

REACTION TWO

5916233 FEB 2023

Manufacturer's statement

Read this operation manual carefully before use to ensure proper operation of this product. Failure to read this operation manual may cause improper operation and may result in serious injury or death of a person. The meanings of the symbols are as follows. Please study the following first and then read the contents of this operation manual.

	WARNING	Disregard of warning may cause the improper operation causing death or serious injury of a person.
	CAUTION	Disregard of caution may cause the improper operation causing injury of person or damage to objects.
	NOTE	Special attention is required to the section of this symbol.

- NOTE**
1. This sensor is a non-contact switch intended for header mount/ceiling mount of an automatic door. Do not use for any other applications.
 2. When setting the sensor's detection area, make sure there is no traffic around the installation site.
 3. Before turning the power ON, check the wiring to prevent damage or malfunction of equipments that are connected to the sensor.
 4. Only use the sensor as specified in the operation manual provided.
 5. Be sure to install the sensor in accordance with the local laws and standards of the country in which the sensor is installed.
 6. Before leaving the job site make sure that the sensor is operating properly and instruct the building owner/operator on proper operation of the door and the sensor.
 7. The sensor setting can only be changed by an installer or service engineer. When changed, register the changed setting and dates in the maintenance logbook accompanying the door.

	WARNING	Danger of electric shock
Do not wash, disassemble, rebuild or repair the sensor, otherwise it may cause electric shock or breakdown of the equipment.		

- NOTE**
- The following conditions are not suitable for the sensor installation.

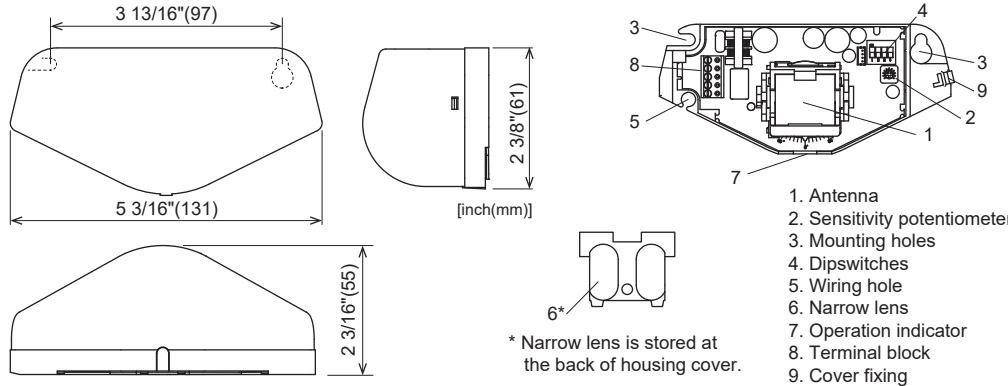
 - Vibrating header or mounting surface.
 - Waterdrops or snow on the sensor.
 - Moving objects, steel plate, emergency lights or illumination in the detection area or in vicinity.

Specifications

Model	: REACTION TWO	Output	: Form C relay
Cover color	: Black/Silver		: 50 V 0.3 A Max.(Resistance load)
Mounting height	: 6'7"(2.0 m) to 11'5"(3.5 m)	Output hold time	: 2.0 s/4.0 s
Detection method	: Microwave doppler effect	Response time	: < 0.3 s
Power frequency	: 24.125 GHz	Operating humidity	: < 80%
Power density	: < 20 dBm	Operating temperature	: -4°F to 131°F(-20°C to +55°C)
Detection area	: See Detection area	IP rate	: IP54
Vertical adjustment	: +10° to +70°(Header mount) +20° to +80°(Ceiling mount)	Weight	: 4.9 oz(140 g)
Horizontal adjustment	: 30° to left or right	Accessories	: 1 Cable 9'10"(3 m)
Power supply	: 12 to 24 VAC (±10%) 12 to 30 VDC (±10%)		: 1 Operation manual
Power consumption	: < 1.5 W (< 2 VA at AC)		: 2 Mounting screws
Minimum speed	: 1 15/16"(5 cm)/s		: 1 Mounting template
Operation indicator	: Green : Stand-by Red : Detection Green blinking : Set-up		: 1 Narrow lens*
		* At the back of housing cover	

- NOTE**
- The specifications herein are subject to change without prior notice due to improvements.

