SUPERSCAN-T

Door-Mounted, Presence Sensor for Automatic, Pedestrian Doors

Visit website for available languages of this document.

SuperScan-T sensors are intended to be used with pedestrian, swing door systems.

DESCRIPTION

1. Lens
2. Primary circuit board
3. Secondary circuit board (optional)
4. Endcaps
5. Housing

TECHNICAL SPECIFICATIONS

Power supply:	12 – 24 VAC/VDC ±10%	
Current consumption:	Primary: on = 60 mA max. off = 30 mA max.	Secondary: on = 40 mA max. off = 30 mA max.
Inhibit input:	12 – 24 VAC/VDC ±10% (inhibited when voltage is applied)	
Monitoring request input:	12 – 35 VDC required (polarity-sensitive) min. pulse width duration = 50 ms	
Output interface; relay:	relay – max. contact rating: 1A @ 30v (resistive)	
Detection range:	0 – 8′	
Distance adjustment:	2 – 8′ (rotating cam w/linear adjustment)	
Max. mounting height:	8′	
Detection time:	< 50 ms	
Detection signal duration:	Infinite Presence Detection	
Output hold time:	Potentiometer range: 0.1 – 4.5 seconds	
Operating temperature range:	-30 – 140 °F	
PCB dimensions:	Primary: 10.91″ x 1.5″	Secondary: 8.75″ x 1.5″
Connector to door controller:	8-position screw terminal on Primary PCB	
Primary-to-secondary connection:	flat-ribbon cable w/connectors and key lock	
Max. number of secondarys:	8	
Functions selection:	Detection mode: NO or NC Normal mode or Background Analysis mode	

Specifications are subject to change without prior notice.
All values measured in specific conditions.

READ BEFORE BEGINNING INSTALLATION/PROGRAMMING/SET-UP

INSTALLATION

The sensor should be mounted securely to avoid extreme vibrations.

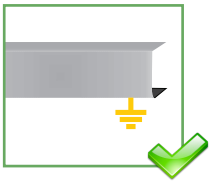
Choose a location that does not interfere with door hardware (e.g. finger guards, lock rods, etc.).

Do not cover the sensor.

Avoid moving objects in the detection field.

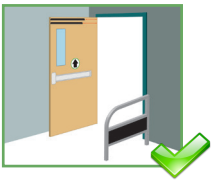
- **All wiring harnesses used must a) be routed separate from any mains or non-class 2 voltage cables, or b) be rated for the mains voltage and suitable protection.**
- **Routing means must be used in accordance with national and local codes.**

SAFETY



The door control unit and the header cover profile must be correctly grounded.

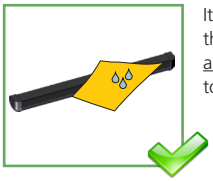
Only trained and qualified personnel are recommended for installation and set-up of the sensor.



Following installation, always test for proper operation (according to ANSI 156.10) before leaving the premises.

The warranty is invalid if unauthorized repairs are made or attempted by unauthorized personnel.

MAINTENANCE



It is recommended to clean the optical parts at least once a year or more if required due to environmental conditions.

Do not use aggressive products to clean the optical parts.

LED STATUS (default settings)

Primary

(red)
Presence detection

(green)
Sensor powered, non-detection

Secondary

(red)
Presence detection

For other LED indications based on relay configuration, see page 5 - **J2: Relay Mode**.

1 MECHANICAL INSTALLATION

HOUSING PREPARATION

Remove the screw that secures the end cap to the sensor extrusion.

Pull out the lens from the top of the sensor extrusion. ***Do not use a screwdriver to pry the lens.***

Remove the Primary and all Secondary circuit boards from the extrusion by pulling the tab of the angle adjustment clip away and downward from the extrusion, and rotating the circuit board out from the extrusion.

