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Instruction Manual

ACUMOTION-A Sensor



WARNING

Do not install this product unless you have read and understand the Safety Practices, Warnings, Installation and Operating Instructions contained in this manual. Failure to do so may result in property damage, or bodily injury.

To the Installer

The purpose of this manual is to familiarize the purchaser with the proper installation and operation of this system. It is essential that this equipment be properly installed and operational before the door is used by the public. It is your responsibility to inspect the operation of the entrance system to be sure it complies with any applicable standards. In the United States, ANSI Standard 156.10 and 156.19 usually cover the operation of the doors.

Instruct the building owners/operator on the essentials of the operation of the door and this device. The owner should follow these instructions to determine whether the door is operating properly and should immediately call for service if there is any malfunction.

All installation changes and adjustments must be made by qualified, NABCO trained technicians.

Overview

The ACUMOTION-A Sensor is a hybrid of the Acusensor automatic door sensor and is mounted on the header. This sensor adopts two kinds of detection principles; Microwave Doppler system that covers a wide detection area against moving objects, and Active reflective infrared system that detects moving and stationary objects to ensure safe passage by pedestrians.

Compliance Statement (Part 15.19)

This device complies with Part 15 of the FCC Rules and with RSS-210 of Industry Canada. Operation is subject to the following two conditions;

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

Warning (Part 15.21)

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

RF Exposure (OET Bulletin 65)

To comply with FCC RF exposure requirements for mobile transmitting device, this transmitter should only be used or installed at locations where there is at least 7.8 inches (200 mm) separation distance between the antenna and all persons.

Part Description	ACUMOTION-A
Part Number	# 14-10364-A
Sensing System	Active reflective infrared system (Motion / Presence) Microwave Doppler system (Motion)
Power source	USE "Class2" Power Supply! 12V-24VDC or 24VAC
Current consumption	Max. 160mA (12VDC) , 7VA(24VAC)
Output rating	Semiconductor Relay Output <Output 1a> 30VAC/50VDC 0.1A max. (Resistive load) Form A <Output 1b> 30VAC/50VDC 0.1A max. (Resistive load) Form B <Output 2a> 30VAC/50VDC 0.1A max. (Resistive load) Form A
Mounting height	Max. 118" (3000mm)
Detection area (when mounted at the height of 7 ft)	(Infrared) 90.6 in (2300 mm) Wide x 27.6 in (700mm) Depth or less (Microwave) 157.5 in (4000 mm) Wide x 78.7 in (2000 mm) Depth or less There are 3 options of each for depth of coverage.
Area minute-adjustment angle	(Infrared) - 4 to +4 degrees, at interval of 1 degree (By area minute-adjustment mechanism) (Microwave) 15 to 45 degrees, at interval of 3 degrees (Microwave depth adjustment mechanism)
Output display	Waiting: Green LED Light, Microwave detected: Amber LED Light, Infrared detected: Red LED Light, Both detected: Off Failure: Blinks Red
Standstill memory time [Snow Mode]	(Infrared) 15 seconds [5 seconds], 30 seconds, 90 seconds, Continuous object detection (∞) [300 seconds]
Output holding time	0.5 seconds / 2.0 seconds / 4.5 seconds / 8.0 seconds
Weight	Approximately 305g
Accessories	Narrow Antenna, Tapping screw for mounting (4 x 10mm) 2 pcs, DIP-SW sticker, Sticker for mounting position, Instruction Manual

2. Features

- 1) Hybrid sensor adopts the microwave Doppler system and the Active reflective infrared system.
- 2) Microwave Doppler system provides a wider detection area compared to sensors using only infrared.
- 3) Bi/Unidirectional function allows the sensor to avoid detection of people or objects moving away from the entrance.
- 4) Active reflective infrared system can detect stationary objects close to and within threshold area.
(It is possible to disable the active reflective infrared system if desired.)
- 5) Equipped with an "Area Minute-Adjustment Mechanism" that is useful when the sensor is mounted on a non vertical surface.
- 6) Four-Mode Mutual Interference Prevention function allows a maximum of 4 sensors to be mounted closely to each other.

3. Appearances and Dimensions

Figure 1 - Appearance

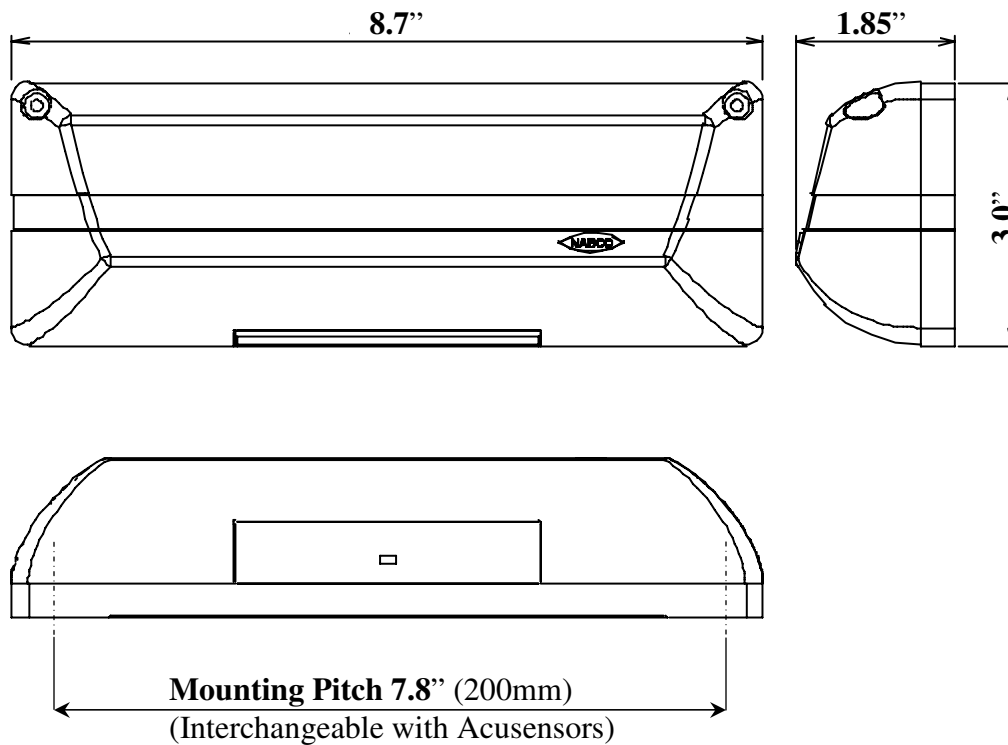
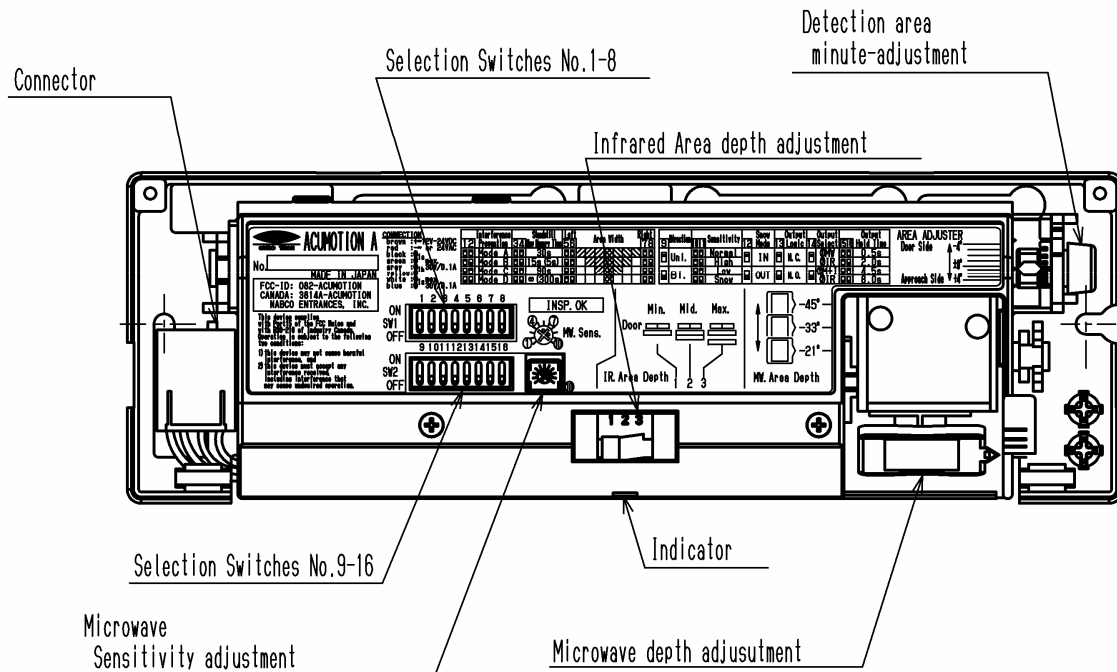