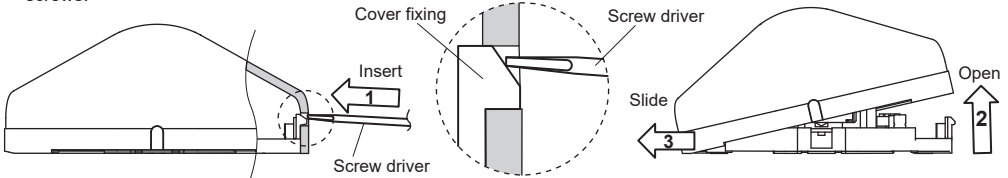
Dimensions and part names



Installation

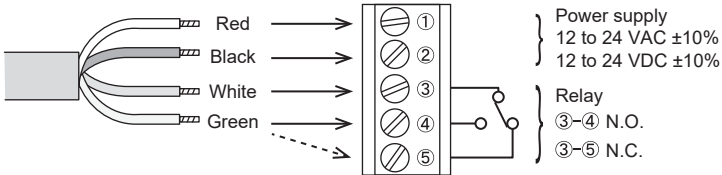
1. Mounting

- a. Affix the mounting template at the desired mounting position.
- b. Drill 2 mounting holes of $\phi 1/8"$ ($\phi 3.4$ mm).
- c. To pass the cable through to the header, drill a wiring hole of $\phi 5/16"$ ($\phi 8$ mm).
- d. Remove the mounting template.
- e. Remove the housing cover with screw driver as shown below. Attach the sensor to the mounting surface with 2 mounting screws.



2. Wiring

Wire the cable to the door controller properly as shown below.



WARNING

Danger of electric shock

Before starting the procedure, ensure that the power is turned OFF. When passing through the cable to the hole, make sure not to tear the shield, otherwise it may cause electric shock or breakdown of the sensor.

3. Turn ON the power

- a. Plug the connector of the sensor.
- b. Supply power to the sensor and the sensor will automatically start the set-up mode with blinking Green.
- c. Adjust the detection area and set the Dipswitches. (See **Adjustments**)

- NOTE**
- Make sure to connect the cable correctly to the door controller before turning the power ON. The sensor does not detect objects for 10 s after supplying power.

4. Mounting the cover

Hook the cover on the left side of main body to place the cover. If wiring is to be exposed, break the knockout.



WARNING

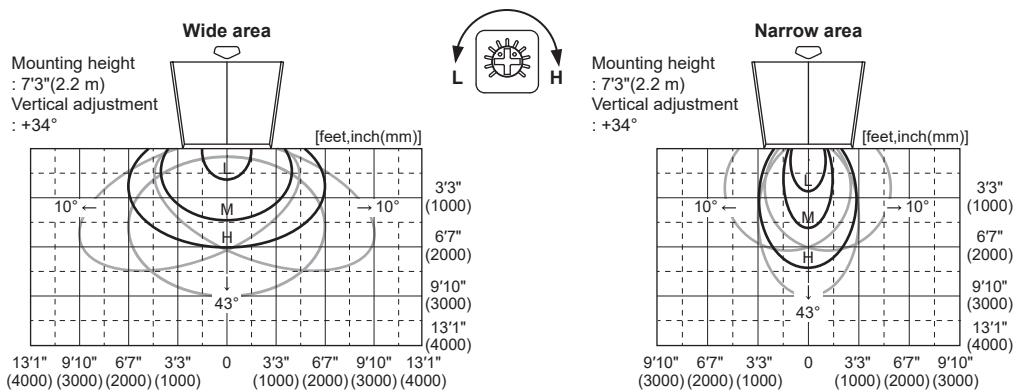
Danger of electric shock

Do not use the sensor without the cover. When using the cable knockout, install the sensor indoors or use the rain cover (separately available) otherwise electric shock or breakdown of the sensor may occur.

Adjustments

1. Detection area

Adjust the detection area with sensitivity potentiometer.



- NOTE**
- When the sensor is mounted at higher than 9'10"(3.0 m), set the sensitivity to "H (high)".