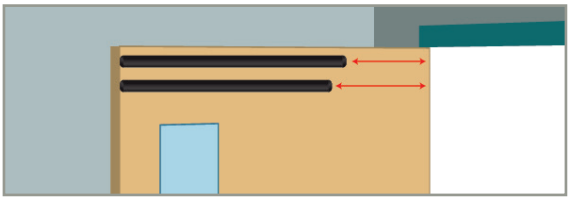
HOUSING PLACEMENT

CENTER-HUNG DOORS:

The extrusion end near the pivot edge should be far enough away from the door edge to prevent sensor/finger-guard rubbing. *Pay particular attention to the safety side of the door.*

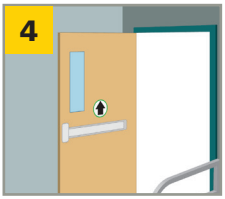
HINGE-HUNG DOORS:

Do not require as much clearance between sensor and hinge-side jamb.



Housing edge (including end cap) should be as close as possible to leading edge of door without creating mechanical interference with door jamb or an adjacent door.

HOUSING INSTALLATION



Determine the desired mounting location.

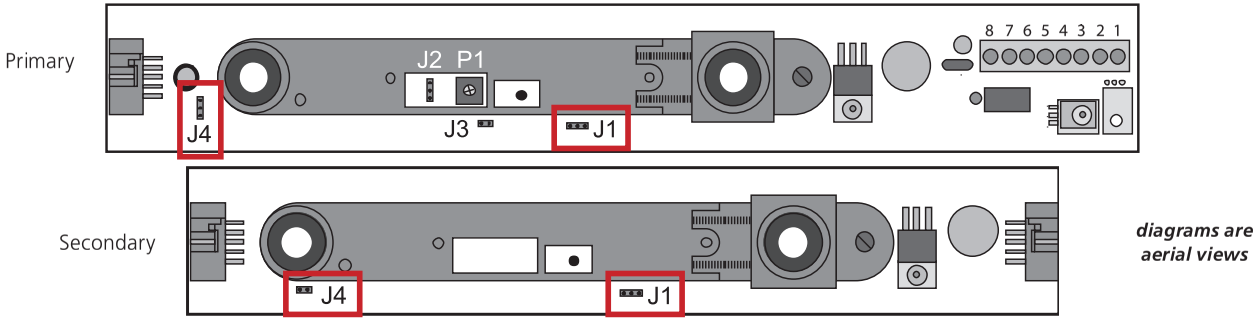
Align the housing with the top of the door at the chosen location (ensuring proper orientation) and then mark the mounting holes at both ends. *Avoid mounting holes near door seams.* Also mark the appropriate end for a wire-passage function hole (if required). This hole may be no more than 1" in diameter.

Drill the marked holes (ensuring proper hole size).

Align the housing with the pilot holes and secure to the door with the 2 provided screws.

2 JUMPER SETTINGS

Set all jumper settings for the installation. **J1 and J4 must be set on both Primary and Secondary boards**.



J1: BACKGROUND ANALYSIS

Fail-safe function which forces the sensor to remain «in detection» when faulty environmental situations arise (e.g. sensor aimed too high, transmitter/receiver is blocked, insufficient reflectivity of floor surface).

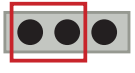
NOTES:

1. Floor must have at least 5% reflectivity to allow Background Analysis to function properly.
2. If an extremely IR-absorbent floor is present, set J1 to Background Analysis mode.
3. The J1 function must be set on each module.

BACKGROUND ANALYSIS **ON**

middle and right pins (from aerial view)

BACKGROUND ANALYSIS **OFF**



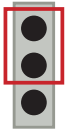
middle and left pins (from aerial view)

J4: Primary & Secondary MONITORING CONFIGURATION

Configuration of the J4 jumper on both Primary and Secondary is only necessary when monitoring is utilized.

Primary sensors are considered the main hub of the unit and can be used alone. Additional secondary modules may be added to increase detection field. Secondary Jumper 4 serves to indicate the end of the line of modules during monitoring.