Figure 2 – Shown with cover removed



4. Installation and Adjustments

Installation

The ACUMOTION-A is designed to be installed on an entranceway header or other similar mounting surface using screws provided with the unit. A drill template is provided to assist in locating and drilling the mounting holes and the hole for the wiring.

The ACUMOTION-A will detect the areas directly below the mounting surface. If the mounting surface is not vertical or if it is necessary to move the detection area in or out from the door, small shims can be used to make the necessary adjustments. The unit must be mounted such that it does not detect the door and still provide adequate threshold protection.

Under normal circumstances the unit will be mounted in the center of the door opening on the entrance header and up to 118 inches above the detection area. It may also be mounted above the header.



CAUTION To protect against an accident such as electrical shock, make sure that there are no electrical wires of other products in the area close to the place where you are going to drill.

Wiring

<u>COLOR</u>	<u>FUNCTION</u>	<u>USE</u>
Brown	12-24VDC	(or 24VAC)
Red	GND	(or 24VAC)
Black	Output 1a Form A (N.O)	Microwave Activation Signal
Green	Output 1a Form A (COM)	Common to Microwave Activation Signal
Gray	Output 1b Form B (N.C.)	Microwave Activation Signal
Yellow	Output 1b Form B (COM)	Common to Microwave Activation Signal
White	Output 2 Form A (N.O.)	Infrared Activation Signal
Blue	Output 2 Form A (COM)	Common to Infrared Activation Signal

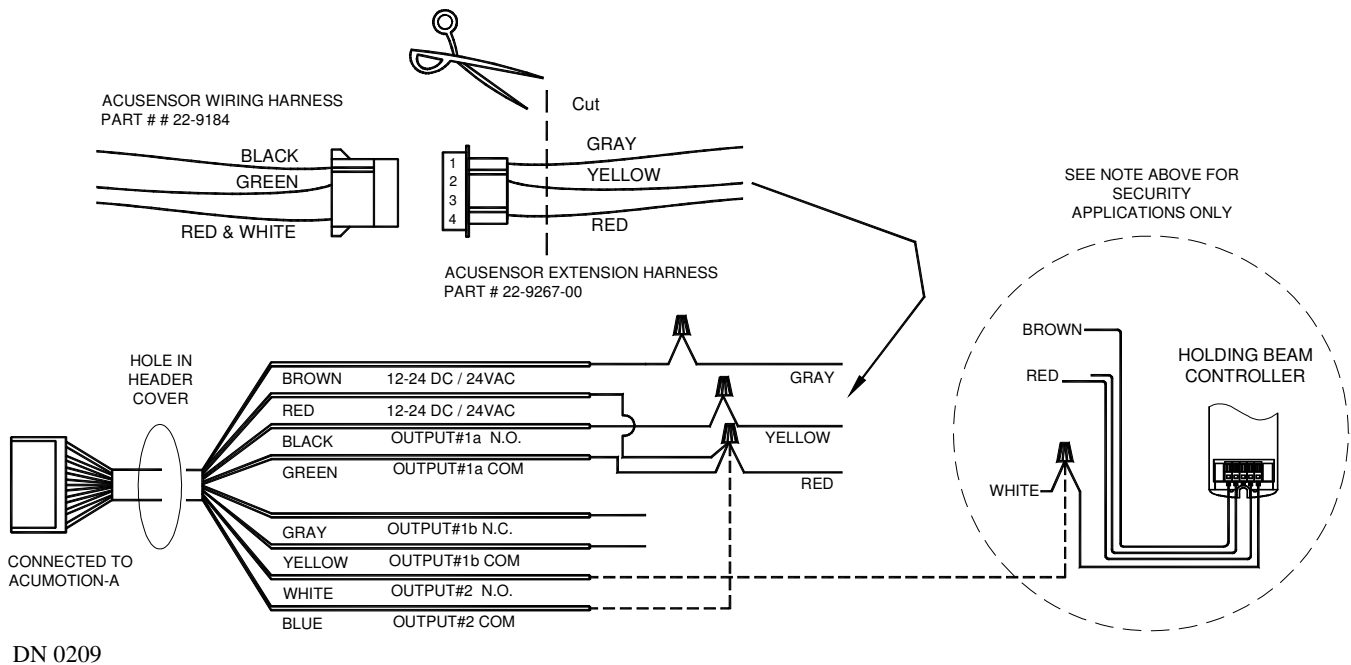
Acumotion Wiring Diagrams

Wiring - GT-1175 Sliding Door w/U Series Microprocessor

See diagram below. Disconnect the existing Acusensor wiring harness (PN 22-9184) containing the BLACK, GREEN, RED & WHITE wires from the Acusensor extension harness (PN # 22-9267). Cut the (4) pin connector off of the Acusensor extension harness. Discard both plug and Acusensor wiring harness. Insert the new ACUMOTION-A cable (PN # 22-11023) into the hole in the cover so the connector is on the exterior of the cover. Refer to the wiring diagram below for correct splicing of the two harnesses. Mount the ACUMOTION-A Sensor. Set sensor dipswitch # 14 to OFF.

