
1.0
2.0
3.0
4.0
5.0
6.0
6.5

Motion detection   Stationary detection

(Min. Area)

5.0 4.0 3.0 2.0 1.0 0
0
1.0
2.0
3.0
4.0
5.0
6.0
6.5

15°

Motion detection   Stationary detection

＊When the product is installed
at higher than 5.0m, eliminate
row 5.

MAX. width 5－5

4.0 3.0 2.0 1.0 0 1.0 2.0 3.0 4.0
0
1.0
2.0
3.0
4.0
5.0
6.0
6.5

3－3 Setinng

3.0 2.0 1.0 0 1.0 2.0 3.0
0
1.0
2.0
3.0
4.0
5.0
6.0
6.5

Min.width:1－1 Setinng

3.0 2.0 1.0 0 1.0 2.0 3.0
0
1.0
2.0
3.0
4.0
5.0
6.0
6.5

4－4 Setinng

4.0 3.0 2.0 1.0 0 1.0 2.0 3.0 4.0
0
1.0
2.0
3.0
4.0
5.0
6.0
6.5

2－2 Setinng

3.0 2.0 1.0 0 1.0 2.0 3.0
0
1.0
2.0
3.0
4.0
5.0
6.0
6.5

Detection pattern Front view (Unit : m)

8 OPERATION CHECK

1. After installation and function settings and adjustment, supply power and check detection area.
2. In case of no detection or sensor malfunction, readjust the detection area.

⚠ Attention

When adjusting the detection area with the area adjustment
gears or area adjustment screw, turn off power.
Resupply power in accordance
with section 5 ATTENTIONS WHEN SUPPLYING POWER
When cutting area or adjusting sensitivity with a remote controller
or push buttons, do not turn off power.

Sensitivity setting chart (As a guide)

Installation height	Sensitivity	
6.0～6.5m	6	↑ Higher
5.0～6.0m	5	
4.0～5.0m	4	
3.0～4.0m	3	
2.0～3.0m	2	↓ Lower

1) When the sensor doesn't make detection even when people enter the detection area, select higher sensitivity.
2) When the sensor makes detection even though there is no person in the detection area, select lower sensitivity.
3) Adjust sensitivity with a remote controller and push switches. Please refer to section 6 for sensitivity adjustment.
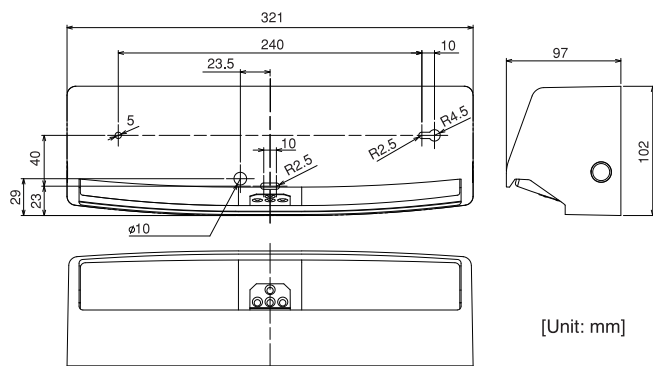
9 TROUBLESHOOTING

Problems	Possible cause	Solution
Not detect	Improper connection or wiring	Check connector or wiring
	Power supply	Use rated power source and supply voltage
Sometimes inactive	Detection window is soiled with dust or water drops etc.	Clean the sensor with soft cloth（do not use thinner or alcohol to clean sensor）
	Inappropriate detection area	Readjust the detection area with a remote controller, push switches, area adjustment screw or area adjustment gears.
Make detection though people doesn't pass through the detection area.	Moving objects are placed in the detection area.	Readjust the detection area or remove the moving objects.
	Passersby go through the detection area.	Readjust the detection area with a remote controller, push switches, area adjustment screw or area adjustment gears.
	Another sensor is too close by.	Chenge the frequency to avoid cross talk.
	The condition of the detection area changes abruptly. ・Detection area gets dirty. ・Snow accumulates in the detection area and footprint is left in the snow. ・Cloth mat is placed in the detection area.	The condition of the detection area can change due to heavy dust or dirty, heavy snow or footprints being left in fresh snow, this will cause the door to open sometimes. Set the presence timer shorter.
	The product is exposed to heavy rain or snow.	Do not install the product where it is subject to heavy rain or snow which could cause malfunction, electric leak or damage.

10 SPECIFICATIONS

Model	DA-6500	
Detection system	Near infrared reflection type	
Installation height	2.0m to 6.5m	
Sensitivity	Sensitivity adjustable for 6 steps with a remote controller or push switches Enable or disable environmental mode with a remote controller or push switches Automatic sensitivity adjustment function	
Pattern adjustments	Pattern depth	Adjustable with the area adjustment screw （Adjustable angle from 0°to 15°）or Activate/Inactivate row 3,4 and 5.
	Pattern width	Adjustable with the area adjustment gears（Adjustable separately for right and left area from 0°to 10°）or cut two outer zones for right and left area with a remote controller or push switches.
Power source	12 to 24V AC/DC ±10%	
Current consumption	2.8 VA for 24V AC 2.8VA for 12V AC	
	90mA for 24V DC 180mA for 12V DC	
Output	Dry contact relay output N/O 50V DC: 0.1A （Resistive load）	
Output holding time	Approx,0.5 seconds	
Presence timer	Selectable for 2sec., 60sec., 10min. or ∞	
Directional detection	Selectable for following four patterns. ①Detect all directions ②Detect enter and go away（Not detect cut across from the sides.） ③Detect enter and cut across movement（Not detect go away movement.） ④Detect only enter（Not detect cut across and go away movements.）	
Operation LED	Red LED lights at detection. Green LED lights for standby. Green and red LED light alternately when detecting shutter. Yellow LED blinks for trouble alarm.	
Ambient temperature	−20℃ to ＋60℃	
Weight	830g	
Appearance	Silver	

11 EXTERNAL DIMENSIONS

[Unit: mm]

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