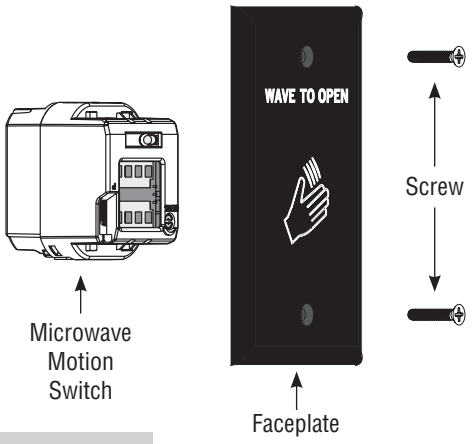
INSTALLATION 913

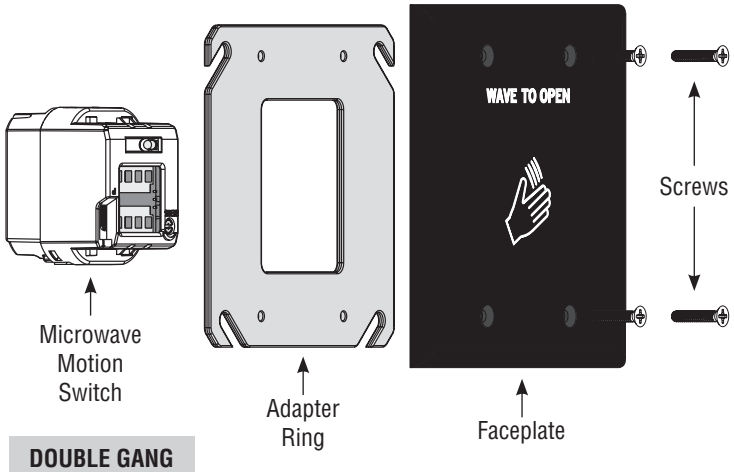
Microwave Motion Switch

In or Out... we make it Easy!®

Description



SINGLE GANG



DOUBLE GANG

Specifications

Description	Specification
Technology	Microwave Motion Switch
Radiated Frequency	24.125 GHz
Radiated Power Density	5 mW/cm²
Supply Voltage	12 to 24VAC ± 10% 12 to 24VDC +30% / -10%
Supply Frequency	50 to 60Hz
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)/ 60VA (AC)
Detection Range	4" to 24" (10 cm to 60 cm) (adjustable)
Detection Mode	Motion (bidirectional)
Output Hold Time	0.5s (in pulsed mode)
Temperature Range	-4°F to + 131°F (-20°C to +55°C)
Immunity	Immune to electrical and radio frequency interference
Weight	0.34 lbs. (0.15 kg.)
Material	ASA, Nylon, PC
Certification	Electromagnetic compatibility (EMC) according to 2004/108/EC FCC: G9B-MS08 IC: 4680A-MS08
Warranty	3 Years

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⚠ Precautions

- Shut off all power going to wall outlet before attempting any wiring procedures.
- Maintain a clean & 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 charge.
- Always check placement of all wiring before powering up to insure 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 / A156.19) upon completion of installation.
- DO NOT attempt any internal repair of the switch. All repairs and/or component replacements must be performed by RCI. Unauthorized disassembly or repair:
  - May jeopardize personal safety and may expose one to the risk of electrical shock.
  - May adversely affect the safe and reliable performance of the product will result in a voided product warranty.

Pre-Installation Instructions

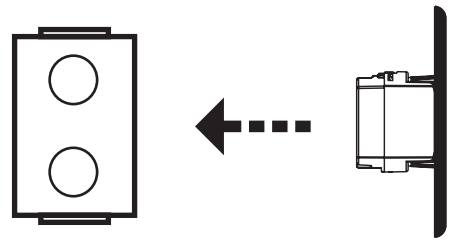
1. When wiring multiple devices together creating a system configuration, it is best to ensure that each device works independently. This will reduce troubleshooting if a discrepancy occurs.
2. Prior to installing any equipment in either new or existing circuits, ensure correct line voltage and line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

Installation Instructions

Conventional Installation

The 913 may be mounted in conventional metal or plastic electrical gang boxes. Make sure the switch does not come in contact with the metal gang box to avoid shorting out the unit.

- Do not place the switch in the door's opening range, where the switch may see door movement.
- Do not place moving objects in front of the switch.

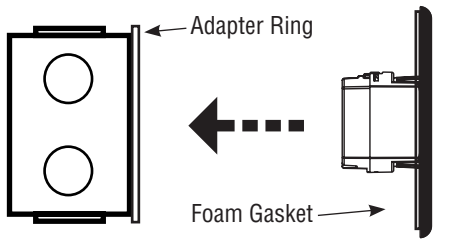


Gang Box
Metal or Plastic

913 Assembly

Weather Resistant Installation

Depending on the door installation, the weather resistant foam gasket or the plastic adapter ring may be used. The weather resistant foam 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.



