

- ACTIVATION** - Activation signal held until sensing zone is cleared (or until relearned). Audible Alert (if enabled) will pulse for 0.5 seconds at initial detection.
- REJECTION** - An object must be within sensing zone for at least 130 milliseconds for detection to occur (i.e. parallel traffic rejection).
- TRACKING** - Reduced unwanted detections by allowing small variations in baseline capacitance (i.e. temperature/humidity changes). If stationary object remains within sensing zone for more than 5 seconds, a new capacitive zone will be learned and normal operation will resume (i.e. chewing gum stuck to faceplate).

TROUBLESHOOTING

Sesnor detecting erratically or false activations	1. Unstable object within detection zone	1. Clear 10" zone around detection field
	2. Sensor has been vandalized	2. Verify sensor is operational; replace if necessary
	3. Unstable power supply	3. Verify power; use transformer
	4. Noise within sensing zone	4. Reduce sensing zone (potentiometer counterclockwise)
	5. External filter wired incorrectly	5. Wire external filter according to Section 2 (Wiring)
Sensor not detecting	6. Unstable power supply	6. Be sure to use the BEA provided transformer
	1. Sensing zone is set too low	1. Increase sensing zone (potentiometer clockwise)
	2. No power	2. Verify power supply and connection

ANSI / AAADM Compliance

Upon completion of the installation or service work, at a minimum, perform a daily safety check in accordance with the minimum inspection guidelines provided by AAADM. Provide each equipment owner with an owner's manual that includes a daily safety checklist and contains, at a minimum, the information recommended by AAADM. Offer an information session with the equipment owner explaining how to perform daily inspections and point out the location of power/operation switches to disable the equipment if a compliance issue is noted. The equipment should be inspected annually in accordance with the minimum inspection guidelines. A safety check that includes, at a minimum, the items listed on the safety information label must be performed during each service call. If you are not an AAADM certified inspector, BEA strongly recommends you have an AAADM certified inspector perform an AAADM inspection and place a valid inspection sticker below the safety information label prior to putting the equipment into operation.

CONTACT

- 24/7 Technical Support:
 1-800-407-4545
- Customer Service:
 1-800-523-2462
- General Technical Questions:
 Tech_Services@beainc.com
- Technical Documentation:
 www.beasensors.com

MAGIC SWITCH: MS21H

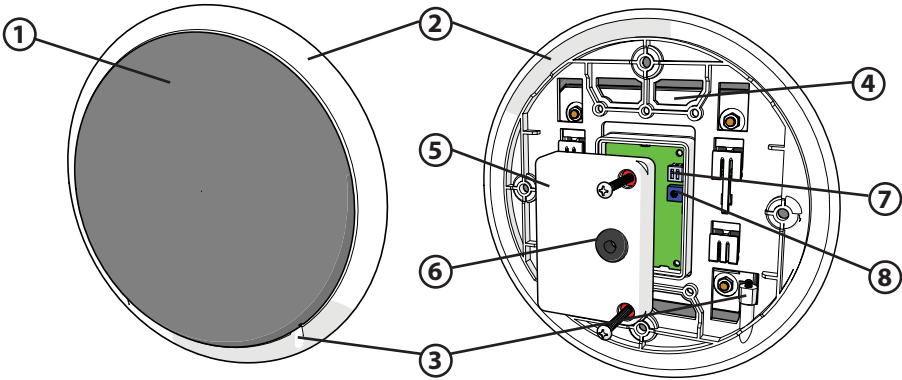
Hardwired | Stainless Steel | Touchless | Activation Sensor*



- 6" Round (shown)
 Text & Logo - 10MS21HR1
 Logo - 10MS21HRL
 Text - 10MS21HR
- 4.75" Square
 Text & Logo - 10MS21HS1
 Logo - 10MS21HSL
 Text - 10MS21HS

PATENT PENDING

DESCRIPTION



1. faceplate
 2. mounting ring
 3. set screws
 4. backplate
5. NEMA 4 enclosure
 6. wire harness
 7. dip wwitches
 8. potentiometer

TECHNICAL SPECIFICATIONS *

Technology	Capacitive Sensing
Detection Mode	Capacitance / Proximity
Supply Voltage	12-24 VAC/VDC +/- 10%
Current Consumption	30 mA
Temperature Range	-20°F to +120°F
Enclosure Rating	NEMA 4
Sensing Zone **	0-4 inches (adjustable)
Relay	1-Form A Solid State Relay 0.4A 60VAC/VDC
Dimensions (Overall)	6" round - 7 (DIA) x 0.5 (D) 4.75" square - 5.75 (H) x 5.75 (W) x 0.5 (D)
Wire Harness Length ***	6 inches (4 conductor)
Material	Stainless Steel (faceplate) Clear Polycarbonate (mounting ring, backplate, enclosure)

Specifications are subject to change without prior notice.

- ** Sensing Zone is dependent upon
- Size (area) of object
 - Orientation of object
 - Speed of object
 - Environmental conditions

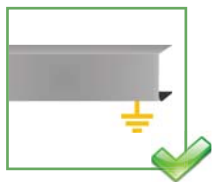
*** 5 conduct wire needed between sensor and door control

* Use of the device outside the intended application cannot be guaranteed by the manufacturer.