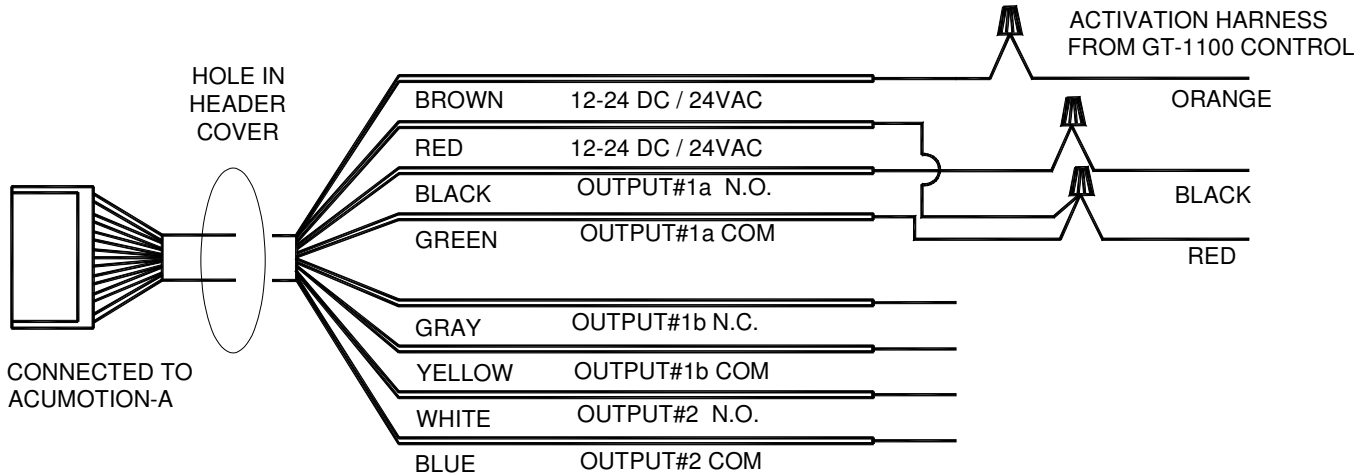
Note: On security slider applications where the door is equipped with an electric lock, it might be possible for intruders to activate the interior sensor and open the door by sliding an object under the door thereby triggering the infrared detection. To avoid this, the infrared signal from the sensor can be ignored by the control when the door is closed by performing the steps:

1. Connect sensor Output 2 as shown in dotted lines below.
2. Set sensor dipswitch # 14 to ON
3. Set HOLDING BEAM function on Handy Terminal to N.



Wiring - Older GT-1100 Sliding Door w/Analog Control

Connect the new ACUMOTION-A cable (PN # 22-11023) with (4) pin connector to the GT-1100 control activation harness as shown below. Mount the ACUMOTION-A Sensor. Note: Set sensor dipswitch # 14 to OFF

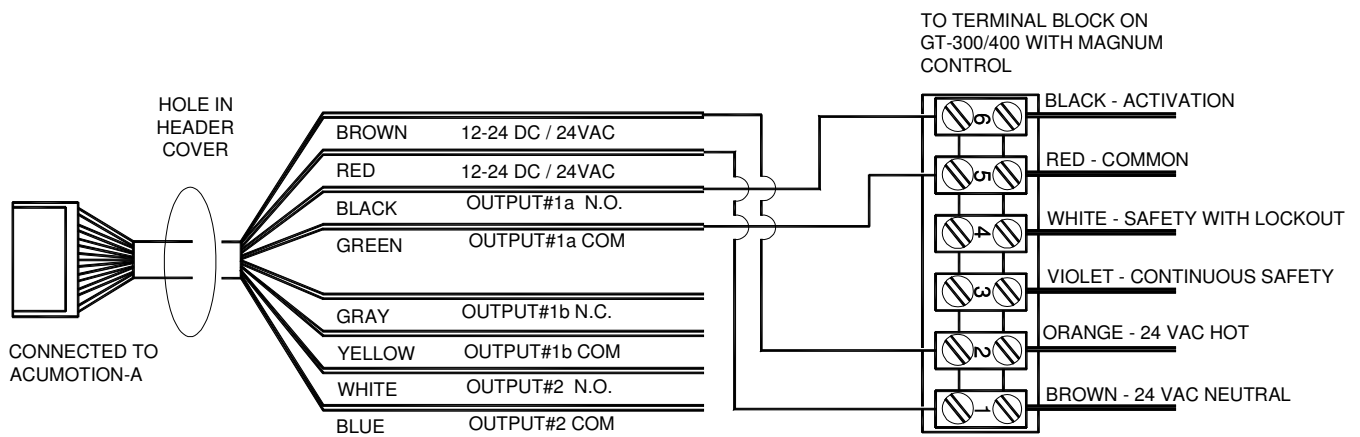


DN 0210

Wiring – Approach Side of GT-300/400 Swing Door w/Magnum Control

Connect the new ACUMOTION-A cable (PN # 22-11023) to the Magnum terminal block as shown below. Mount the ACUMOTION-A Sensor. Note: Set sensor dipswitch # 14 to OFF.

Note: If outswing arm on GT-400 activates infrared on Acumotion-A, turn off infrared signal to Output 1a by setting dipswitch # 14 to ON.

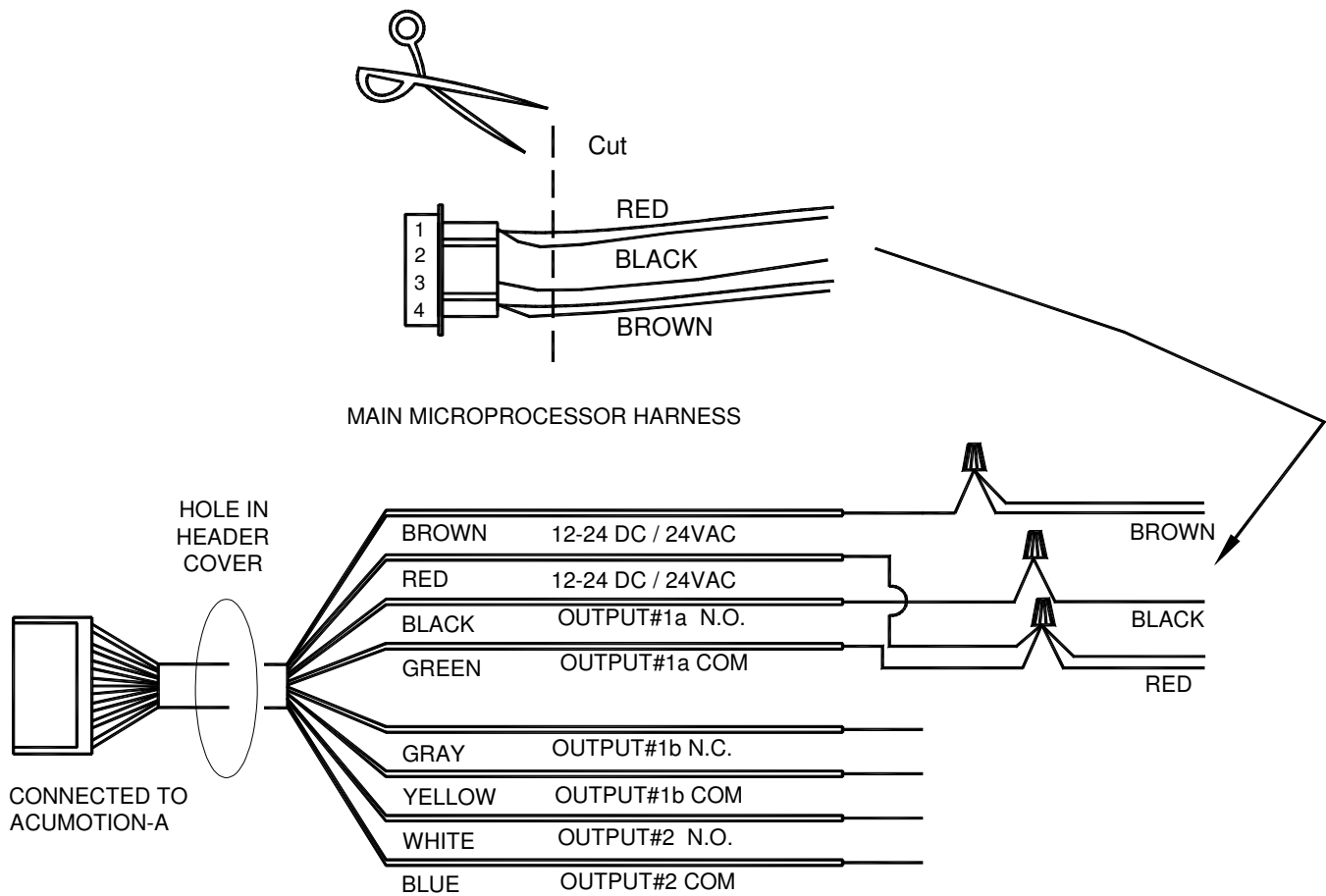


DN 0211

Approach Side of GT-300/400 Swing Door w/U Series Microprocessor Control

Cut the (4) pin connector containing the RED, BLACK, & BROWN wires off the main microprocessor harness. Discard the connector. Insert the new ACUMOTION-A cable (PN # 22-11023) into the hole in the cover so the connector is on the exterior of the cover. Refer to the wiring diagram below for correct splicing of the two harnesses. Mount the ACUMOTION-A Sensor. Note: Set sensor dipswitch # 14 to OFF.