Primary ONLY



top and middle pins (from aerial view)

Primary AND Secondary(s)

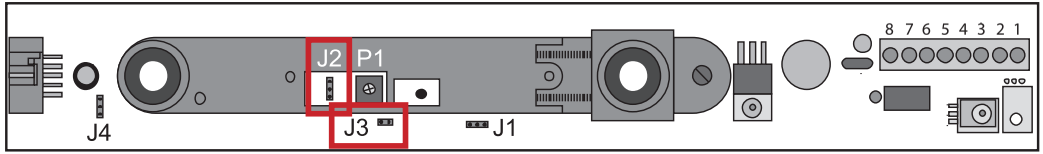
Primary J4 middle and bottom pins (from aerial view)

Secondary J4 both pins (from aerial view)

2 JUMPER SETTINGS

The following diagram is an aerial view of the Primary board.

Set all jumper settings for the installation. **J2 and J3 need to be set on ONLY the Primary board**.



J3: MONITORING MODE
factory default: monitoring OFF

Allows toggling on and off of monitoring.

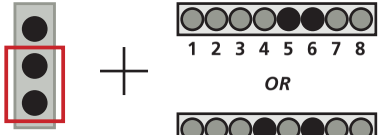
MONITORING **OFF**

MONITORING **ON**

or no jumper

J2: RELAY MODE, NO/NC – Allows selection of active or passive relay.

PASSIVE (default) – relay energized when detector at rest



middle and bottom pins (from aerial view)

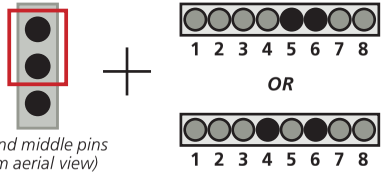
TERMINALS 5 and 6:

CLOSED CONTACT DURING DETECTION
LED indication during detection: green OFF / red ON
power loss ➡ contact closed

TERMINALS 4 and 6:

OPEN CONTACT DURING DETECTION
LED indication during detection: green OFF / red ON
power loss ➡ contact open

ACTIVE – relay de-energized when detector at rest



top and middle pins (from aerial view)

TERMINALS 5 and 6:

OPEN CONTACT DURING DETECTION
LED indication during detection: green ON / red ON
power loss ➡ contact closed

TERMINALS 4 and 6:

CLOSED CONTACT DURING DETECTION
LED indication during detection: green ON / red ON
power loss ➡ contact open

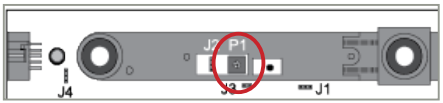
2 JUMPER SETTINGS (cont.)

HOLD-TIME POTENTIOMETER

Located beside Jumper 2 on the Primary board is the hold-time potentiometer.

Adjustability ranges from 0.1 – 4.5 seconds.

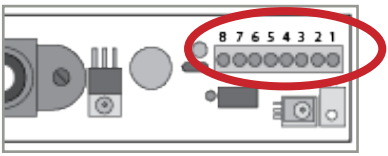
Clockwise rotation increases time delay.



3 WIRING

Wire to the terminal connector (shown below). Wiring will vary according to the application.

Sensor power must be supplied from a Class 2 supply source limited to 15 W. Wiring shall be installed as required by local codes.