The complete declaration of conformity is available on our website: www.beasensors.com





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



Only trained and qualified personnel may install and setup the sensor.



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.

2 WIRING

WIRE COLOR	SIGNAL
Red	12-24 VAC/VDC +/- 10%
Black	12-24 VAC/VDC +/- 10%
Blue	Earth Ground
White	Relay Common
Green	Relay Normally Open

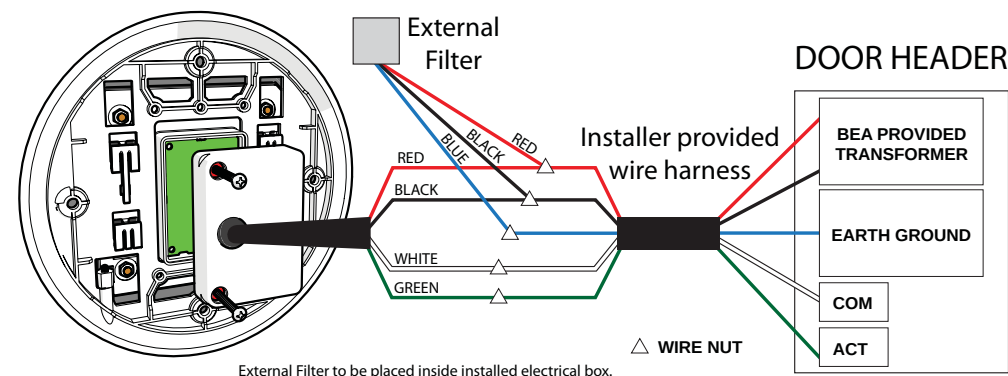
IMPORTANT WIRING NOTES:

Be sure to always use the BEA provided transformer.

If using a shielded wire harness, both ends of the shielding foil must be connected to Earth Ground.

If using a wire harness with more than 5 conductors, all extra conductors must be wired to Earth Ground.

NOTE: It will take approximately 10 seconds to complete the initialization sequence once powered.



3 SETTINGS & ADJUSTMENTS

A - SENSING ZONE - potentiometer

COUNTERCLOCKWISE - decrease (0" minimum)
CLOCKWISE - increase (4" maximum *)

B - AUDIBLE ALERT - dipswitch 1 (left)

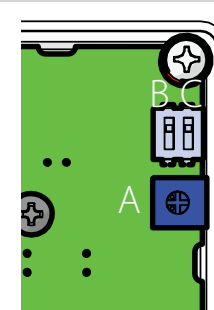
ON - audible alert pulsed for 0.5 seconds during detection
OFF - audible alert off

C - LED - dipswitch 2 (right)

ON - LED on at rest, pulsed off for 0.5 seconds during detection
OFF - LED off at rest, pulsed on for 0.5 seconds during detection

* Maximum sensing zone will vary depending on

- size (area) of object
- orientation of object
- speed of object
- environmental conditions



1 INSTALLATION

TIPS

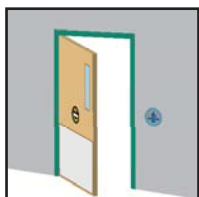
single or double gang electrical box may be used (non-metallic ideal)

single gang electrical box recommended for 4.75" square version

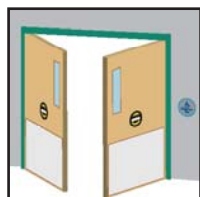
set screws are 4/40 x 1/2" Allen head screws, adjusted with 3/32 Allen wrench (supplied)

mounting screws are #6-32 x 1/2" Phillips head screws

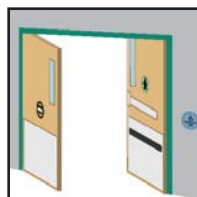
APPLICATIONS



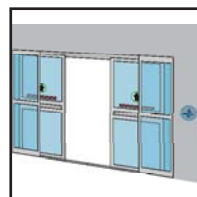
Single Swing Doors



Sim Pair Swing Doors



Dual Egress Swing Doors



Sliding Doors

NOTE: Do not install the sensor within the swingpath of the door.

- 1) Install electrical box
- 2) Remove two (2) set screws
- 3) Disassemble (slide up, pull out) faceplate assembly from mounting ring
- 4) Temporarily mount mounting ring to electrical box

NOTE: Observe "THIS END UP"

- 5) Mark four (4) mounting ring mounting hole locations
- 6) Remove mounting ring from electrical box
- 7) Install four (4) wall anchors
- 8) Mount (hand tighten) mounting ring to both electrical box and wall
- 9) Remove back of NEMA 4 enclosure
- 10) Complete Section 2 (WIRING) and Section 3 (SETTINGS & ADJUSTMENTS) prior to continuing installation in Section 4

4 INSTALLATION (continued)

- 11) Reinstall back of NEMA 4 enclosure
- 12) Reassemble (align, push in, slide down) faceplate assembly to mounting ring
- 13) Reinstall two (2) set screws
- 14) Test installation functionality and performance