

## **Frequently Asked Questions – Sensing Edges**

### **Q. What is a Miller Sensing Edge?**

**A.** Miller Edge sensing edges are designed to an obstruction in a door or gate opening. Activation of the sensing edge will cause the motor operator to stop a closing door, or stop and open a closing door, or prevent an open door from closing, depending on how the motor circuit is wired.

### **Q. What is a Miller 2-Wire Electric Sensing Edge?**

**A.** A Miller 2-wire electric sensing edge consists of two (2) adjacent conductive strips inside an astragal that is attached on the bottom of a motor driven door. These strips are normally separated by a small gap, and are connected to the control circuit of the motor operator. When the astragal is compressed, the conductive strips make contact activating the sensing edge. In the event that the conductive strip(s) become broken, the section of the sensing edge beyond the break will cease to function.

### **Q. What is a Miller 4-Wire Sensing Edge?**

**A.** Also known as a “Fail-Safe” edge, with the term fail-safe designating that the door will revert to manual operation in the event of a continuity loss within the circuit. The four-wire electric sensing edge operates the same as a two-wire electric sensing edge with the exception that it is designed to function with self-monitoring circuitry. This circuitry will prevent the motor operator from closing the door when a fault is detected, e.g. a conducting strip is broken or a wire is open, requiring manual operation to close the door.

### **Q. What is a Miller Pneumatic Sensing Edge?**

**A.** A Miller Pneumatic Sensing Edge is a flexible astragal or weather seal attached to the bottom of the door with a rubber or plastic tube inside the full length of the astragal. A plug seals one end of the tube and the other end is attached to a pneumatically activated electric switch that is connected to the control circuit of the motor operator for the door. When the door closes on an obstruction, the pressure in the tube increases and activates the electric switch.

### **Q. What is a Miller “Patriot” Non-Contact Sensing Edge?**

**A.** The Patriot Series of sensing edges consists of a Control Unit, and Emitter Eye and a Receiver Eye. The eyes easily mount into your choice of “Z-Flap” or “Telescopic” mounting brackets, which extend below and travels with the leading edge of the door. The eyes provide an invisible beam of protection along the edge of the door. Once the beam becomes blocked by an obstruction or person, it sends a signal to the Control Unit, which in turn sends a signal to the door operator to stop and/ or reverse its motion.

### **Q. When ordering how do I measure the length of a Miller Edge.**

**A.** For Sectional Doors, use the section width. For Rolling Steel doors, take the measurement from tip of the guide to tip of the guide, and deduct 2 inches.

### **Q. What color options are available when ordering a Miller Sensing Edge?**

**A.** For Sectional Doors and Gates, black is the standard color. Yellow is an option on some models. For Rolling Steel sensing edges, gray is the standard color. Optional colors for Rolling Doors include yellow, black, white and yellow/black striping. Other colors are available upon request.

**Q. How do I convert a 4-Wire Edge into a 2-Wire Edge?**

**A.** To convert a four-wire edge into a two-wire edge, twist the two black wires together and then twist the two white wires together.

**Q. Can a Miller Edge be cut down in the field?**

**A.** NO! A Miller Sensing Edge is hermetically sealed in our factory to ensure a weatherproof product. If an edge is too long for your application, please contact one of our factories to have the edge cut down, or to have a replacement issued.

**Q. What do I do if I have a defective edge?**

**A.** Please contact one of our factories for a **Return Authorization Number**. NO shipment will be accepted without prior authorization.

**Q. Where may I purchase a Miller Sensing Edge?**

**A.** We have distributors located throughout the United States and Canada. Our products are also available overseas. Please contact our factory for additional information.

**Q. Can an electric edge be made Normally Closed instead of Normally Open?**

**A.** No, BUT you can still use an electric edge.

**Q My operator DOES NOT HAVE B-2 WIRING, can I still use an electric edge?**

**A.** Yes, you can still use an electric edge.

Explanation:

Our edges are considered normally open. When wired to operators with B-2 wiring, you simply attach the leads to the reversing terminals in the operator. The general idea is that when the edge is activated during the door's downward motion, the edge signals the motor to stop and reverse.

If the operator does not have B -2 wiring, you will have to add this capability to the operator. To make the edge function as a normally closed contact: during the downward cycle, you want to de-energize the current to the closing coil of the contactor and energize the opening coil of the contactor. You will definitely need a relay and may or may not need a transformer.

You will need to answer a few questions before proceeding:

1. Is there a cutout limit switch on the operator? If Yes, GO TO I  
If there is not a cut out limit switch on the operator,
2. Is there existing 24 volt control wiring? If YES, GO TO II
3. If there is no cutout limit switch and no 24 volt control wiring, GO TO STEP III

**I. The operator DOES HAVE a cutout limit switch**

**A.** Does the operator allow for access to 24 volts for control wiring?

1. If 24 v is not available, you will need to purchase a step down transformer,
2. Disconnect power to the door operator.
3. Connect high voltage leads to the line voltage
4. If 24v is available, you will not need to purchase a transformer.

