

## CSI SPECIFICATION SECTION 8.

### SECTION [08460] SENSORS FOR AUTOMATIC DOORS

#### PART 1 - GENERAL

##### 1.01 SUMMARY

- A. This Section includes the following types of automatic entrance/exit door sensors:
  - 1. Exterior and interior, slide, swing, folding and revolving door applications.
  - 2. Entrance and exit applications.
- B. 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.
- C. REFERENCES
  - 1. Underwriters Laboratories (UL) UL 325 – Standard for Door, Drapery, Gate, Louver, and Window Operators and Systems
  - 2. American National Standards Institute (ANSI) / Builders' Hardware Manufacturers Association (BHMA):
  - 3. ANSI/BHMA A156.10: American National Standard for Power Operated Pedestrian Doors
  - 4. ANSI/BHMA A156.27 American Standard for Power and Manual Operated Revolving Pedestrian Doors
  - 5. American Association of Automatic Door Manufacturers (AAADM)

##### 1.02 DEFINITIONS

- A. Activation Device: A motion sensor device that, when actuated, sends an electrical signal to the door operator to open the door, re-open or hold a door open.

##### 1.03 PERFORMANCE REQUIREMENTS

- A. Provide an automatic entrance door sensor capable of providing motion detection activation via microwave (motion detection) K-band (24.125GHz).
- B. Thermal Range Requirements: Provide sensor that can be used in all climates, allow for thermal range from - 4 degrees to 131 degrees Fahrenheit.
- C. Mounting Range Capabilities: Shall detect a 28 inch minimum high person, moving at a rate of 6 inches per second minimum toward the center of the door, within the detection areas described.
  - 1. Mounting Height Standard: 6' – 11"
  - 2. Mounting Height High: 11' - 5"
- D. Sensing Pattern: Sensor shall use a flat antenna capable of achieving both narrow and wide sensing patterns.
- E. Mounting Options: Sensor shall have the ability to be mounted above the door or optional ceiling mount for mounting sensor in ceiling.
- F. Sensor shall be capable of adjusting for Sensitivity.
- G. Motion Tracking: Sensor shall be capable of bidirectional and unidirectional detection. Sensor unit shall be factory set with a Motion Tracking Feature, enabling it to switch from unidirectional to bidirectional mode as soon

as a target is detected.

H. Adjustability: Adjustments shall be made by manual adjustments only. Physical parameter settings, such as motion detection sensitivity, type of detection and environmental distraction immunity, relay output configurations, relay hold time shall be manually adjustable. No remote shall be accepted.

1. Vertical Tilt Angle: 0° to 90°
2. Lateral Tilt Angle: -15° to +15°

I. Hold Time: 2.0 seconds to 4 seconds, adjustable.

J. LED Indicator: Sensor unit to have LED indicator to change from green to red when detection occurs.

K. Housing: Sensor shall have a compact vandal proof ABS housing 4.75" W x 3.15" H x 2.0" D

#### 1.04 QUALITY ASSURANCE

A. 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 holds a certification from the manufacturer.

B. Manufacturer Qualifications: A qualified manufacturer with a manufacturing facility that specializes in automatic door sensor devices.

1. Product must be compliant to applicable ANSI Standards 156.10 or 156.27 when inspected by an AAADM certified inspector.

#### 1.05 COORDINATION

A. 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.

#### 1.06 WARRANTY

A. 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.

B. During the warranty period the Owner shall engage a factory trained, automatic door installer/service personnel who holds a valid AAADM certificate: technician to perform necessary adjustments, service and affect repairs during warranty period.

### PART 2 - PRODUCTS

#### 2.01 AUTOMATIC ENTRANCE DOOR SENSOR

A. Acceptable Manufacturer: Optex Technologies, Inc. 3882 Del Amo Blvd., Torrance, CA 90503, 800-877-6656 [www.ot-inc.com.com](http://www.ot-inc.com.com). No substitutes accepted.

#### 2.02 PRODUCT

A. Product shall be: Optex Reaction II Sensor: Sensor Dimensions: 5 3/16" W x 2 3/8" H x 2 3/16" D. Cable length 9' 10".

B. Microwave activation (flat planar antenna) with bi-directional and uni-directional sensing capability, green/standby and red/detection LED indicator.

C. Programmable remote shall not be accepted.

D. Mounting Height: 6' 7" to 11' 5" above finished floor.

- E. Finish: Black ABS housing. May be painted non-metallic only.

### **PART 3 - EXECUTION**

#### 1.01 INSPECTION

- A. Examine conditions for compliance with requirements for installation tolerances.

#### 1.02 INSTALLATION

- A. Do not install damaged components.

#### 1.01 FACTORY INSTALLED AND ON-SITE INSTALLED UNITS

- A. Install surface-mounted and concealed units above header using concealed fasteners to greatest extent possible.
- B. Shall be installed, adjusted and inspected by an AAADM certified inspector.
- C. Door Operators: Connect door operators to electrical power distribution system as specified in Division 16 Sections.

#### 1.01 FIELD QUALITY CONTROL

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

#### 1.01 ADJUSTING

- A. 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.

#### 1.01 WARRANTY

- A. One year warranty shall be issued from time of installation followed by an AAADM certified inspection for compliance with ANSI 156.10 or 156.27. Ensure to place appropriate AAADM labels and completed inspection stickers in the appropriate place for the type of door system selected.