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MS51

BATTERY-POWERED, TOUCHLESS ACTIVATION

EN

TECHNICAL SPECIFICATIONS

TECHNOLOGY / PERFORMANCE	
Technology	Active infrared
number of IR sensors	2
Detection range	8" max.
Battery life	3 years (at 150 activations per day)
Product temperature range	-22 – 158 °F
ELECTRICAL	
Output	1 electronic relay (galvanic isolation - polarity free)
max. switching voltage	42 VAC/VDC
max. switching current	100 mA
Power supply	3 VDC (2 AA batteries, each ~1.5 V max.)
Power consumption	< 0.5 mW (when idle) < 12 mW (upon activation)
Wire gauge	26-16 AWG
PHYSICAL	
Dimensions (overall)	
single gang	2 ¾" (W) × 4 ½" (H) × 1 ¼" (T)
double gang	4 ½" (W) × 4 ½" (H) × 1 ¼" (T)
round	6" (H/W) × 1 ¼" (T)
jamb	1 ¾" (W) × 4 ½" (H) × 1 ¼" (T)
Material	Stainless steel 304 and PC
Weight	Single gang: 0.34 lb Double gang: 0.55 lb Round: 0.71 lb Jamb: 0.29 lb
COMPLIANCE	
IP rating	IP65

Specifications are subject to change without prior notice.
All values measured in specific conditions, using lithium batteries..

For best performance, BEA recommends using lithium batteries.

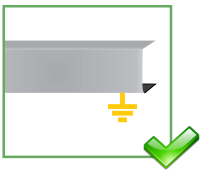
PRECAUTIONS

CAUTION

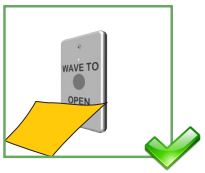
- ❑ Shut off all power going to header before attempting any wiring procedures.
- ❑ Observe battery polarity when inserting batteries.
- ❑ Maintain a clean and safe environment when working in public areas.
- ❑ Constantly be aware of pedestrian traffic around the door area.
- ❑ Always stop pedestrian traffic through the doorway when performing tests that may result in unexpected reactions by the door.
- ❑ *ESD (electrostatic discharge)*: Circuit boards are vulnerable to damage by electrostatic discharge. Before handling any board, ensure you dissipate your body's ESD charge.
- ❑ Always check placement of all wiring before powering up to ensure that moving door parts will not catch any wires and cause damage to equipment.
- ❑ Ensure compliance with all applicable safety standards (i.e. ANSI A156.10 and 156.19) upon completion of installation.
- ❑ DO NOT attempt any internal repair of the components. All repairs and/or component replacements must be performed by BEA, Inc. Unauthorized disassembly or repair:
  1. May jeopardize personal safety and may expose one to the risk of electrical shock.
  2. May adversely affect the safe and reliable performance of the product resulting in a voided warranty.



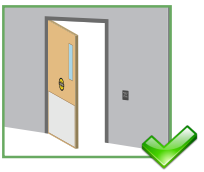
Only trained and qualified personnel are recommended to install and set up the sensor.



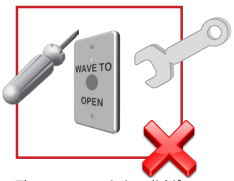
The door control system and the header cover profile must be correctly grounded.



If needed, wipe the sensor window with a non-abrasive and lint-free cloth.

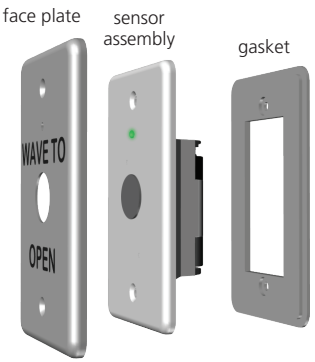


Always test the proper operation of the installation before leaving the premises.



The warranty is invalid if unauthorized repairs are made or attempted by unauthorized personnel.

