ANSI 156.10 2017
AUTOMATIC DOOR SENSOR PERFORMANCE REQUIREMENTS

This document highlights the current ANSI 156.10 standards as applicable to sensing requirements for automatic swing doors.

Disclaimer: This document does not replace the standard itself. For compliance, always refer to the more specific and detailed language of the standard.

ACTIVATION

SECTIONS 8.1.1 – 8.1.2

A motion sensor shall detect a minimum 28-inch high person moving towards the center of the door at a rate of 6 inches per second (see image 1).

The minimum width shall be the width of the clear door opening and the minimum depth shall be effective to within 5 inches of the closed door and extending out 43 inches.

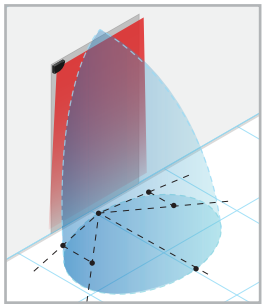

IMAGE 1

motion sensor

SAFETY

SECTION 8.1.3

Presence sensors shall detect a 28-inch high (minimum), stationary person within the detection areas for a minimum of 30 seconds.

SECTION 8.2.2.1 (overhead presence sensors) – see image 2

- Shall be the width of the door opening less 5 inches from each side
- Shall be maximum of 5 inches from a closed door
- Shall be a minimum of 5 inches beyond the leading edge of an open door

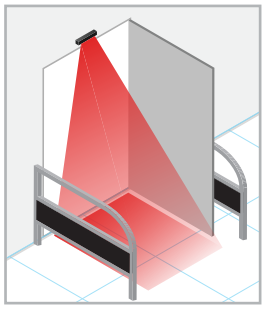

IMAGE 2

overhead presence sensor

SECTION 8.2.2.2 (overhead presence sensors, cont.)

All overhead presence sensors are required to work in conjunction with at least one additional supplementary presence sensor:

- Photo beam near the leading edge of an open door – see image 3
  When detection occurs the photo beam shall cause the door to continue to close until detection by both the overhead presence sensor and photo beam are clear
- Door-mounted sensor on at least the swing side of the door leaf – see image 4
  The door-mounted sensor shall cause the door to stop, slow its opening or re-opening to the industry standard of 4 inches per second (otherwise known as "backcheck speed")
  Note: The minimum detection field allowed is for ½ the door width, measured from the leading edge of the door.

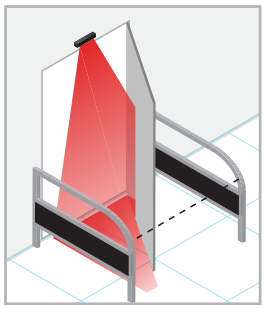

IMAGE 3

overhead presence sensor
+
photo beams

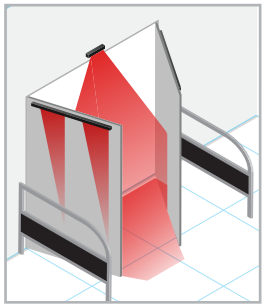

IMAGE 4

overhead presence sensor
+
door-mounted presence sensor

SECTION 8.2.2.3 (door-mounted presence sensors) – see image 5

Shall be effective to the industry-known terminology as the "5-5-1 rule." This rule states that the fields on both sides of the door must be capable of detecting a 28-high (minimum) person who is fully within the detection zone:

- 5 inches from the face of the door
- 5 inches from the pivot or hinge area
- 1 inch from the leading edge of the door

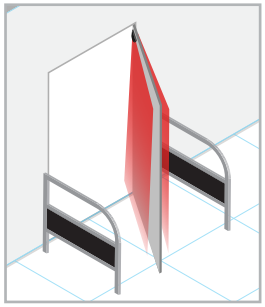

IMAGE 5

door-mounted presence sensor
(approach side)
+
door-mounted presence sensor
(swing side)