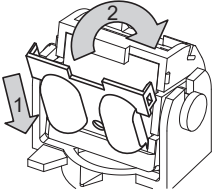
2. Detection area angle adjustment

	Adjustment	Scale	Angle
Vertical adjustment		3° X 20 steps 	Header: +70°, +10° Ceiling: +80°, +20°
Horizontal adjustment		5° X 12 steps 	+30°, +30°

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- CAUTION**
- Do not touch electric part of the sensor to avoid possible breakdown of the sensor.

3. Narrow area

To obtain narrow area, place the narrow lens attached at the back of the cover. To place the narrow lens, follow step1 & 2 as shown on the right.



4. Dipswitches settings

Set dipswitch 1 & 2 to enable the direction recognition.

 Bi-direction(Bi) Detection area:	 Uni-direction(Uni) Detection area:	Dipswitch 3 : Output hold time 2.0 s 4.0 s
 Bi-direction When dipswitch 1 is set to OFF, Bi-direction mode is effective, regardless of dipswitch 2 setting.	 Uni-direction with Auto-caution mode*(ACM) Detection area:	Dipswitch 4 : Immunity If there is external interference, set dipswitch 4 to "ON".

➡ : Detection ➡ : Non-detection * Auto-caution mode : A person wavering in the detection area to be detected.

Checking

Check the operation according to the chart below.

Sensor status	Power OFF	Set-up (Approx. 10 s)	Stand-by	Detection
Operation indicator	OFF	Green blinking	Green	Red
Output contact				

Inform building owner/operator of the following items

WARNING

1. Always keep the cover clean. If dirty, wipe the housing cover lightly with a cloth. Do not use any cleaner or solvent.
2. Do not wash the sensor with water.
3. Do not disassemble, rebuild or repair the sensor yourself, otherwise electric shock may occur.
4. Always contact your installer or service engineer when changing the settings.
5. Do not paint the housing cover.

- NOTE**
1. After applying power, wait 10 s then walk test detection area to ensure proper operation..
 2. Do not place any objects that move or emit light in the detection area. (e.g. Plant, illumination, etc.)

Troubleshooting

Problem	Operation indicator	Possible cause	Possible countermeasures
Door does not open when a person enters the detection area.	None	Wrong power supply voltage.	Set to the stated voltage.
	Unstable	Wrong wiring or connection failure.	Check the wiring and terminal block.
	Green	Sensitivity is too low. Wrong detection area positioning.	Set the sensitivity higher. Check Adjustments .
	Green blinking	The sensor is being set up.	Wait for the set-up to complete.
Door opens when no one is in the detection area. (Ghosting)	Red	Water drops on the housing cover.	Wipe the housing cover with a cloth.
		The detection area is overlapping with the door.	Adjust the detection area away from the door. Or set dipswitch 4 to "ON".
		Sensitivity is too high.	Set the sensitivity lower.
		Raining or snowing.	Set Dipswitch 1 to "ON". Or dipswitch 4 to "ON".
Door remains open.	Green	Wrong wiring or connection failure.	Check the wiring and terminal block.

FCC and ISED Statement

This device complies with part 15 of FCC Rules and Innovation, Science and Economic Development Canada's licence-exempt RSS(s). 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.

Le présent appareil est conforme à la partie 15 des règles de la FCC et aux normes des CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

(1) l'appareil ne doit pas produire de brouillage, et (2) l'appareil doit accepter tout brouillage subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC CAUTION

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

FCC NOTICE

This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

FCC/ISED Radiation Exposure Statement

This equipment complies with FCC/ISED radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines and RSS-102 of the ISED radio frequency (RF) Exposure rules as this equipment has very low levels of RF energy.

Cet équipement est conforme aux limites d'exposition aux rayonnements énoncées pour un environnement non contrôlé et respecte les règles les radioélectriques (RF) de la FCC lignes directrices d'exposition et d'exposition aux fréquences radioélectriques (RF) CNR-102 de l' ISDE puisque cet appareil a une niveau tres bas d'energie RF.

Contact

North and South America Subsidiary

OPTEX INCORPORATED

10741 Walker Rd. Suite 300 Cypress, CA 90630 U.S.A
www.optexamerica.com Tel : +1(800)877 6656



Manufacturer

OPTEX CO., LTD.

5-8-12, Ogoto, Otsu, Shiga, 520-0101 Japan