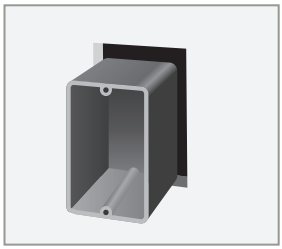
ASSEMBLY DIAGRAM



PREPARE INSTALLATION SITE

To ensure system performance, BEA recommends using only plastic electrical boxes if pairing with a transmitter.

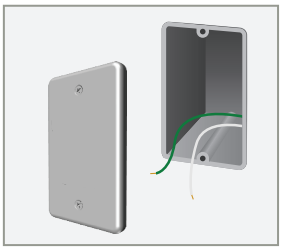
1. For new installation, install the appropriate mounting box or electrical box.



When installing jamb version, cutout dimensions are
1 ½" (W) x 2 ⅞" (H) × 1" (D min)

Note: Be sure to account for transmitter size, if applicable.

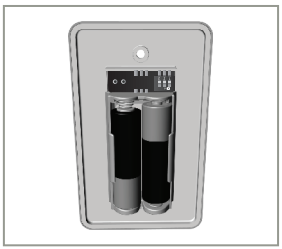
For retrofitting an existing installation, remove the previous plate and disconnect wiring from the door control (if the previous installation was hardwired) or the transmitter (if the previous installation was wireless).



PREPARE MS51 ASSEMBLY

2. Insert 2 AA lithium batteries (provided).

Observe battery polarity when inserting batteries.

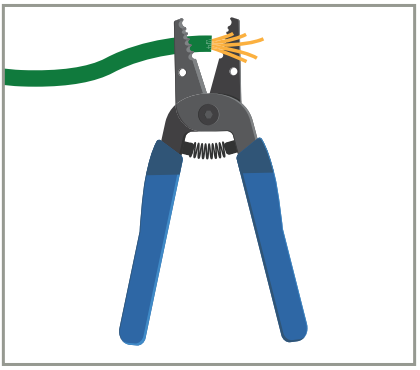


3. Make necessary DIP switch adjustments.



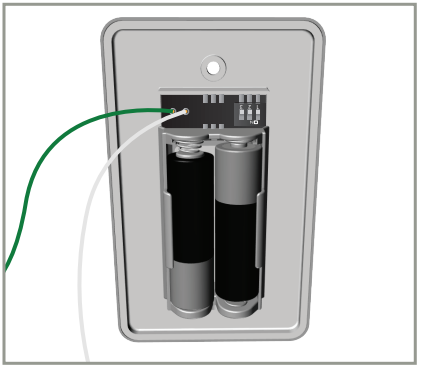
DIP	FUNCTION	OFF (default)	ON
1	Detection distance	long range (dependent on DIP 3 setting) DIP 3 ON = 5 – 6" DIP 3 OFF = 7 – 8"	short range (2 – 3")
2	LED indicator *(applicable to alkaline battery replacements only)*	battery life - multicolor green 1x flash = full battery orange 1x flash = change batteries red 1x flash = end of battery life	battery life - unicolor green 1x flash = full battery green 2x flash = change batteries green 3x flash = end of battery life
3	Immunity	Low immunity	High immunity

4. If retrofitting, cut off existing connectors (e.g. flag connectors) and strip the wires.
   If new installation, simply strip the wires.

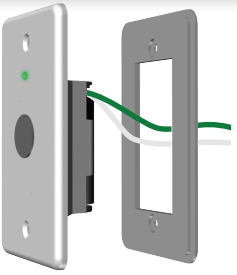


5. Connect activation wires from the door control or transmitter to the terminal block (polarity free) on the MS51, and then tighten the screws on the terminal block.

   If used, place the transmitter back in the box.



Be sure that the sensor assembly and gasket are together before routing wires.