Note: If outswing arm on GT-400 activates infrared on Acumotion-A, turn off infrared signal to Output 1a by setting dipswitch # 14 to ON.

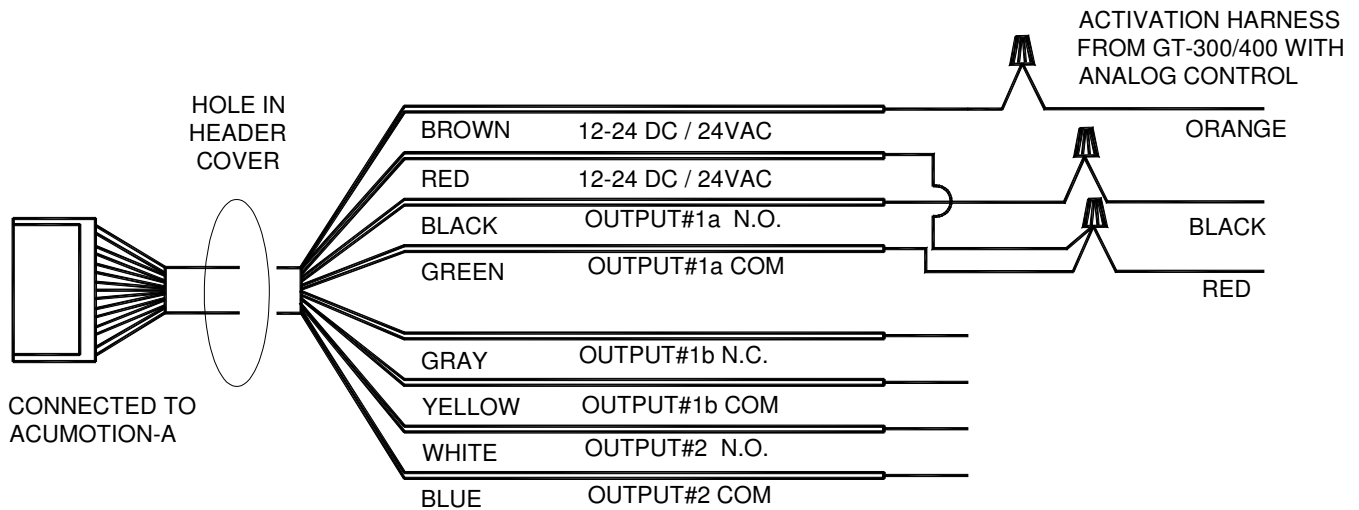


DN 0209

Wiring - Approach Side of GT-300/400 Swing Door w/Analog Control

Connect the new ACUMOTION-A cable (PN # 22-11023) to the control harness as shown below. Mount the ACUMOTION-A Sensor. Note: Set sensor dipswitch # 14 to OFF.

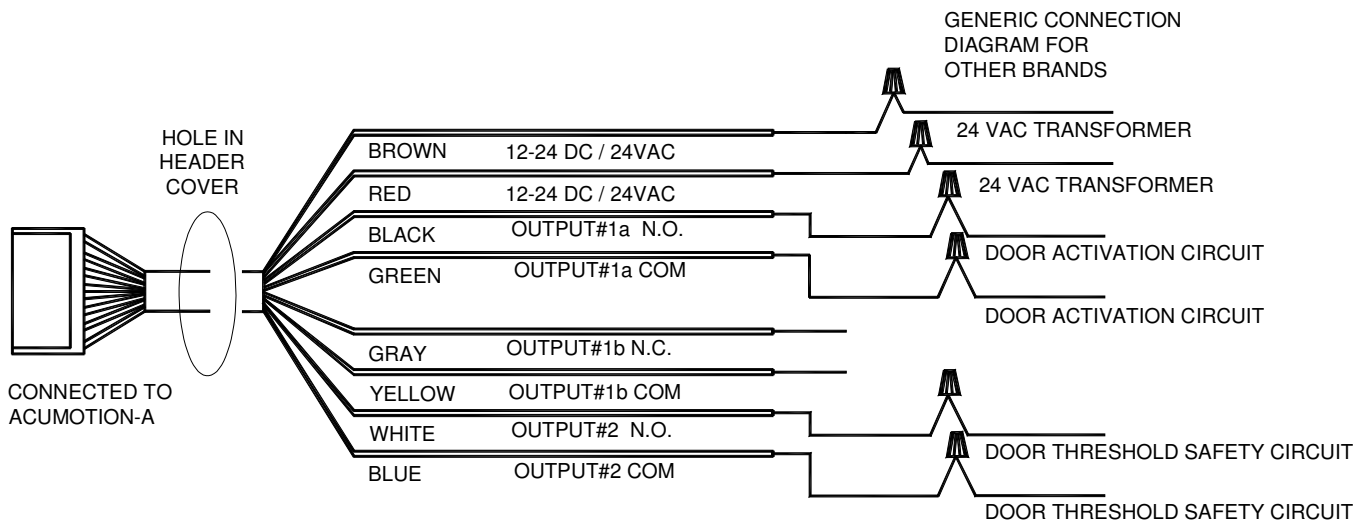
Note: If outswing arm on GT-400 activates infrared on Acumotion-A, turn off infrared signal to Output 1a by setting dipswitch # 14 to ON.



DN 0212

Wiring – Generic Connection to Competitive Sliding Door Products

Connect the new ACUMOTION-A cable (PN # 22-11023) to the control harness as shown below. Mount the ACUMOTION-A Sensor. Set sensor dipswitch # 14 to ON.



DN 0213

Notice on turning ON the power

Confirm that wiring is correct before turning “ON” the power. Once installation is complete turn on the power and wait 3 minutes* to calibrate.

* To ensure that the presence detecting function operates properly, do not step in the detection area for about three minutes.

Note: There cannot be any motion within the sensing zones during this time.

ACUMOTION-A starts to operate in three seconds after the power switch is turned ON. However, it may happen that detection area and presence detection time do not work as preset by the setting switches until the light intensity reflected from inside detection area become stable.



- A. If the sensor does not detect or mis-detects, confirm the detection area and mode setting and re-adjust if necessary.
- B. Turn “OFF” the power before executing the following procedures. If the following procedures are executed with power turned “ON”, the sensor will keep detecting based on the time set for Presence Detection Time. Doors will recycle or remain open indefinitely if the sensor is set to “Complete Stationary State” in the following conditions:
 - a. When adjusting detection area or setting mode
 - b. When moving a floor mat within the detection area, such as cleaning the mat.
 - c. When replacing a floor mat.
 - d. When moving things within the detection area or placing something in the detection area.
- C. Record the dip switch settings. After setting the detection area, write down the setting values (conditions) on the sensor main body.