We have several relay and transformer assemblies available to reduce voltage from 110v (RTA-110), 220v (RTA-220), and even 550v (RTA-550), down to 24 volts. You should never apply more than 24v to the edge sensor.

B. You will now series connect the coil of the relay (R-01) to the edge, cutout limit switch and transformer.

1. Connect the transformer's 1st low voltage (24v) lead wire to terminal-A on the relay (R-01)
2. Connect the white lead wire on the edge sensor to terminal B on the relay (R-01)
3. Connect the black lead wire on the edge sensor to one terminal of N.C. cut out limit switch
4. Connect empty contact on cut out limit switch to the 2nd lead wire on the transformer

C. You will now connect the relay to the door operator.

The N.C. contacts on the relay are 3 and 9, The N.O. contacts on the relay are 4 and 7

1. Disconnect wire from the close button that connects to terminal strip on door operator
  2. Connect this wire from the close button to terminal 3 of relay
  3. Connect terminal 9 of relay to the close button
- [You may also series connect the N.C. contacts (3 & 9) with the closing coil of the contactor]

D. Parallel connect the N.O. contacts on the relay (4 & 7) to the open push button

1. Connect one N.O. contact (7) of the relay to one terminal of the N.O. push button
2. Connect the other N.O. contact (4) of the relay to the other side of the open push button

E. GO TO STEP IV

II. The operator does NOT HAVE a cutout limit switch but DOES HAVE existing 24v control wiring. You will need to purchase a relay only (P/N R-01)

A. Disconnect power to door operator

1. Connect the terminal A on the relay (R-01) to the common lead on the existing 24v transformer
2. Connect terminal B on the relay (R-01) to the white lead wire of the edge sensor.
3. Connect the black lead wire of the edge sensor to the point where power is lost when down limit is activated (this is located in different locations depending upon the operator brand)

B. You will now connect the relay to the door operator

The N.C. contacts on the relay are 3 and 9. The N.O. contacts on the relay are 4 and 7

- A. Disconnect wire from the close button that connects to terminal strip on door operator
- B. Connect this wire from the close button to terminal 3 of relay
- C. Connect terminal 9 of relay to the close button (You may also series connect the N.C. contacts (3 & 9) with the closing coil of the contactor)

C. Parallel connect the N.O. contacts on the relay (4 & 7) to the open push button

1. Connect one N.O. contact (7) of the relay to one terminal of the N.O. push button
2. Connect the other N.O. contact (4) of the relay to the other side of the open push button

D. GO TO STEP IV

III. The operator does NOT HAVE a cutout limit switch, does NOT HAVE existing 24 volt control wiring. You will need to purchase a relay and a step down transformer to step voltage from control voltage down to 24 volts. We have several relay and transformer assemblies available to reduce voltage from 110v (RTA- 110), 220v (RTA-220), and even 550v (RTA-550), down to 24 volts. You should never apply more than 24v to the edge sensor.

- A. Take one high voltage lead from the step down transformer and connect to common lead of the control voltage.
- B. Take the other high voltage lead from the step down transformer and connect to the point where the power is lost when the down limit switch is activated. (this is located in different locations depending upon the operator brand)
- C. Connect one low voltage (24v) lead wire from the step-down transformer to terminal A of the relay. Connect the white lead wire on the edge sensor to terminal B of the relay. Connect the black lead wire on the edge sensor to the other low voltage (24v) lead wire of the step-down transformer.

D. You will now connect the relay to the door operator. The N.C. contacts on the relay are 3 and 9. The N.O. contacts on the relay are 4 and 7

1. Disconnect wire from the close button that connects to terminal strip on door operator
2. Connect this wire from the close button to terminal 3 of relay
3. Connect terminal 9 of relay to the close button

[You may also series connect the N.C. contacts (3 & 9) with the closing coil of the contactor]

E. Connect N.O. contacts of relay (4 & 7) in parallel to open push button.

1. Connect the N.O. contact (7) of the relay to one terminal of the open push button.
2. Connect the other N.O. connect (4) of the relay to the other side of the open push button.

#### F. GO TO STEP IV

IV. Adjust the down limit so that the door stops approximately 1 to 2 inches above the floor and edge sensor rests on the surface of the floor. If the downward limit is set too far down, the edge sensor will not cut out of the circuit and will reverse when it hits the floor. Test for security. With the door in its fully closed position, reach your hand under the sensor and press. The edge should not activate when the door is fully closed - if it does activate, re-adjust the operator's down limit switch to avoid a breach of security.