Gang Box
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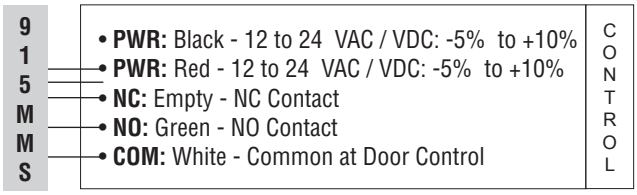
Wiring

Fig. 1



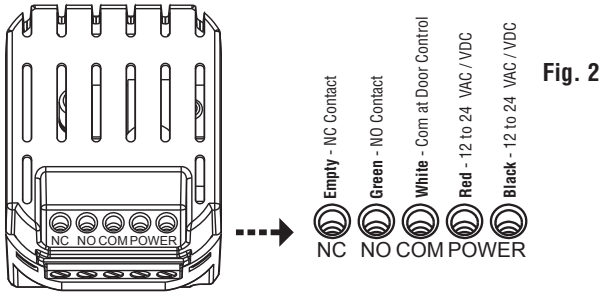


Fig. 2

1.a) Wire the 4-conductor cable to the door operator according to manufacturer specifications. See Fig. 1.

NOTE: Input power is not polarity sensitive.

1.b) Attach the 4-conductor cable connector to the Microwave Motion Switch. See Fig. 2.

Setup

Adjust unit to desired setup. Two adjustments can be made to the switch. The Potentiometer is used to adjust the size of the units' sensing field and the Output Mode switch is used to select Toggle or Pulse mode.

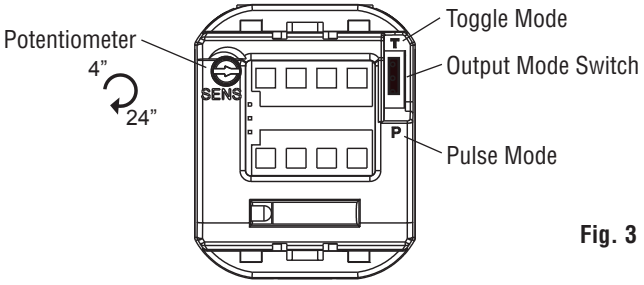


Fig. 3

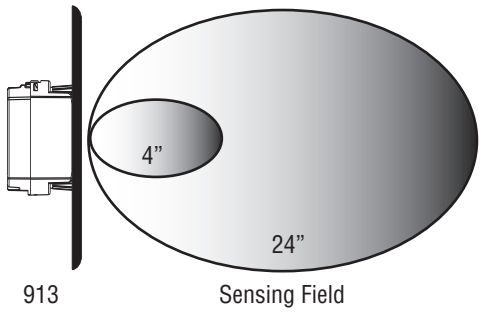


Fig. 4

2.a) Rotate potentiometer clockwise to increase the sensing field. It may be adjusted from 4" to 24". See Fig. 3 and 4.

2.b) Adjust Output Mode by moving switch in the up position (Toggle Mode) or in the down position (Pulse Mode). See Fig. 3.
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 Guide

Problems	Probable Cause	Corrective Action
Door does not open when swiping hand in front of switch.	1. Bad or no power. 2. Detection range is too small. 3. Wrong connection.	1. Check power supply. If LED switches on or flashes, power connections are OK. 2. Adjust the detection range. Remove any metal plates in front of switch. 3. Check wiring and relay connection.
Door remains permanently open.	1. Environmental conditions are influencing the switch. 2. Wrong connection.	1. Remove any moving objects close to the switch. 2. Check wiring and relay connection.
The door remains open after detection/ activation.	1. Wrong output mode. 2. Wrong connection.	1. Switch the output mode to Pulse mode. 2. Check wiring and relay connection.

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FCC Approval

This device complies with Part 15 of the Federal Communications Commission (FCC) Rules and with RSS-210 of Industry Canada. 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.

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 RCI. May void the FCC authorization to operate this equipment.

ANSI/AAADM Compliance

Upon finishing the installation and/or service work perform at a minimum a daily safety check in accordance with the minimum inspection guidelines provided by AAADM. Provide each owner with an owner's manual that includes a daily safety checklist and contains at a minimum the information recommended by AAADM. Offer a familiarization session with the owner explaining how to do daily inspections and calling out location of cutoff switches to put equipment out of service if a deficiency is noted. The equipment should be inspected in accordance with the minimum inspection guidelines annually.

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 RCI strongly recommends to have an AAADM certified inspector perform an AAADM inspection and placing a valid inspection sticker below the safety information label prior to placing the equipment into operation.

AAADM American Association of Automatic Door Manufactures

NOTE: Please deliver all installation instructions and End User Guide to the end-user upon completion of the installation.

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