Use the dip switch stickers to record the positions and attach to the back of the sensor cover. (Two stickers are included with the sensor) Use permanent ink when recording settings.

Customized Settings

The following information describes how to change the settings for: depth of coverage, width of coverage, sensitivity and memory. Any changes in these settings that are made on site by the installer are the responsibility of the installer and proper system operation must be verified. ANSI Standard 156.10 and 156.19 and any local codes that apply to door operation.

1. Set up for the Depth Coverage

A. Infrared System

There are three options for the depth of coverage. The options are achieved by moving the position of “IR. Area Depth” lever.

Position 1 provides the least depth of coverage and position 3 provides the greatest depth of coverage.

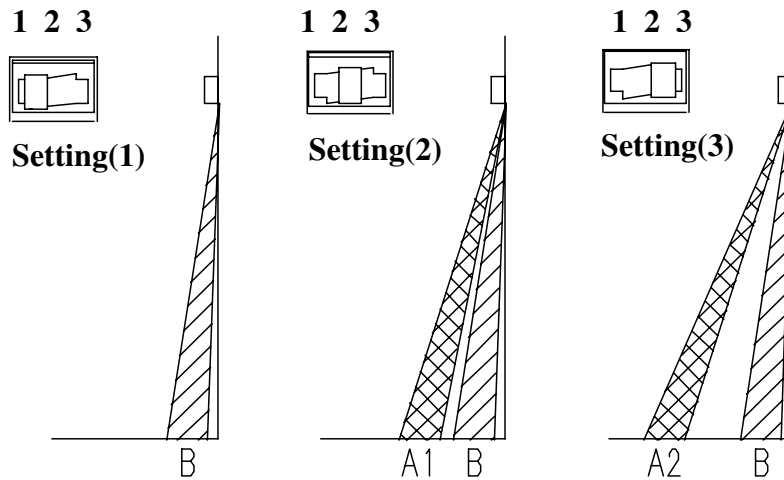


Figure 3 – Depth of coverage and Lever Position

Table1 – Depth of coverage based on lever position

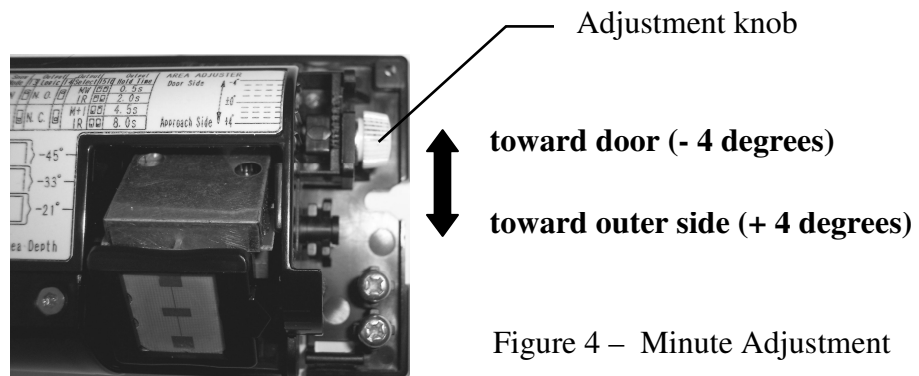
Mounting Height	Lever position		
	Setting(1)	Setting(2)	Setting(3)
78”(2000mm)	8”(200mm)	16”(400mm)	27”(700mm)
98”(2500mm)	8”(200mm)	20”(500mm)	31”(800mm)
118”(3000mm)	8”(200mm)	24”(600mm)	35”(900mm)

Non- detection Zone

It is possible to have a non-detection zone in the sensing pattern, Figure 3 shows how the lever changes affect the sensing pattern. White areas (between A & B) are non-detection zones. In position #2, the non-detection zone is small and does not cause a change in the ACUMOTION-A operation. With lever #3, it is possible for small stationery objects to go undetected. When the object moves into one of the sensing zones the ACUMOTION-A will detect a change.

Minute Adjustment of the depth coverage

Set the detection area so that undetectable area does not exist between the detection area and doors. Adjust the detection area by sliding the area minute-adjustment knob. (See page 21 for pattern positions using this adjustment)



Note: Do not over tighten the adjustment knob!

The direction where detection area is tilted toward the door is regarded as minus (-). There are 9 adjustment positions within the range between -4 to +4 degrees. If the mounted height is 98", each adjustment position (1 degree) causes the detection area to move about 2 inches.

The adjustment knob is set to 0 degrees when the product is shipped.



- CAUTION**
- When detection area is tilted toward the door, this may cut off the ray depending on the mounting position of the ACUMOTION-A.
 - Do not use the adjustment knob to widen the detection area.

B. Microwave System

There are two types of Antenna, “Wide” and “Narrow”. Each antenna has three positions for the depth of coverage. The positions are achieved by moving the antenna. (See “MW. Area Depth”. Figure 5)

The 21° position provides the least depth of coverage and the 45° position provides the greatest depth of coverage. (See Figure 6)

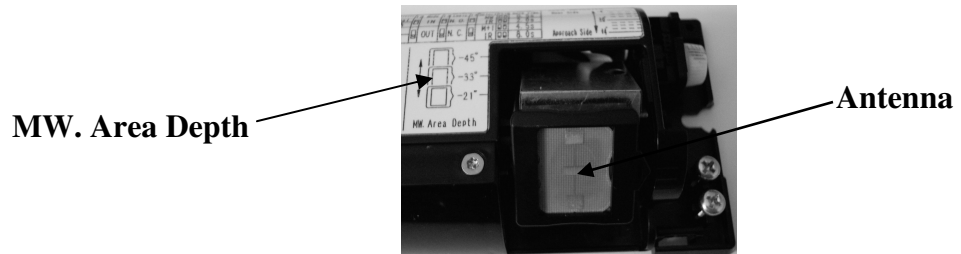


Figure 5 – Microwave area depth adjustment

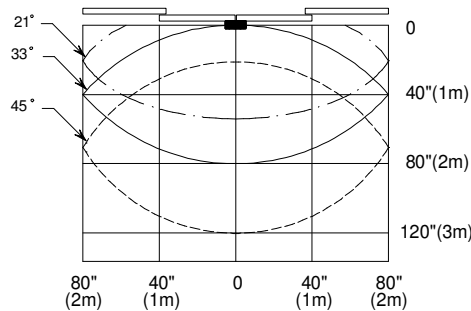


Figure 6-a) - Microwave area depth adjustment for Wide Antenna

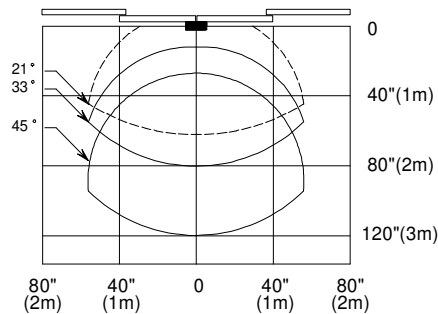
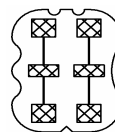


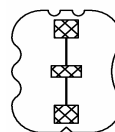
Figure 6-b) - Microwave area depth adjustment for Narrow Antenna

Note:

Factory Setting is set to Wide Antenna. To change to Narrow Antenna carefully unsnap the black plastic shield surrounding the Wide Antenna faceplate. Replace the faceplate and reinstall the black plastic shield.



