

MicroStar blue Motion and Presence Sensor Installation Instructions

FCC Compliance

This device complies with part 15 of the FCC Rules 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.

FCC Warning Statement

Changes or modifications not expressly approved by MS Sedco could void the user's authority to operate the equipment.

Product Description

The microStar blue is the combination motion and presence sensor that provides superior activation and safety for automatic sliding doors in a single device. The microStar blue uses patented microwave technology to create two seamless zones within its detection pattern. The activation zone provides selectable unidirectional or bidirectional motion detection. The safety zone provides contiguous presence detection at the threshold and through it when the door is open. The microStar blue's proprietary software will learn the movement of the door and then ignore it when opening and closing thus allowing the safety zone to provide protection through the threshold area of the door. Two relay outputs are standard. Relay output #1 is for the activation (motion) zone and Relay output #2 is for the threshold safety (presence) zone.

Insert sensor component pictures here

Installation Preparation

Prior to installing this sensor verify you have the correct version microStar for the type of door it is being installed on. Match the color-coded microStar logo on the sensor cover to Chart A below.

(A) microStar Applications Chart

	Sliding Doors	Folding Doors	Swinging Doors	Revolving Doors
microStar red			X-safety	
microStar white			X-approach	X-approach
microStar blue	X-approach/safety			
microStar green		X-approach/safety		

Warning w/symbol: Remember to follow these safety precautions:

- **Shut off power to the automatic door before wiring sensor.**
- **Always ensure wiring is located clear of any moving door parts to avoid damage.**
- **Always be aware of pedestrian traffic. Keep people clear of the work area when setting up or testing the door.**
- **Comply with all applicable building codes and safety standards (ANSI A156.10).**

Sensor Mounting:

1. Remove the cover of the microStar by placing the blade of a small screwdriver in the notch in the right side of the cover as shown (B). Once the sensor is attached to the header **always remove the cover in this same manner.**

(B) Cover Removal Diagram

2. Attach the mounting template as shown (C) **flush with the bottom edge** of the header. Drill 3 holes noted on template (1 wire passage hole, 2 screw pilot holes)

(C) Mounting Template Diagram

3. Insert mounting screws partially into holes. Route the wire harness along sensor backplate as shown (D). Feed the stripped end of the wire harness through the wire passage hole. Install the microStar onto the mounting screws and tighten.

(D) Wire Harness Diagram

Sensor Wiring:

With power OFF, connect sensor wiring to the operator control as shown (E). Two wiring options are available. The activation relay output and safety relay output wires of the microStar can be connected to the activation input of the operator control (safety will be on at all times) OR the microStar's activation relay output can be connected to the activation input of the operator control and the microStar's safety relay output can connect to the safety input of the operator control (safety will be off when door is closed).

(E) Wiring Diagrams

Wiring to operator control's activation input only:

Wiring to operator control's activation and safety inputs:

Warning w/symbol: DO NOT APPLY POWER TO THE SENSOR!

Sensor Settings and Adjustments:

All settings and adjustments can be made via the microStar main circuit board so there is no need for costly or confusing proprietary set up devices.

(F) Main Circuit Board Diagram (with dip switches, adjustment pots, relays, antenna adjustments identified)

(G) Dip Switch Settings Chart (Include drawing of dip switches)

Dip Switch Positions: 0= Left; 1= Right

Dip Switch	Function		Default Setting
1*	Detection Direction	0=Bi-directional 1=Uni-directional	1
2	Motion Sensitivity	0=Less Sensitive 1=More Sensitive	1
3	Threshold Safety	0=OFF 1=ON	1
4	Fail Safe State	0=Enabled 1=Disabled	0
5**	M-T-P**	0=OFF 1=ON	1
6*	Direction	0=Depart Only 1=Approach Only	1

*Dip Switch #6 is not used when Dip Switch #1 is set to “0”

*When Dip Switch #1 is set to “1” Be sure to select desired direction with Dip Switch #6

**MTP= Motion-To-Presence Feature: After initial detection the Activation Zone converts from motion only detection to presence detection providing a larger Safety Zone as shown (H)

(H) Motion-To-Presence (M-T-P) Diagram

(I) LED Glossary

Sensor Initialization Mode: With threshold safety ON (Dip Switch #6=1)

During the **sensor initialization mode** the activation (motion) zone of the detection pattern is created and adjusted to desired size.

Warning w/symbol: Be sure to read this entire section before proceeding

1. Clear people and all temporary objects out of the detection pattern area.
2. Apply power to the sensor.
3. During the first 10 seconds after power is applied, the microStar is in its **initialization mode**. The sensor will not detect motion and the LED flashes GREEN. Press the LEARN button located on the PCB as shown (F) before the LED stops flashing.
4. After pressing LEARN button the LED will confirm by flashing ORANGE. Wait until LED turns solid GREEN before proceeding.
5. With LED solid GREEN, turn the Motion Range Pot to Maximum (factory setting) as shown (F).
6. Walk test the pattern for motion detection as shown (J) by walking slowly towards the door from several different angles. The LED will turn from solid Green to solid RED when the sensor detects you.

(J) Activation Zone Walk Test

If the pattern needs any adjustment, the pattern size is adjusted via the Motion Range Pot. Pattern position to the door is adjusted by physically moving the antenna in or out (vertical tilt) and left to right (lateral tilt) as shown (F). Factory settings are 9° vertical tilt and 0° lateral tilt.

Notice w/symbol: The threshold safety (presence detection) will not operate at this point. Only the motion detection capabilities are functioning.

7. When desired pattern is achieved, **remove power from the sensor.**

Sensor Learn Mode: With Threshold Safety ON (Dip Switch #6=1)
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During the **sensor learn mode** the door's movement will be learned and the threshold safety (presence) pattern will be created and adjusted to desired size. Upon power up, the sensor will open and close the door two times. This allows the microprocessor to first learn the door's movements so that they can be ignored during normal operation and to then create the threshold safety zone.

Warning w/symbol: Read this entire section before proceeding.

1. Clear any people and all temporary objects out of the detection pattern area.
2. Re-apply power to the sensor. The LED will flash ORANGE for 10 seconds allowing time to clear the detection pattern area and then turn solid RED.
3. The door will open for 10 seconds. The LED will then turn solid GREEN and the door will close for 10 seconds.
4. The open/close cycle is repeated a second time to verify readings.
5. Once **sensor learn mode** is complete the LED will flash GREEN for 10 seconds and then become solid GREEN indicating a successful learn mode is complete and the sensor is ready for normal operation.
6. Walk test the threshold safety pattern by approaching the door slowly from one side and cross to the other while keeping your back against the door frame as shown (K). The LED will flash RED when it detects you.

(K) Threshold Safety Zone Walk Test

Change the pattern size, if necessary, by adjusting the Threshold Safety Pot (F).

7. Set the Relay Hold Time for desired setting via the Relay Hold Time Pot (F). This is the amount of time the door will stay open after the sensor no longer detects a person. The hold time can be set between 0-5 seconds. Factory Setting is?
8. Replace the cover by engaging the **left side first** and then gently snapping the cover into place as shown (J)

Notice w/symbol: Repeat walk test. If pattern size changes are desired remove the cover **from the right side** and make the necessary adjustments (F).