

INSTALLATION AND OPERATIONAL MANUAL

WIRELESS SAFETY DOOR SENSOR

This installation manual provides the trained door technician information required to install Wireless Safety Door Sensor.
READ COMPLETE INSTRUCTIONS BEFORE PROCEEDING WITH REPAIR.

Manual may also be used as a reference for any items that are not addressed by this document.
Installation Manuals can be accessed at <https://www.Wayne-Dalton.com/Documents>.

This manual is intended ONLY for professional use by a trained door systems technician.

Illustration to the right shows the complete wireless safety door sensor on a door.

Please follow the standard work below when installing or replacing units. Failure to do so may result in severe or fatal injury.

Refer to the your Door Installation Instructions for additional safety warnings and precautions. Manual may also be used as a reference for any items that are not addressed by this document.



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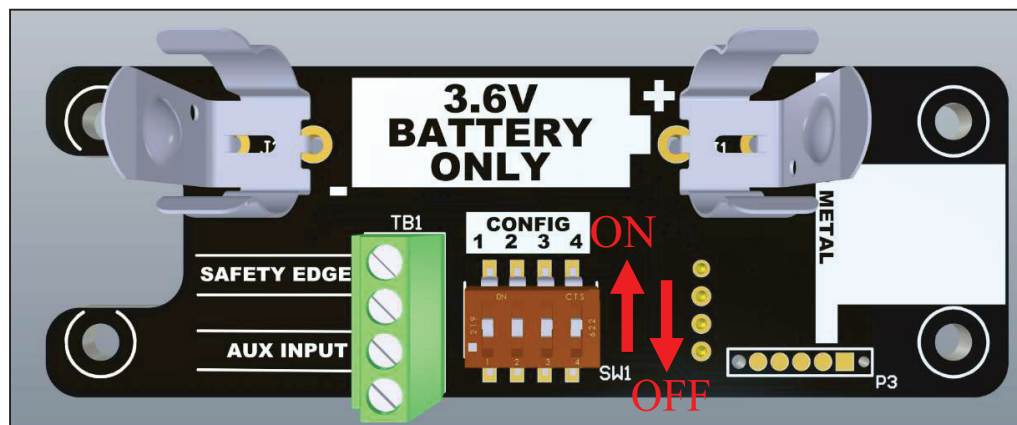
1. BATTERY PULL TAB

The sensor is shipped with a pull tab on the battery terminal. This prevents using the battery before installation. To operate sensor, open the case and remove the tab.

2. DIP SWITCHES

The sensor is equipped with four dip switches used to change settings of the sensor;

Dip Switch	Function
1	Sensor Sensitivity
2	Sensor Sensitivity
3	Communication Rate
4	Not Used



Sensor Impact Sensitivity

Used to set the impact sensitivity of the sensor, may be changed at any time. By changing the sensitivity settings, the sensors impact sensing will be affected in the horizontal orientation.

Switch Setting	Dip Switch 1	Dip Switch 2	Sensitivity
Off	Off	Off	Impact sense disabled
Low	On	Off	Maximum sensitivity to impact
Medium	Off	On	Medium sensitivity to impact
High	On	On	Minimum sensitivity to impact

Communication Rate

Used to set the communication rate with the host.

- OFF Position - The sensor will communicate with the host, while idle, every 10 seconds. In the event that the sensor is moved, a safety edge is triggered, the auxiliary input is triggered or pair button is pressed, the sensor will communicate with the host immediately. (Default setting)
- ON Position – The sensor will communicate with the host continuously. A message is sent to the host every 20 milliseconds. In this setting the movement sensing is turned off and the sensor does not take movement into consideration.

3. INPUTS

- Safety Edge – used to connect a monitored safety edge. Only an 8.2kΩ safety edge can be used with the sensor. In the event that a safety edge is not connected or becomes damaged, the sensors fault light will flash. See section 5 for details on faults. If the safety edge is triggered, the sensor sends a message to the host immediately.
- Aux Input – the auxiliary input, when triggered, relays a message to the host immediately that the input is ON. The input can be used for a variety of purposes such as a door breakaway.

4. PAIR BUTTON

The sensor is equipped with a pair button on the front face of the sensor. The pair button is used to pair the sensor with a host to establish a bond for communication.

In order to pair a sensor to a host, the host must be put into pairing mode and must be broadcasting a pairing signal. Once the pairing signal is being broadcasted, press the pair button. The host should exit pairing mode once it is successfully paired with the sensor. The sensors Activity light on the front of the sensor should indicate a successful pair. See section 4 of the LEDs section for details.

5. LED'S

The sensor is equipped with two LED lights on the front face of the sensor. A green activity and red fault LED will illuminate displaying the sensors status.

- Activity LED – the green activity light will flash each time that a message is sent out to the host. It will flash once if the message has been successfully received by the host. It will flash quickly three times if the host did not receive the message.

