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**CSI SPECIFICATION SECTION 8.**

**SECTION [08460]**

**SENSORS FOR AUTOMATIC DOORS**

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.
		3. 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 Standard for Power Operated Pedestrian Doors
			4. American Association of Automatic Door Manufacturers (AAADM)
	2. DEFINITIONS

		1. Safety Device: A presence sensor device that prevents a door from opening or closing, as appropriate.
		2. Activation Device: A presence sensing device that, when actuated, sends an electrical signal to the automatic door operator to open the door, re-open or hold a door open.
	3. PERFORMANCE REQUIREMENTS

		1. Provide a door mounted sensor 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. Requirements:

1. Utilizes focus reflective active infrared detection with noise canceling logic.

2. Sensor shall be capable of detecting a 28 inch minimum 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.

4. Each sensor pattern shall be capable of being adjusted to no less than the width of the

door panel up to 48”.

5. Sensor shall provide Dip Switch for adjustment and configuration. Remote shall not be

used accepted.

6. Provide a rain mode and snow mode.

7. Sensor shall utilize a loop assembly and OC 904C T connecting the door control to the

sensor.

8. Elite T shall be capable of being adjusted to be a stand-alone device, compliant to ANSI

A156.10 (2011) Section 8.2.2.3.

D. Remote Control Adjustability: Shall not be accepted. Elite T shall be capable of being adjusted to

be a stand-alone device, compliant to ANSI A156.10 (2011) Section 8.2.2.3.

E. Mounting Height: 6’-7” to 8’-2”

F. Thermal Range Requirements:

1. Temperature Range: -4 F (-25 C to +131 F (+55 C) Need degree symbol

2. Degree of Protection: IP54

G. Output:

1. Activation: Form A Relay 50V, 0.3A (Resistance Load)

2. Safety: Form B Relay 50V, 0.3A (Resistance Load)

3. Stall: Form B Relay 50V, 0.3A (Resistance Load)

H. Presence Detection

1. Focused Active Infrared with I.N.C. Logic (Intelligent Noise Cancellation)

2. Each Elite T sensor systems shall have 48 active spots for detection and shall be adjustable up to a 48” door panel.

3. Maximum presence detection time: Infinite

I. 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 Standards 156.10 when inspected by an AAADM certified inspector.
	2. 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.
	3. 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.
1. **PRODUCTS**
	1. AUTOMATIC ENTRANCE DOOR SENSOR

		1. Acceptable Manufacturer: OPTEX Inc. 18730 S. Wilmington Ave., Suite 100, Rancho Dominguez, CA 90220, 800-877-6656. [www.ot-inc.com](http://www.ot-inc.com). No substitutes accepted.

* 1. PRODUCT

		1. Product Shall be OPTEX Elite T System: Comprised of two sensor heads, one position loop, one control module, wiring harness and mounting hardware. Each Elite T system is designed to provide safety for 1 door panel up to 48” wide.
		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. Optional accessories: ELITE MOUNT Spacer
1. **EXECUTION**
	* 1. INSPECTION
2. Examine conditions for compliance with requirements for installation tolerances.
	1. INSTALLATION
3. Do not install damaged components.

	* 1. FACTORY INSTALLED AND ON-SITE INSTALLED UNITS
4. Install Plumb and level near the top rail of each door panel. Conceal fasteners to the greatest extent possible.
5. Shall be installed and inspected by a certified AAADM inspector for compliance with ANSI A 156.10. Ensure to place appropriate AAADM Labels and sticker is in the appropriate location for the type of door system selected.
6. Door Operators: Connect door operators to electrical power distribution system as specified in Division 16 Sections.
	* 1. FIELD QUALITY CONTROL
7. An AAADM certified inspector shall test and inspect each automatic entrance door to determine compliance of installed systems with applicable ANSI standards.
	* 1. ADJUSTING
8. 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. WARRANTY
9. One year warranty shall be issued from time of installation followed by an AAADM certified inspection for compliance with ANSI 156.10. Ensure to place appropriate AAADM labels and completed inspection stickers in the appropriate place for the type of door system selected.