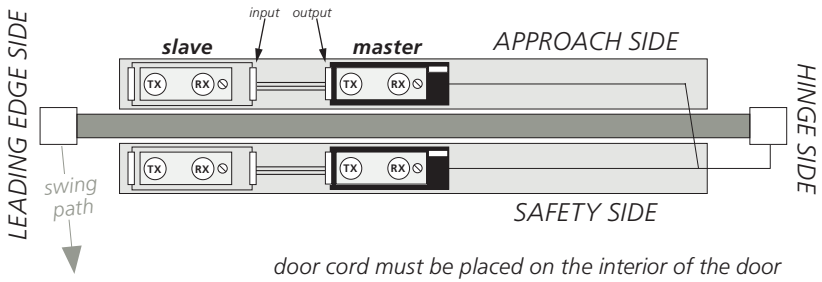
Terminal	Explanation of wiring connection
1	**Test input** (when used as a monitored sensor) **(+) positive when utilizing monitoring**
2	**Ground** (negative terminal if Input inhibition is used) **(-) negative when utilizing monitoring**
3	**Input inhibition:** All detection is ignored. Infrared emission is stopped. Inhibition occurs when 12 – 24 VAC/VDC ±10% is applied between terminal 3 and terminal 2.
4	**Normally Open:** JP2 factory default will close the relay contact on terminal 4 when the SUPERSCAN-T is energized and **not** in detection. Loss of power results in a N.O. contact
5	**Normally Closed:** JP2 factory default will open the relay contact on terminal 5 when the SUPERSCAN-T is energized and **not** in detection. Loss of power will result in a N.C. contact.
6	**Common** contact for relay
7	**Power Input (-):** 12 – 24 VAC/VDC ±10% must be supplied
8	**Power Input (+):** 12 – 24 VAC/VDC ±10% must be supplied

4 MODULE POSITION & ANGLE ADJUSTMENTS

MODULE POSITIONS

Positioning of modules within the extrusion on both sides is critical. **The transmitter ("TX" below) must be at the leading edge of the door.**

Below is an aerial view of module placements on the door. Left-handed and right-handed doors require module placements to be flipped.



door cord must be placed on the interior of the door

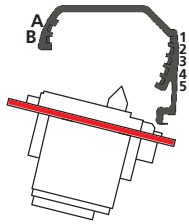
4 MODULE POSITION & ANGLE ADJUSTMENTS (cont.)

ANGLE ADJUSTMENTS

Each module's angle may be set independently. Use the diagrams and chart below to adjust the module to obtain the correct angle.

Angles may need to also be adjusted after power-up and walk-testing.

1. Use the orientation shown to the right to insert the module into the clip.
2. Use the chart below to determine the clip setting for the desired angle.
   The red line indicates the part of the module that will be set into the clip.



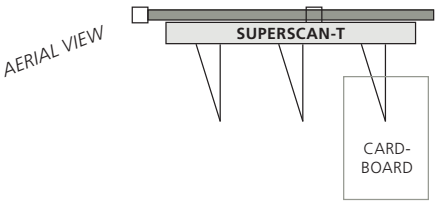
CLIP SETTINGS:

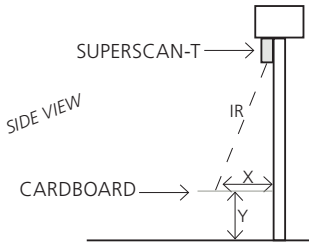
0° = B1
5° = B2
10° = A2
15° = A3
20° = A4
25° = A5

INACTIVE ZONE (Y, below) DISTANCE FROM FLOOR	SUPERSCAN-T ANGLE					
	0°	**5°**	**10°**	**15°**	**20°**	**25°**
8"	0	6"	12 1/2"	19 1/4"	26"	33 1/4"
12"	0	6"	12"	18"	24 1/2"	31 1/2"
16"	0	5 1/2"	11 1/4"	16 3/4"	23 1/4"	29 1/2"
20"	0	5 1/4"	10 1/2"	16"	21 1/2"	27 1/2"
24"	0	5"	9 3/4"	14 3/4"	20"	25 1/2"
28"	0	4 1/2"	9"	13 1/2"	18 1/2"	23 3/4"

X, below

Measurements are based on a 79" mounting height.





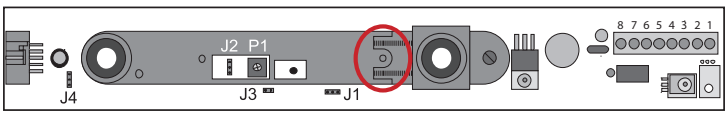
ANSI 156.10 compliance:
At 28" from the floor, the inactive zone shall not exceed 5"

5 DETECTION ZONE ADJUSTMENTS

Each module's detection zone may be set independently upon power-on.