Narrow Antenna Faceplate



Wide Antenna Faceplate

2. Setting up for the Width Coverage

A. Infrared System

The coverage width is achieved in seven increments as shown below. Up to six increments of detection width can be turned off; resulting in reduction in coverage for the entire width. This may prove useful for narrower openings such as with single slide units. All detection areas except Area 4 can be turned off (see Figure 7). Under normal conditions, all seven areas should be used. If any detection area zone is turned off, it will be necessary to check the detection area to be sure ANSI Standard is achieved.

Note: Sensed areas are not true rectangles but rectangular approximations. Pattern size will be affected by surface color and texture.

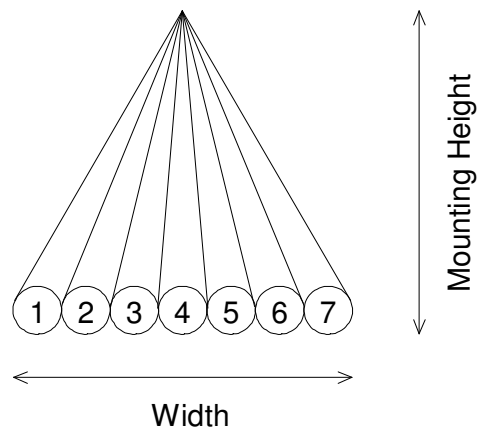


Figure 7 - Front view of Coverage Area Zones

Table2 – Overall Dimensions of Coverage Area Zone

Mounting Height	Coverage Areas 1 – 7 Active	Coverage Width Change per Zone Switch
78”(2000mm)	91”(2300mm)	8”(200mm)
98”(2500mm)	110”(2800mm)	8”(200mm)
118”(3000mm)	130”(3300mm)	8”(200mm)

Adjustment for width of infrared detection area

Adjust the width so that a proper detection area is obtained.

Width adjustment switch settings

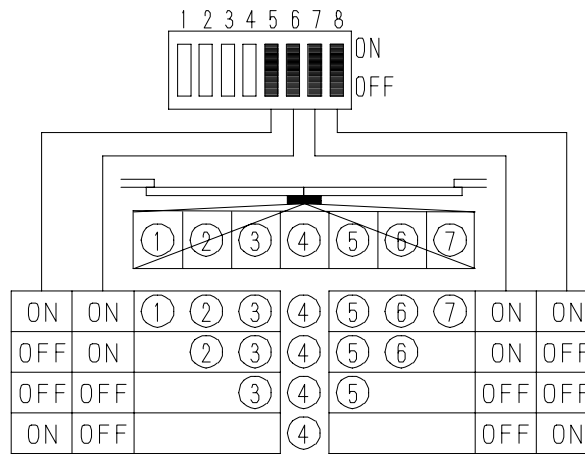


Figure 8 -
Detection area
width adjustment

- * Area ④ can not be deleted.
- * After adjusting the depth, turn ON the power again.
- * All the setting switches are ON when the product is shipped.



CAUTION

ACUMOTION-A emits active reflective infrared rays that detect the changing light intensity reflected from the floor surface in the detection area. The detection area is the reference area according to our own measuring method. A person or an object may be hard to detect when entering the detection area, since the reflection amount of active reflective infrared rays vary depending on clothes (outer package) of a person (object) or on the floor color.

If the sensitivity is adjusted, detection area will fluctuate.
Be sure to confirm that the detection area is properly adjusted after any sensitivity adjustments are made.

B. Microwave System

Microwave detection sensitivity can be adjusted with the “MW Sens.” Volume Switch and/or changing to the Narrow Antenna Faceplate to reduce the sensing area of the microwave. CW: Clockwise rotation increases sensitivity.

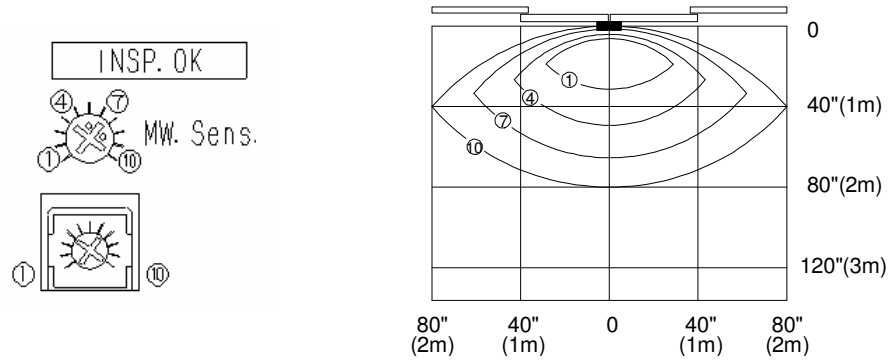


Figure 9-a) - Adjusting detection sensitivity

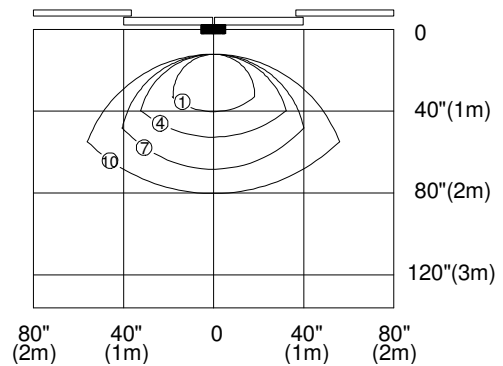


Figure 9-b) - Adjusting detection sensitivity for the Narrow Antenna

3. Setting up for the Operation Modes

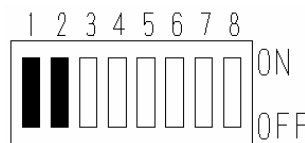
A. The selection switches No.1-4

There is a bank of eight (8) dip-switches shown as “Selection Switches No.1-8” on the sensor. (See Figure 2) Dip-switch #1 and #2 are for “Interference Prevention Setting” and #3 and #4 are for Time setting.

a. Interference Prevention Setting

When using two or more ACUMOTION-As close to each other, make sure that each ACUMOTION-A is set to a different interference prevention mode.

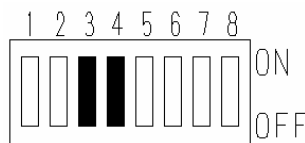
[If two ACUMOTION-As interfere with one another, try a combination of the setting modes, Mode A and Mode D.]



1	2	---
ON	ON	Mode A
ON	OFF	Mode B
OFF	ON	Mode C
OFF	OFF	Mode D

b. Standstill memory time (Learn Time)

The ACUMOTION-A infrared will establish a base memory pattern of the threshold detection area when power is applied. Changes within the memorized detection area, whether on the floor or above the floor, will generate a signal to open the door. The base memory pattern will change automatically after the selected memory time set lapses when there is no movement within the detection area. The time interval at which these memory pattern changes will occur, can be adjusted using dip switches #3 and #4.



3	4	---
ON	ON	30 seconds *
ON	OFF	15 seconds [5 seconds]
OFF	ON	90 seconds
OFF	OFF	Completely stationary state (will not relearn) [300 seconds]

* Factory Setting is 30 seconds

CAUTION: Please note the following points when you explain detection area to your customers or give them a demonstration of standstill object detection after ACUMOTION-A is installed.

