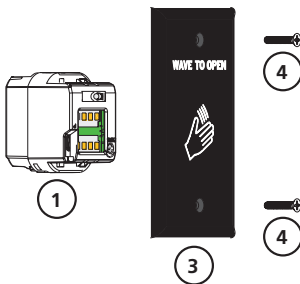


MS08 MAGIC SWITCH

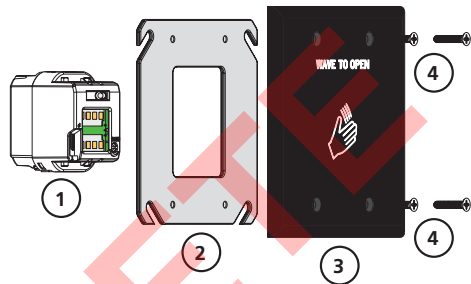
Microwave, contactless switch for automatic doors

DESCRIPTION

SINGLE-GANG



DOUBLE-GANG



1. Microwave motion sensor
2. Adapter ring
3. Faceplate
4. Screws

TECHNICAL SPECIFICATIONS

Technology:	microwave motion sensor
Radiated frequency:	24.125 GHz
Radiated power density:	5 mW/cm ²
Supply voltage:	12 – 24 VAC ±10% 12 – 24 VDC +30% / -10%
Supply frequency:	50 – 60 Hz
Power consumption:	< 1.5W
Output	relay with switch-over contact (voltage-free)
relay contact rating (max. voltage):	60 VDC / 125 VAC
relay contact rating (max. current):	1A (resistive)
Max. switching power:	30W DC / 60 VAC
Detection range:	4 – 24" (adjustable)
Detection mode:	motion (bidirectional)
Output hold time:	0.5 sec (in pulsed mode)
Temperature range:	-4 – 131 °F (-20 – 55 °C)
Immunity:	immune to electrical and radio frequency interference
Weight:	0.34 lbs
Material:	ASA, nylon, PC
Certification:	Electromagnetic compatibility (EMC) according to 2004/108/EC FCC: G9B-MS08 IC: 4680A-MS08

*Specifications are subject to change without prior notice.
All values measured in specific conditions.*

PRECAUTIONS



CAUTION

- ❑ Shut off all power going to header before attempting any wiring procedures.
- ❑ 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) 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.

FCC

FCC APPROVAL

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:

*this device may not cause harmful interference, and

*this device must accept any interference received, including interference that may cause undesired operation.

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

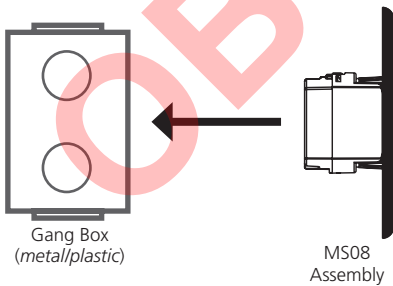
*Consult the dealer or an experienced radio/TV technician for help

WARNING: CHANGES OR MODIFICATIONS TO THIS EQUIPMENT NOT EXPRESSLY APPROVED BY BEA INC. MAY VOID THE FCC AUTHORIZATION TO OPERATE THIS EQUIPMENT.

PREINSTALLATION CHECK

- ✓ When wiring multiple devices together to create a system configuration, it is best to ensure that each device works independently. This will reduce troubleshooting if a discrepancy occurs.
- ✓ Prior to installing any equipment in either new or existing circuits, verify correct line voltage and line stability. Always remember to shut off the power before performing circuit wiring.

1 INSTALLATION

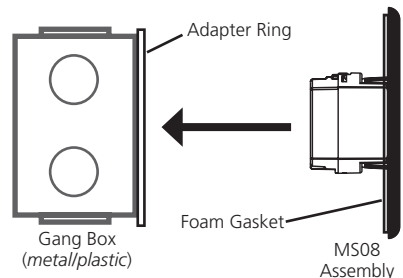


The Touchless Actuator may be mounted in conventional metal or plastic electrical gang boxes. Ensure that the unit sensor does not come in contact with the metal gang box to avoid shorting out the unit.

Do not place the sensor in the door's opening range, where the sensor may see door movement.

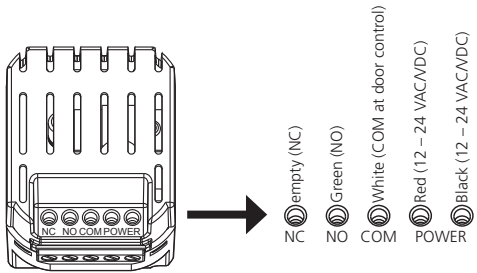
Do not place moving objects in front of the sensor.

Depending on the door installation, the weather-resistant foam gasket or plastic adapter ring may be used. The weather resistant gasket is used as a protective barrier against the elements. The plastic adapter ring is designed to enable the double-gang face plate to attach to various plastic and metal gang boxes.



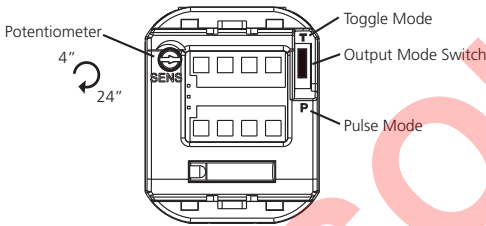
2 WIRING

1. Wire the 4-conductor cable to the door operator according to manufacturer specifications (see appendix for wiring diagrams).
2. Attach the 4-conductor cable connector to the Touchless Actuator (see right).

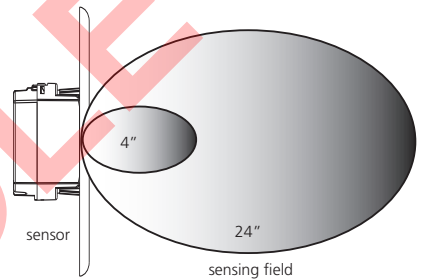


3 SET-UP

Two adjustments can be made to the sensor. The potentiometer is used to adjust the size of the unit's sensing field (see below, left) and the Output Mode switch is used to select Toggle or Pulse mode (see below, right).



Rotate potentiometer clockwise to increase the sensing field. It may be adjusted from 4" to 24".



Adjust Output Mode by moving switch in the up position (Toggle Mode) or in the down position (Pulse Mode).

Toggle Mode: Recommended for switch applications. In Toggle mode, a detection activates the relay and a second detection deactivates the relay.

Pulse Mode: Recommended for automatic door applications. In Pulse mode, a detection activates the relay for a short period of time, depending on the duration of movement in front of door.

TROUBLESHOOTING

Door does not open when swiping hand in front of sensor	Bad or no power	Check power supply. If LED switches on or flashes, power connections are okay.
	Detection range too short	Adjust detection zone. Remove any metal plates in front of sensor.
	Incorrect wiring/connection	Check wiring and relay connection.
Sensor stays in detection	Environmental conditions influencing sensor	Remove moving objects from around sensor.
	Incorrect wiring/connection	Check wiring and relay connection.
Door remains open after detection/activation	Wrong output mode	Switch output mode to Pulse.
	Incorrect wiring/connection	Check wiring and relay connection.

OBSOLETE

BEA INSTALLATION/SERVICE COMPLIANCE EXPECTATIONS

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

BEA 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 system installation 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 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).

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



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General Tech Questions: Tech_Services@beainc.com | Tech Docs: www.BEAinc.com