Jumper 1 must be set to Normal Mode (see page 4) to make adjustments.

1. Power sensors with 12 – 24 VAC/VDC ±10%. LED should reflect Jumper 2 configuration (see page 5).
2. Use a white, gray, or black piece of cardboard (roughly 8" x 11") and hold it as shown in the diagram above.
3. Lift cardboard from the floor until it is detected. This determines the height of the inactive area (labeled "Y" in the diagram). *If this height is not between 12" – 16" above the floor **OR** does not meet your requirements, an adjustment must be made to the detection distance.*



- if zone Y is too high, turn the adjustment knob clockwise to *increase* the detection distance and *decrease* zone Y
- if zone Y is too low, turn the adjustment knob counterclockwise to *decrease* the detection distance and *increase* zone Y

6 FINISHING TOUCHES

1. Replace the endcaps and lens.
   a. At the SUPERSCAN-T end of the cable, ensure enough slack to allow a relaxed connection at the terminal block.
   b. Locate the hinge-side end cap. Remove the tab at the bottom of the cap to allow insertion of the plastic sheath.
   c. Insert the plastic sheath and install the end cap.
   d. Complete any mechnical adjustments.
   e. Install the lens to fit tightly against the end cap and plastic sheath to hold it in place.
   f. Install other end cap.
2. Once all sensors have been adjusted, activate the door several times and allow it to go through a full cycle each time. Ensure that no false triggering (door re-cycling or stopping by itself at any point of travel) is occurring.

   Ensure system compliance with all applicable safety standards (i.e. ANSI A156.10, 156.27).

TROUBLESHOOTING

Sensor does not work at all No LED indications	Faulty power supply	Power supply must be 12 – 24 VAC/VDC ±10%.
	Faulty connections	Check for correct power at terminals 7 and 8 of the affected module.
Sensor output appears to be working opposite of what is expected	Relay output may be configured improperly	Observe LED indications on affected modules to help determine status.
Door stops by itself before reaching full-open position	Safety-side sensor may be seeing an adjacent wall/rail behind the door, near the open position	Observe LED status on safety side of door. Locate module which is falsely triggering. Check for proper detection angle and also check the detection range adjustment.
		Sensor may need to be inhibited at a specific point of door travel at the safety side. Refer to terminal connections (page 6).
Activation or safety is held in triggered mode	Detection module may be seeing the floor or unwanted object near the door	Reduce detection range on the affected module(s). Detection should occur at 12" – 16" above the floor. Refer to "Detection Zone Adjustments" (page 7).
Erratic detection behavior occurring throughout the door's opening and closing cycle	Possible faulty wiring at door transfer location	Check for wire continuity at transfer location using a multi-meter. Move wires around during testing to help locate any breaks. Replace faulty wiring as necessary.

Can't find your answer? Visit www.beainc.com or scan QR code for Frequently Asked Questions!

BEA, INC. INSTALLATION/SERVICE COMPLIANCE EXPECTATIONS

BEA, Inc., the sensor manufacturer, cannot be held responsible for incorrect installations or inappropriate adjustments of the sensor/device; therefore, BEA, Inc. does not guarantee any use of the sensor outside of its intended purpose.

BEA, Inc. strongly recommends that installation and service technicians be AAADM-certified for pedestrian doors, IDA-certified for doors/gates, and factory-trained for the type of door/gate system.

Installers and service personnel are responsible for executing a risk assessment following each installation/service performed, ensuring that the sensor system installation is compliant with local, national, and international regulations, codes, and standards.

Once installation or service work is complete, a safety inspection of the door/gate shall be performed per the door/gate manufacturer recommendations and/or per AAADM/ANSI/DASMA guidelines (where applicable) for best industry practices. Safety inspections must be performed during each service call – examples of these safety inspections can be found on an AAADM safety information label (e.g. ANSI/DASMA 102, ANSI/DASMA 107).

Verify that all appropriate industry signage and warning labels are in place.

AAADM ANSI DASMA DHI IDA

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