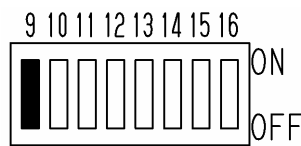
- ① ACUMOTION-A starts to operate in three seconds after the power switch is turned ON. However, it may happen that detection area and standstill object detection time do not work as preset by the setting switches until the light intensity reflected from inside the detection area becomes stable. Do not enter the detection area for about 1 minute during the demonstration to allow the reflected light intensity to stabilize.
- ② To make sure that the completely standstill object detecting function operates properly, do not move in the detection area for about three minutes.

B. Selection switches No.9-16

There is a bank of four (8) dip-switches shown as “Selection Switches No.9-16” on the sensor. (See Figure 2) Dip-switch #9 is for “Direction Detection Setting”, #10 and #11 are for “Detection Sensitivity Setting”, #12 is for “Snow Mode Setting”, #13 is for “Output Logic Setting”, #14 is for “No.1 Output Mode Setting”, and #15 and #16 are for “Output Hold Time Setting”.

a. Direction Detection Setting

The Doppler system makes it possible to distinguish the objects that are approaching the door from the objects that are moving away from the door. If you want ACUMOTION-A to ignore objects moving away from the door to start the closing cycle sooner, set the switch to ON [one-way detection].

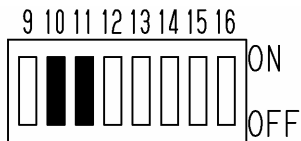


9	---
ON	One-way detection
OFF	Two-way detection

b. Infrared Sensitivity Setting

Adjust the infrared detection sensitivity, if necessary.

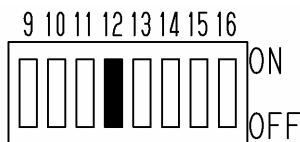
The Snow mode is designed so that ACUMOTION-A does not cause the doors to stand open or recycle. In the Snow mode, make sure that detection area is properly set.



10	11	---
ON	ON	Normal sensitivity
ON	OFF	High sensitivity
OFF	ON	Low sensitivity
OFF	OFF	Snow mode

c. Snow Mode Setting

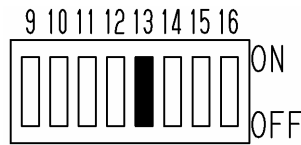
When dip switches #10 & #11 are set to Snow mode, dip switch #12 should be set to ON for an interior sensor and OFF for an exterior sensor. If dip switch is set to ON, ACUMOTION-A will learn accumulating snow on an interior mat sooner. If dip switch is set to OFF for an exterior sensor, ACUMOTION-A will not detect falling snow.



12	---
ON	Interior Sensor
OFF	Exterior Sensor

d. Output Logic Setting

When dipswitch #13 is ON and the sensor is powered but not detecting, Output 1a (microwave relay) and Output 2 (infrared relay) are open (N.O.) and Output 1b (microwave relay) is closed (N.C.). Setting this switch to OFF reverses these outputs as shown in the table below.

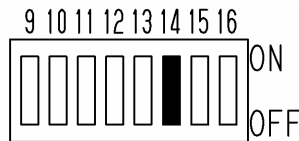


13	Output 1a & Output2	Output 1b
ON	N.O.	N.C.
OFF	N.C.	N.O.
*	Open	Close

* No Power

e. Output Mode Setting

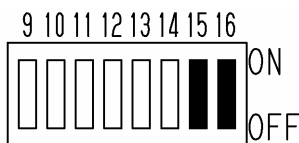
Infrared signal output can be sent to just Output 2 or both Output 2 and Output 1. Set dipswitch #14 to ON to limit infrared signal output to only Output 2. Turn OFF to send infrared signal output to Output 1 also. Note: Microwave detection output cannot be turned off.



14	Output 1	Output 2
ON	Microwave	Infrared
OFF	Microwave & Infrared	Infrared

f. Output Hold Time Setting

Set dipswitches #15 and #16 to vary the amount of time the output relays are held active after loss of detection.



15	16	---
ON	ON	0.5 seconds
ON	OFF	2.0 seconds
OFF	ON	4.5 seconds
OFF	OFF	8.0 seconds

4. Output Indicator

LED's on the sensor indicate the following conditions:

<i>Condition</i>	Power OFF	Power ON				
		Waiting	Microwave detected	Infrared ray detected	Microwave & Infrared detected	Sensor Malfunction
<i>Indicator</i>	LED OFF	Green	Amber	Red	LED OFF	Red LED blinks continuously

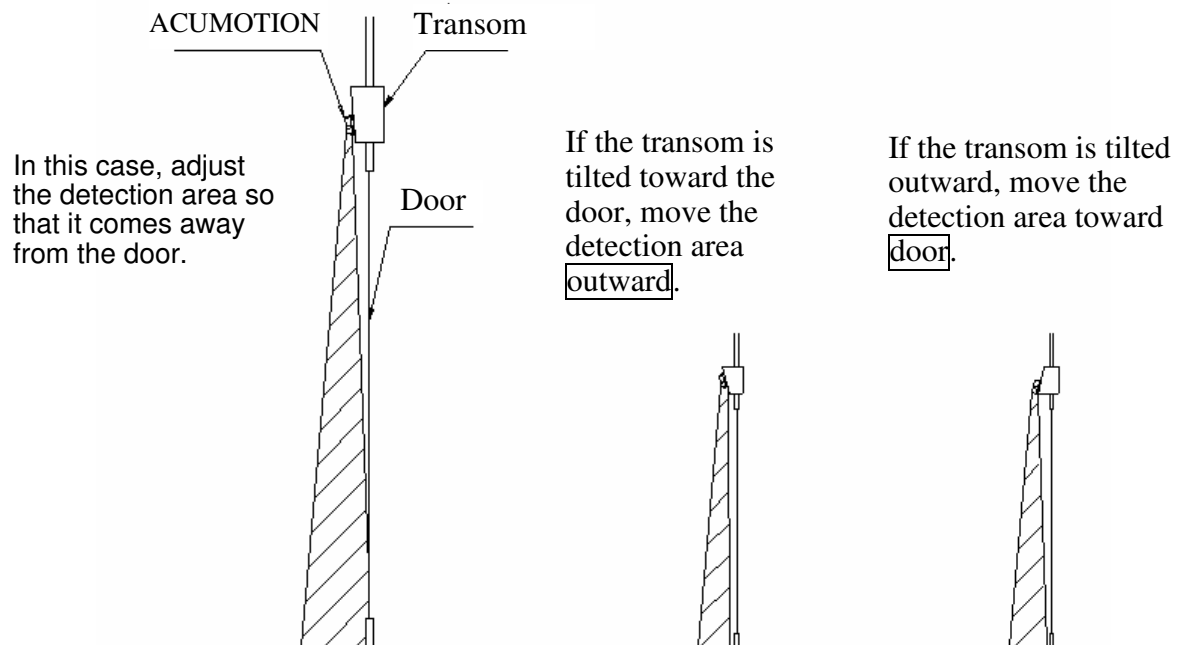
With power on: “Green” – Sensor detects no moving objects in detection area.
 “Amber” – Microwave senses object in detection area.
 “Red” – Infrared senses object in detection area.
 “LED OFF” – Both Microwave and Infrared senses object in detection area.
 “Blinks Red” – Sensor self diagnostics detects a problem. All detection is inhibited.