NOTE: if dip switch 3 is set to ON (constant transmission mode), the activity LED will not blink at all.

- Fault LED – The red fault light will flash to indicate that the sensor is encountering some kind of error. It will blink a certain amount of times in quick successions and then pause for 3 seconds before blinking again. The number of blinks will indicate what type of error is being encountered. See section 5 for details on faults.

When power is first supplied to the sensor, both the activity and fault LEDs will turn on briefly at the same time and then turn off. This indicates power is provided to the sensors electronics and the sensor was able to start successfully.

If both LEDs turn on and continue to illuminate and do not go off within a second, then an internal error has occurred during startup.

6. FAULTS

The red fault LED on the front of the sensor will blink a certain amount of times in quick successions and then pause for 3 seconds. It will repeat this process for as long as the fault is present. The light will stop to blink if the fault has been corrected. See table below for details on the type of fault for each set of blinks. See section 9 for possible solutions.

Flash Rate	Description
1 flash	Safety Edge Fault
2 flashes	Low Battery
Activity and Fault on constantly	Internal Error

7. BATTERY

The sensor is powered by a replaceable, 3.6 Volt, AA size lithium battery. In the event that the battery voltage drops below 3 Volts, the sensors fault light will flash twice, indicating that the battery requires replacement.

To replace the battery, remove the sensor from its mounting surface. Remove the 2 screws on the back holding the cover and lift up the cover. Replace the battery with a fresh one, install the cover and mount back on mounting surface. Make sure the sealing gasket in the cover does is present in the channel correctly.

NOTE: Use ONLY 3.6V battery, using a conventional 1.5V AA battery will not operate the sensor. These batteries are available at battery suppliers and electronic component dealers. They are not stocked at most stores.

8. OPERATION

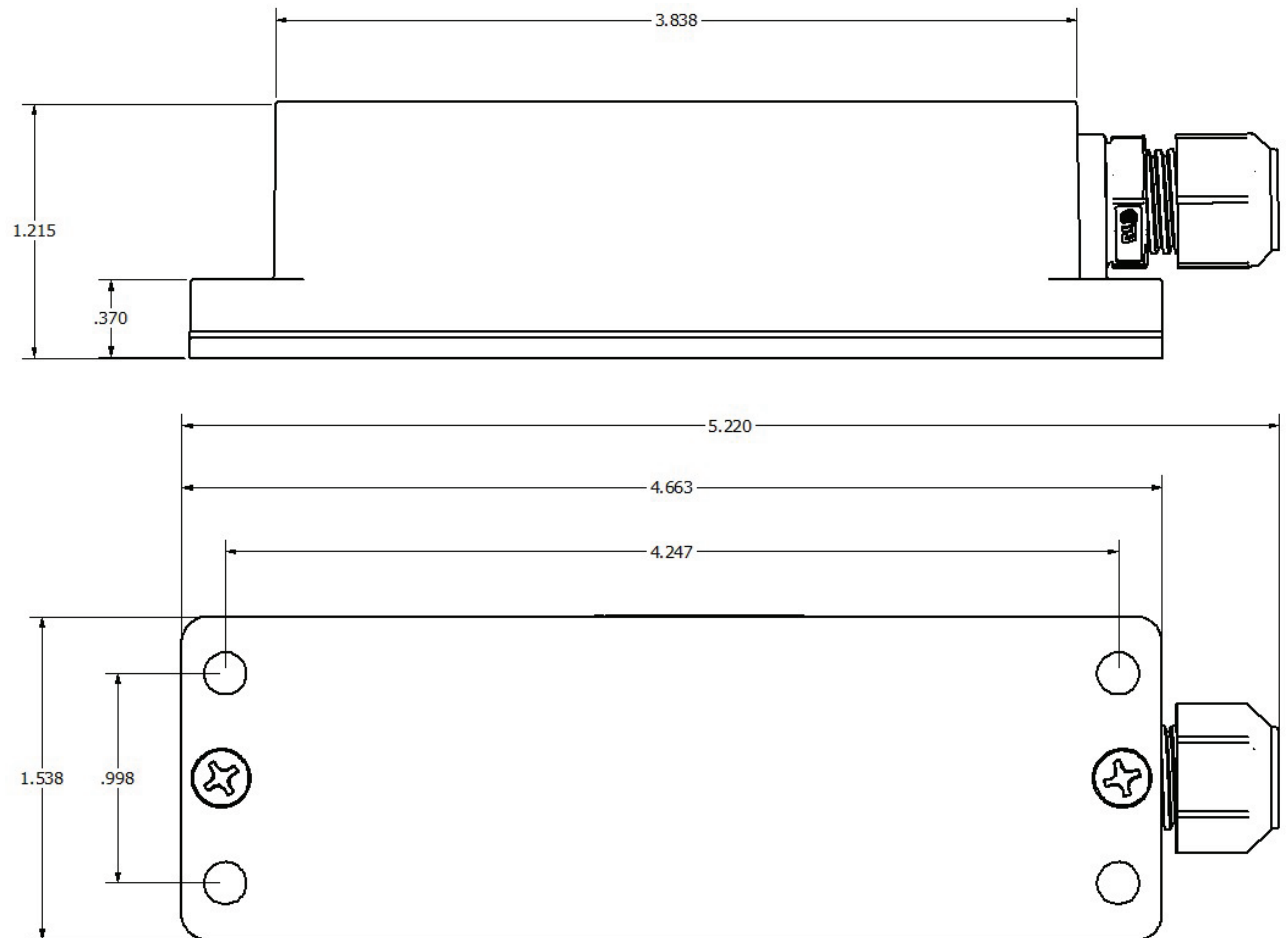
When dip switch 3 is set to OFF and the sensor is idle, the sensor will communicate with the host every 10 seconds. If the sensor detects movement or impact, it will communicate with the host immediately. If the safety edge or the auxiliary input is triggered, then the sensor will communicate with the host immediately as well. If a fault arises, the sensor will send a message to the host immediately, after that the sensor will update the host on the status of the fault every 10 seconds or when the above mentioned events occur.

