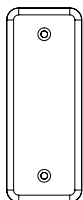


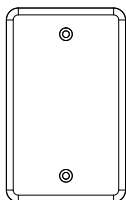


# 8310-813 TOUCHLESS ACTUATORS

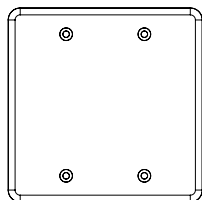
Touchless-activation switch for automatic doors



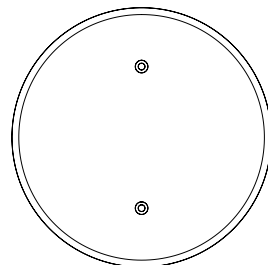
JAMB



SINGLE-GANG



DOUBLE-GANG



6" ROUND

## TECHNICAL SPECIFICATIONS

Technology:	microwave motion sensor
Radiated frequency:	24.125 GHz
Radiated power density:	< 5 mW/cm <sup>2</sup>
Supply voltage: <i>to be operated from SELV-compatible power supplies only</i>	12 – 24 VAC ±10% 12 – 24 VDC +30% / -10%
Supply frequency:	50 – 60 Hz
Power consumption:	< 1.5W
Output relay contact rating (max. voltage): relay contact rating (max. current): Max. switching power:	relay with switch-over contact (voltage-free) 60 VDC / 125 VAC 1A (resistive) 30W DC / 60 VAC
Detection range:	4 – 24" (adjustable)
Detection mode:	motion (bidirectional)
Output hold time:	0.5 – 30 sec
Temperature range:	-4 – 131 °F (-20 – 55 °C)
Weight:	0.34 lbs
Material:	PC, PE
IP rating:	IP54
Certification:	Electromagnetic compatibility (EMC) according to 2004/108/EC FCC: G9B-210161 IC: 4680A-210161

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

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.

## PRECAUTIONS

- ❑ 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.

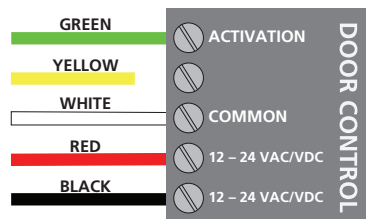
## INSTALLATION TIPS

- ✓ 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.
- ✓ 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.

## 1 WIRING

Wire the 8310-813 to the door control according to the diagram shown here.

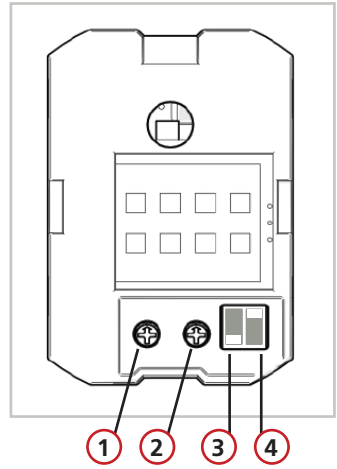
**NOTE:** Use only green (N.O.) wire.



## 2 SET-UP

Four adjustments can be made to the sensor:

- 1 **Sensitivity potentiometer:** adjust detection field from 4 to 24 inches (rotate clockwise to increase)  
factory default: 4 inches (fully CCW)
- 2 **Hold time potentiometer:** adjust relay hold time from 0.5 to 30 seconds (rotate clockwise to increase)  
factory default: 0.5 sec (fully CCW)
- 3 **Output Mode switch:** determines Toggle mode or Timer mode
  - Toggle (switch up) = detection activates the relay and the relay holds until a second detection deactivates the relay (recommended for switch applications)
  - Timer (switch down, factory default) = detection activates the relay for 0.5 to 30 seconds; relay will hold as long as detection occurs
- 4 **LED mode switch:** determines if LED illuminates when in detection or when not in detection
  - switch up (factory default) = LED on when sensor is NOT in detection, LED off when in detection
  - switch down = LED on when sensor is in detection, LED off when not in detection



## 3 INSTALLATION

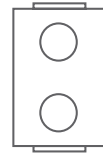
1. Install an electrical box.



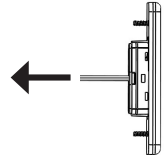
**If using a metal electrical box, ensure that the sensor does not come in contact with the box to avoid shorting the unit.**

2. Clip the 8310-813 cube to the face plate.
3. Secure the face plate to the electrical box with the provided screws.

*Depending on the door installation, the weather-resistant foam gasket may be used.*



gang box  
(metal/plastic)

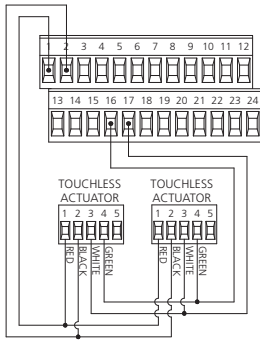


8310-813  
assembly

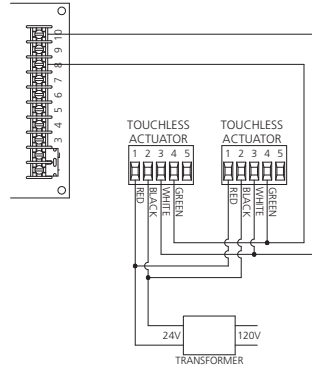
## TROUBLESHOOTING

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.
	Wrong output mode	Switch output mode to Timer.
Door remains open after detection/activation	Wrong output mode	Switch output mode to Timer.
	Incorrect wiring/connection	Check wiring and relay connection.

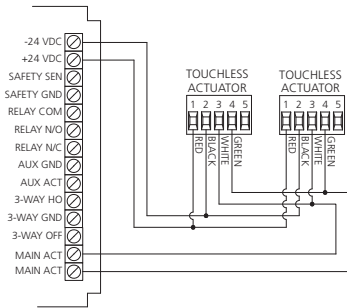
4630 / 4640 SERIES  
ELECTRIC AUTO-EQUALIZER



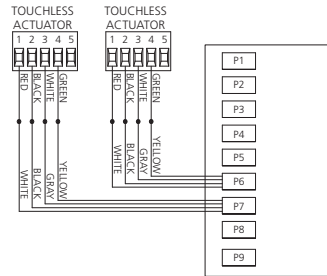
7900 SERIES  
PNEUMATIC AUTO-EQUALIZER



9100 SERIES  
BENCHMARK



SENIOR SWING - 2800 / 9500 SERIES  
MID SWING - 2900 / 9700 SERIES



**INSTALLATION/SERVICE COMPLIANCE EXPECTATIONS**

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

The sensor manufacturer 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.



Do not leave problems unresolved. If a satisfactory solution cannot be achieved after troubleshooting a problem, please contact Allegion at 1-877-671-7011. If you must wait for the following workday to call Allegion, leave the door inoperable until satisfactory repairs can be made. Never sacrifice the safe operation of the automatic door or gate for an incomplete solution.

For more information, visit [www.allegion.com](http://www.allegion.com).