5. Troubleshooting

Condition	Possible cause	Solutions
ACUMOTION-A does not operate.	Power source/connectors have failed.	Check the wiring cable and connectors.
	Power voltage is not normal.	The rated power voltage for ACUMOTION-A is 12V-24VDC and 24VAC. Do not use ACUMOTION-A on any power voltage other than the rated power voltage.
ACUMOTION-A does not detect anything.	Filters are stained with dust/moisture	Wipe the stained part with an absorbent soft cloth and mild detergent. (Do not use the chemicals such as thinner or alcohol.)
	Sensitivity is low.	Use the setting switches to increase sensitivity.
	Detection area is not properly set.	Adjust detection area by the area setting switches, area width, depth, or fine-adjusting mechanism.
ACUMOTION-A detects incorrectly.	Sensitivity is high.	Use the setting switches to reduce sensitivity.
	Other sensors overlap detection area.	Use the setting switches to set the sensors so that they do not have the same interference prevention mode. (If the two sensors interfere, try a combination of Mode A and Mode D.)
	Doors are detected.	Make sure that detection area does not tilt too far in toward doors, readjust detection area by the area depth and minute-adjustment mechanisms.
	A moving object is put in the detection area.	Adjust detection area so that a moving object does not enter the detection area, or move the moving object out of the detection area. Example: Plants with leaves moved by wind.
	The condition inside detection area is changed.	If the condition inside detection area is changed, ACUMOTION-A continues to detect person or object until the time preset by standstill object detection time (Learn Time) is reached. Use the setting switches to shorten learn time.
The operation display LED blinks red.	Self-diagnosis function detects an internal problem. Replace the ACUMOTION-A sensor.	
Relearn time for standstill object is less than setting of 15 to 90 seconds.	After turning the power “ON” allow 3 minutes for signal to stabilize before entering the detection area.	

6. Caution Notice on usage

- A. ACUMOTION-A is designed to provide a detection area as close to the door as possible for maximum coverage. If ACUMOTION-A is installed on a crooked surface, the door may end up inside the detection area. When you install ACUMOTION-A, adjust the detection area by the detection area minute-adjustment mechanism so that ACUMOTION-A does not detect the door. (See page 12 in this Instruction Manual.)

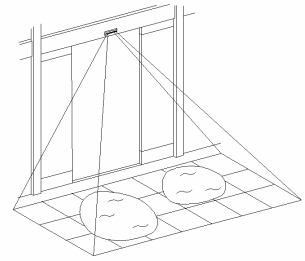


CAUTION

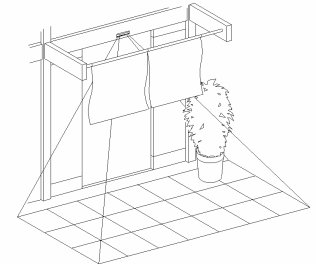
Adjust the detection area by the detection area minute-adjustment mechanism so that it gets as close to the door as possible, regardless of the mullion shape.

- B. If you change the setting of the detection area or the mode, be sure to turn OFF the power switch first, and then change those settings. (If you try to change the settings when the power switch is ON, it may cause ACUMOTION-A to malfunction.)
- C. Electric power consumption is 160mA at 12VDC per ACUMOTION-A Sensor. When the power consumption exceeds the maximum electric current flowing from the automatic door controller, the voltage may drop causing the ACUMOTION-A to malfunction. Provide an ample power supply, taking into account that optional devices also consume electric current.

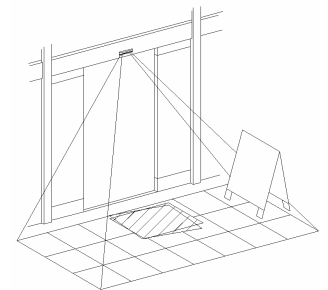
D. If you install ACUMOTION-A in a place where rain falls and puddles form, or excessive automobile exhaust or insects accumulate, the ACUMOTION-A may mis-detect. To avoid this, lower the infrared sensitivity. (See page 18 on this Instruction Manual.)



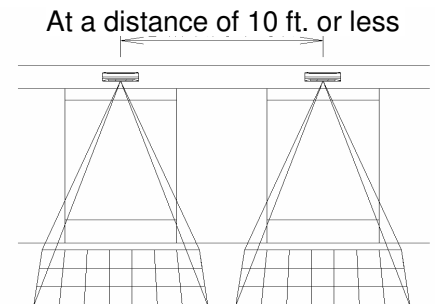
E. If you have a short split curtain, flowerpot or any other items that may shake in the detection area, ACUMOTION-A may malfunction. Move the items out of the detection area. Please note that some metalwork may influence the microwave sensor section even if they are out of the detection area.



F. If you use ACUMOTION-A with a mat, shop sign or shopping basket put in the detection area, do not set the standstill object detection time to the completely standstill object detection time. If the items in the detection area move a bit, the door may be left opened.



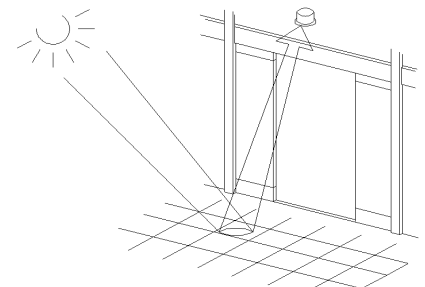
G. If you use two or more units of ACUMOTION-A close to one another, it may cause a mis-detection due to mutual interference. Make sure that every ACUMOTION-A has a different mutual interference mode. (See page 17 on this Instruction Manual.)



H. Too much reflected light off the floor may reduce the sensitivity causing the ACUMOTION-A to malfunction.

I. If ACUMOTION-A is installed in a place where rain or snow falls on its main body, electrical shock or damage to the sensor may occur. If the background condition within the infrared detection area is suddenly changed due to a strong snowstorm, the ACUMOTION-A could malfunction.

In this circumstance, lower the sensitivity or choose the Snow mode. After you choose the Snow mode, make sure the detection area is properly set. (See pages 18 on this Instruction Manual.)



Questions? Call Nabco Technical Assistance @ 1-866-622-8325

NABCO Entrances Return Policy

If it is necessary to return a malfunctioning unit to NABCO, please use the following guidelines:

Return Material Tags (RMT) are to be used for in and out of warranty materials. The RMT is also used for repair and return as well as return for credit transactions. An RMT must accompany all returned items.

Complete one RMT for each item that will be returned. The following information should be recorded on the tag:

- Serial No. or Part No. – Serial numbers for electronic components are stamped, engraved or printed on stickers and located on the component. Non-electrical parts usually do not have serial numbers.
- Part Name
- Expiration Date – Expiration dates for electronic components are stamped, engraved or printed on stickers and located on the component. Non-electrical parts usually do not have expiration dates. For “warranty claims of non-electrical parts”, please include a photocopy of the original NABCO invoice the part was purchased on.
- Date Returned – The date that the part is returned to NABCO Entrances Inc.
- Requested Repair and Return Action – Specify in/out warranty for R & R, Exchange or in warranty for credit. For requests for credits, please write the number of the invoice you want credited.
- Firm Name
- Date of Installation
- Installed at Job
- Describe Part Problem in detail

The RMT tag is printed in triplicate. Please keep the top copy of the tag for your returns. Send the remaining two copies along with the part to the attention of the Repair and Return Department at NABCO Entrances Inc. Please remember to package the parts properly. Ship the parts freight prepaid. Collect shipments will be refused. If inquiring on the returned part, please use the RMT number associated with that part.

NABCO Entrances Standard Terms & Conditions and Warranty govern all returned items. These are provided in detail in the Terms and Conditions section of the NABCO Entrances Price Book. If you have any questions on warranty or the use of the RMT tags, please call NABCO’s Customer Service Department toll free at 1-877-NABCO WI (1-877-622-2694).