If dip switch 3 is set to ON, the sensor will communicate with the host constantly. A message is sent to the host every 20 milli seconds. During this time there are no qualifying events that trigger a communication event, the status of all peripherals is collected and sent constantly to the host. In this setting, the movement sensing is turned off and the sensor does not monitor this.

9. INSTALLATION

- Mounting Hole: 0.200" use a maximum #10 size screw for mounting.
- Cable Gland: a 0.115" - 0.250" cable should be used, any cable outside of this range may cause leakage.
- Terminal Block: terminal block screws should be torqued to 1.9 - 2.2 lb-in (0.22-0.25 Nm)

NOTE: Sensor should always be mounted to a solid surface, with the pair button and LEDs away from the mounting surface. Mounting the sensor upside down or in any other orientation then intended will diminish the signal range substantially and will cause loss in communication with the host.



10. TROUBLESHOOTING

Symptom	Diagnosis	Solution
No Communication	Sensor is not paired	Pair the sensor to the host
	Sensor too far away from host	Mount the sensor closer to the host or use an external host to increase range
	Mounted orientation is incorrect	Mount the sensor correctly, the sensor should always be mounted with the Pair button and LEDs away from its mounting surface
LEDs do not light up	Sensor is in constant transmission mode	In the constant transmission mode, the activity LED does not blink, this effort is to reduce the battery consumption. Switch dip switch 3 to OFF in order to verify the sensor operation.
	Sensor battery is dead	Replace the battery
Fault LED flashes once (safety edge error)	The safety edge is not connected to the sensor	Connect a safety edge to the safety edge terminals
	The safety edge wiring is damaged	Replace the safety edge
	Wrong safety edge installed	Connect correct safety edge (must be 8.2kΩ type)
Fault LED flashes twice (low battery)	The sensors battery is low	Replace sensor battery
Both Activity and Fault LED are constantly ON	An internal error has occurred	Remove battery, wait 30 seconds and then re-install battery, if LEDs continue to illuminate for longer than 1 second, replace sensor.
Activity LED flashes three times (no communication with host)	Host not within range	Mount sensor closer to the host
	Sensor not paired	Pair the sensor
	Host is not ON	Turn on the host
Sensor won't pair	Sensor not within range	Bring sensor closet to host and try pairing again
	Host not in pairing mode	The host must be placed in pairing mode first, make sure the host is broadcasting a pairing signal before pressing the pair button.

APPENDIX A: REPLACING OLD WIRELESS STYLE SENSOR WITH NEW WIRELESS SENSOR.

NOTES:

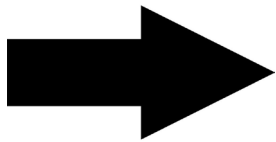
1. Old style sensor was molded and required replacement when the battery ran low.
2. Old style sensor had a length of wire attached to the sensor requiring a junction box. New style sensor has internal connections and must be placed where the junction box is. There is very little room inside the sensor. Jeweler's screw driver and tweezers are recommended.
3. Battery tab must be removed before operation.

INSTALLATION

1. Open junction box and remove connections to old wireless sensor.
2. Remove old wireless sensor and junction box from bottom bar.
3. Mark, drill and tap mounting holes for the new sensor. (Min. two mounting holes).
4. Open new sensor case and connect edge sensor wires and breakaway tab wires. (If present)
5. Tighten cord grip to make waterproof seal.
6. Verify battery tab is removed.
7. Close new sensor case and mount sensor on bottom bar.
8. Pair the new sensor with the controller.
9. Verify operation by compressing edge to produce error / door reversal.

PICTURES

Old style sensor with junction box:



NEW STYLE SENSOR

