# CSI SPECIFICATION SECTION 8.

**SECTION (08460] SENSORS FOR AUTOMATIC DOORS**

PART 1 - **GENERAL**

* 1. SUMMARY
     1. This Section includes the following types of automatic entrance/ exit door sensors:
        1. Exterior and interior, swing door applications.
        2. Entrance and exit applications.
     2. Related Sections:

1. Division 16 Sections for electrical connections including conduit and wiring for automatic entrance door operators.
2. Division 08.71.13 and 08.71.16 for door hardware connections for automatic doors.
   * 1. REFERENCES
3. Underwriters Laboratories (UL) UL 325 - Standard for Door, Drapery, Gate, Louver, and Window Operators and Systems
4. American National Standards Institute (ANSI) / Builders' Hardware Manufacturers Association (BHMA)
5. ANSI/BHMA A156.10: American Standard for Power Operated Pedestrian Doors
6. American Association of Automatic Door Manufacturers (AAADM)
   1. DEFINITIONS
      1. Safety Device: A presence sensor device that upon detection, sends a signal to the automatic door system to prevent a door from opening or closing, as appropriate.
      2. Activation Device: A presence sensing device that, when actuated, sends a signal to the automatic door system to open the door, re-open or hold a door open, as appropriate.
   2. PERFORMANCE REQUIREMENTS
      1. Provide a door mounted sensor system for swing doors utilizing focused reflective active infrared technology that provides detection in the swing path during door travel and at the full open and full closed positions.
      2. For Swing Door: Sensor shall be coupled with a capable automatic door control to provide safety on the push and pull side of an automatic swing door.
      3. Presence Detection
   3. Focused Active Infrared technology.
   4. Each Elite Pro sensor systems (excluding LE model) shall have 48 active spots for detection per door panel (24 push side and 24 pull side) and shall be adjustable up to a 48" door panel.
   5. Maximum presence detection time: Infinite
7. Response Time: <0.3 sec.
   1. QUALITY ASSURANCE
      1. Installer Qualifications: Manufacturer's authorized representative who is an AAADM certified inspector and employed by a company who regularly engages in the installation and service of pedestrian automatic doors as its primary business and holds a certification from the manufacturer.
      2. Manufacturer Qualifications: A qualified manufacturer with a manufacturing facility that specializes in automatic door sensor devices.

1 Product must be compliant to applicable ANSI/BHMA Standard A156.10 when inspected by an AAADM certified inspector.

* 1. COORDINATION
     1. Electrical System: Coordinate layout and installation of sensors systems to automatic entrance door assemblies with connections to power supplies and other electrical component systems as supplied by others.
  2. WARRANTY
     1. Automatic Entrance Door Sensors shall be free of defects in material and workmanship for a period of one (1) year from the date of substantial completion.
     2. During the warranty period the Owner shall engage a factory-trained automatic door installer/ service personnel who hold a valid AAADM certificate: technician to perform necessary adjustments, service and affect repairs during warranty period.

PART 2 - **PRODUCTS**

* 1. AUTOMATIC ENTRANCE DOOR SENSOR
     1. Acceptable Manufacturer: OPTEX Inc., 10741 Walker Street, Suite 300, Cypress, CA 90630, 800-877-6656. www.optexamerica.com. (Basis of Design)
  2. PRODUCT
     1. Product Shall be OPTEX ELITE PRO System: Comprised of two sensor heads, one door loop, one control module, wiring harness and mounting hardware. Each Elite Pro system is designed to provide safety for 1 door panel up to 48" wide (two systems required on Pairs).
     2. Dimensions: 10 3/4" Wide x 2 1/4" Tall, x 1 1/4" Deep.
     3. Mounting Height: 6'-7" to 8'-2" above finished floor.
     4. Finish: Black polycarbonate housing.
     5. Requirements:

1. Utilizes focus reflective active infrared detection technology.
2. Sensor shall be capable of detecting a 28” minimum high person within the detection area described for a minimum of 30 seconds.
3. Each sensor pattern shall be capable of looking back through the door opening a min of

24" with the door in the full open position.

1. Each sensor pattern width shall be capable of being adjusted equal to the width of the door panel (up to 48" panel), less 5 inches from the pivot edge and 1” from the lead edge of the door panel.
2. Sensor shall provide Dip Switches and Buttons for adjustment and configuration and/or optional settings App thru a Wifi connected (802.11 b/n/g) hand held device.
3. Provide a rain mode and snow mode.
4. Sensor shall utilize a loop assembly and OC-907C Tconnecting the door control to the sensor system.
5. ELITE PROshall be capable of being adjusted to be a stand-alone device, compliant to **ANSI/BHMA A156.10 (2011) Section 8.2.2.3**
6. ELITE PRO shall be capable of meeting monitoring requirements set forth in **ANSI/BHMA A156.10 (2017) section 8.1.4**
7. ELITE PRO shall utilize a control interface, OC-907C T with polarity free inputs/outputs.
8. Wifi connected (802.11 b/g/n) hand held device adjustment shall be accepted. Elite Pro shall be capable of being adjusted to be a stand-alone device, compliant to ANSI A156.10 (2017) Section 8.2.2.3.
9. Mounting Height: 6'-7" to 8'-2"
10. Thermal Range Requirements:
    1. Temperature Range: -4 F (-25 C) to +131 F (+55 C) Need degree symbol
    2. Degree of Protection: OA-607-T Sensor IP54
11. Output:
    1. Activation: Form A Relay 50V, 0.3A (Resistance Load), polarity free
    2. Stall: Form B Relay 50V, 0.3A (Resistance Load), polarity free
    3. Response Time: <0.3 sec.
12. Optional accessories: ELITE MOUNT Spacer

PART 3 - **EXECUTION**

* + 1. INSPECTION
       1. Examine conditions for compliance with requirements for installation tolerances.
  1. INSTALLATION

A. Do not install damaged components.

* + 1. FACTORY INSTALLED AND ON-SITE INSTALLED UNITS
       1. Install Plumb and level near the top rail of each door panel. Conceal fasteners to the greatest extent possible.
       2. Shall be installed and inspected by a certified AAADM inspector for compliance with ANSI/BHMA A156.10. Ensure to place appropriate AAADM Label and sticker in the appropriate location for the type of door system selected.
       3. Door Operators: Connect door operators to electrical power distribution system as specified in Division 16 Sections.

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FIELD QUALITY CONTROL

An AAADM certified inspector shall test and inspect each automatic entrance door to determine compliance of installed systems with applicable ANSI standards.

ADJUSTING

Adjust door operators, controls, and hardware for smooth and safe operation, for weather-tight closure, and complying with requirements in ANSI/BHMA A156.10 and other applicable ANSI/BHMA standards.

WARRANTY

One year warranty shall be issued from time of installation followed by an AAADM certified inspection for compliance with ANSI/BHMA A156.10. Ensure to place appropriate AAADM label and completed inspection sticker in the appropriate place for the type of door system selected.