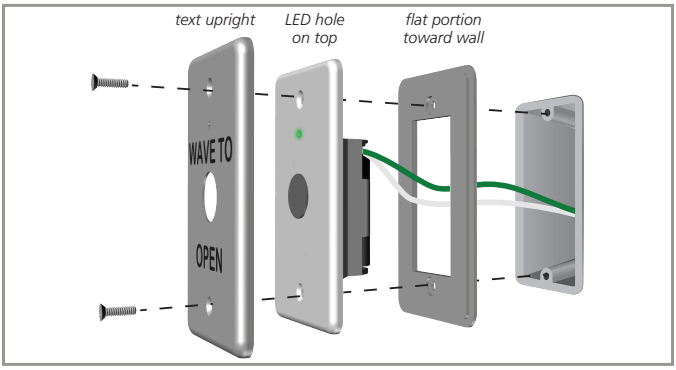


sensor assembly *gasket*

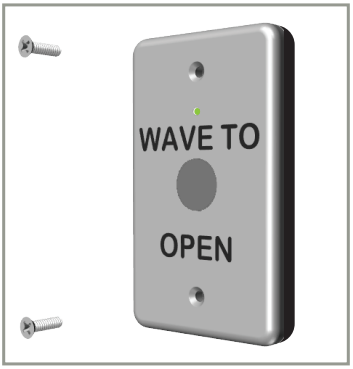
Be sure to check transmitter batteries and replace, if necessary.

COMPLETE THE INSTALLATION

6. Install MS51 assembly on box. Observe the orientation of the assembly as well as each individual component.



7. Secure with the provided screws (#6-32 flathead) and test functionality.



Be sure to remove the plastic film from the face plate before testing.

TROUBLESHOOTING

MS51 does not detect when waving in front of it	Dead batteries	Check battery life by placing your hand in front of the MS51. If there is no LED indication, replace batteries.
	Detection range is too short	Check DIP 1 Position (see page 4) and ensure DIP 3 is in OFF position for indoor applications.
	Incorrect battery orientation	Ensure batteries are installed properly with the right polarity (see label on product).
	Incorrect MS51 assembly, causing water to leak into the assembly	Ensure all components of the assembly have been placed in the correct orientation (see page 6, step 6). Ensure silicone is applied to the holes in mounting boxes to prevent water intrusion.
Door does not open when waving hand in front of the MS51	Incorrect receiver wiring/connection	Check wiring and relay connection.
	Improper receiver pairing	Check receiver pairing with transmitter.
	Incorrect transmitter or receiver frequency	If using wireless transmitters and receivers, ensure that the operating frequencies are the same.
	Door safety system is holding the door closed	Clear the safety system to ensure that nothing is in detection.
	Transmitter interference	Ensure that a plastic junction box is used.
 MS51 stays in detection • *LED will remain solid* • *LED color will depend on the DIP 2 setting*	Window pollution	Check sensor window for any dirt and debris. Wipe sensor window with a non-abrasive, lint-free cloth if necessary.
	Cracked or damaged window	Replace the MS51.
 LED flashes orange or red upon activation	Low battery indication	See page 4, step 3. orange = replace soon red = replace immediately
MS51 causes door activation without waving hand	Environmental conditions influencing sensor	Increase immunity settings (see page 4, step 3). Remove moving or reflective objects in front of the MS51. Ensure that door movement is not causing detection. Detection range is too long. Switch to short range (see page 4, step 3).

BEA, INC. INSTALLATION/SERVICE COMPLIANCE EXPECTATIONS

BEA, Inc., the sensor manufacturer, cannot be held responsible for incorrect installations or incorrect adjustments of the sensor/device; therefore, BEA, Inc. does not guarantee any use of the sensor/device outside of its intended purpose.

BEA, Inc. strongly recommends that installation and service technicians be AAADM-certified for pedestrian doors, IDA-certified for doors/gates, and factory-trained for the type of door/gate system.

Installers and service personnel are responsible for executing a risk assessment following each installation/service performed, ensuring that the sensor/device system performance is compliant with local, national, and international regulations, codes, and standards.

Once installation or service work is complete, a safety inspection of the door/gate shall be performed per the door/gate manufacturer's recommendations and/or per AAADM/ANSI/DASMA guidelines (where applicable) for best industry practices. Safety inspections must be performed during each service call – examples of these safety inspections can be found on an AAADM safety information label (e.g. ANSI/DASMA 102, ANSI/DASMA 107, UL294, UL325, and International Building Code).

Verify that all appropriate industry signage, warning labels, and placards are in place.

A Halma company

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