

**Installation Instructions**  
**DS815/DS815T Dual Technology Trap**  
**Passive Infrared / Microwave Intrusion Detector**

**1.0 Description**

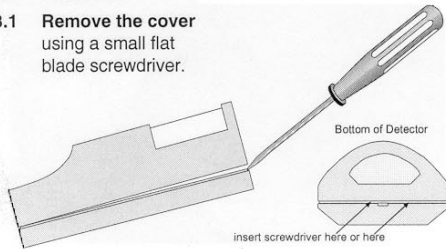
The DS815 is a short range, dual technology Passive Infrared (PIR)/Microwave (MW) Motion Detector that provides a trap coverage pattern of 15 feet by 15 feet (4.5 m by 4.5 m). This type of coverage is optimized specifically for most short range commercial or residential applications. When motion is detected the unit sends an alarm signal to the Control Panel. Alarm situations must activate both the PIR and Microwave sections simultaneously for an alarm to be transmitted to the Control Panel.

**2.0 Specifications**

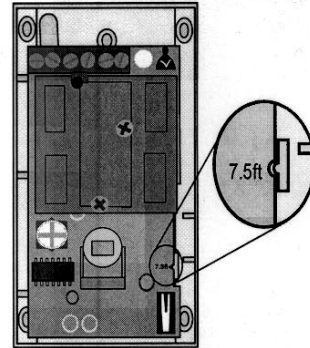
- **Input Power:** 6 to 15 VDC, 15 mA DC nominal standby or alarm @ 12 VDC.
- **Standby Power:** No internal standby battery. Connect to DC power sources capable of supplying standby power. *Four hours (60 mA-H) are required for U.L. Listed installations.*
- **Alarm Relay:** Silent operating Normally Closed reed relay. Contacts rated 3 watts, 125 mA, 28 VDC maximum for DC resistive loads; and protected by a 4.7 ohm, 1/2 watt resistor in the common "C" leg of the relay. Do not use with capacitive or inductive loads.
- **Operating Temperature:** -40° to +120°F (-40° to +49°C).  
*For U.L. Listed Requirements, the temperature range is +32° to +120°F (0° to +49°C).*
- **Coverage:** 15 ft. by 15 ft. (4.5 m by 4.5 m)
- **Microwave DS815/815T:** 10.525 GHz (U.L. Listed),  
**Frequency: DS815TA:** 10.687 GHz (Export only, not U.L. Listed),  
**DS815TB:** 9.9 GHz (Export only, not U.L. Listed)
- **Tamper:** (DS815T/DS815TA/DS815TB only) Normally Closed (with cover on). Contacts rated at 28 VDC, 125 mA max. Connect tamper circuit to a 24hr. protection circuit.
- **Options:** B335 Low Profile Swivel Mount Bracket or B338 Ceiling Mount Bracket. (The use of brackets may reduce range and increase dead zone areas).
- **Patents:** This product is covered by one or more of the following U.S. patents: #4,660,024, #4,764,755, #5,077,548, #5,208,567, #5,262,783, and #5,450,062. Other patents pending.

**3.0 Installation**

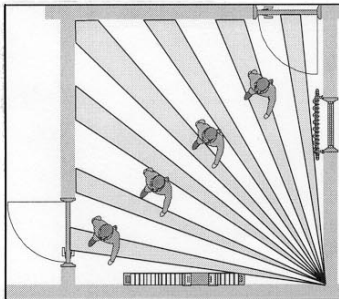
**3.1 Remove the cover** using a small flat blade screwdriver.



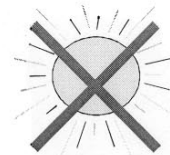
**3.2 Press the vertical adjust tab** toward the side of the case and lift out the board.



**3.3 Select a mounting location.** Mount the sensor where an intruder will most likely cross through the coverage pattern.



**DO NOT MOUNT OUTDOORS**



**AVOID DIRECT OR REFLECTED SUNLIGHT**



Detection Systems, Inc.  
 130 Perinton Parkway Fairport, New York, USA 14450-9199  
 (716) 223-4060 • (800) 289-0096 • Fax: (716) 223-9180

4/00

Copyright © 2000 Detection Systems, Inc.  
 DS815/DS815T Installation Instructions P/N: 43761B

**3.4 Mount the detector at 7.5 feet (2.3m).**

**3.5 Wire the detector.**

(DS815T only)  
6-15 Alarm Tamper VDC Contacts

**3.6 Select LED operation.**

**3.7 Replace the cover.** Remove the tamper knockouts at each end of the cover housing. Use **only** the provided tamper screws to fasten the cover.

**Note:** The microwave range is factory preset and should not need adjustment.

**3.8 Walk test the detector.** This test should be performed at the time of installation and annually thereafter.

● Red = Dual Alarm

**4.0 Coverage Patterns**

■ Microwave Coverage  
□ PIR Coverage

Although generally not required, if masking is desired, the lens diagram shows the appropriate areas to be masked.

A	B	C	D	E	F	G	H	I
N	J	K	L	R	M	P		

**DS815 Lens**

**5.0 FCC Notice**

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- 1) This device may not cause harmful interference.
- 2) This device must accept any interference, including interference that may cause undesired operation.

Page 2 Copyright © 2000 Detection Systems, Inc. DS815/DS815T Installation Instructions

**Installation Instructions**  
**DS820I/DS820IT TriTech® Microwave/PIR Intrusion Detector**  
**with Pet Immunity**

**1.0 Description**

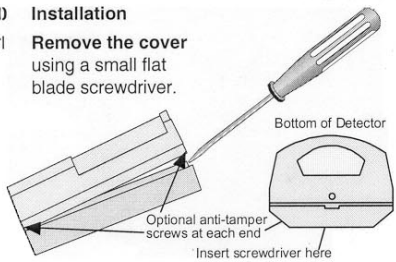
The DS820I is a TriTech® Passive Infrared (PIR)/Microwave (MW) Motion Detector designed to detect movement of a human body in the interior of a structure as it moves across the sensor's field of view. When motion is detected the unit sends an alarm signal to the Control Panel. With Detection Systems' Pet Friendly® pet immunity, the DS820I will not detect a dog up to 100 pounds (45 kilos) or two 60 pound (28 kilos) dogs, up to 10 cats, numerous rodents or flying birds. The DS820I is a high performance PIR Motion Sensor which uses advanced signal processing to provide outstanding catch performance and unsurpassed false alarm immunity. This pet immunity feature has not been tested by Underwriters Laboratories.

**2.0 Specifications**

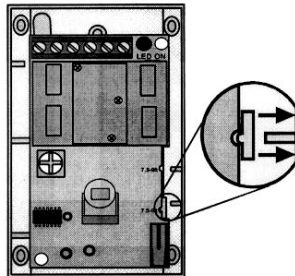
- **Input Power:** 6 to 15 VDC, 16 mA DC nominal standby (up to 35 mA DC during walk testing and alarm).
- **Standby Power:** No internal standby battery. Connect to DC power sources capable of supplying standby power. Sixteen mA-H required for each hour of standby time needed.
- **Alarm Relay:** Silent operating Normally Closed reed relay. Contacts rated 3 watts, 125 mA, 28 VDC maximum for DC resistive loads; and protected by a 4.7 ohm, 1/2 watt resistor in the common "C" leg of the relay. Do not use with capacitive or inductive loads.
- **Operating Temperature:** -40° to +120°F (-40° to +49°C).  
 For U.L. Listed Requirements, the temperature range is +32° to +120°F (0° to +49°C).
- **Microwave Frequency:** DS820I/820IT: 10.525 GHz (U.L. Listed), DS820IA/820ITA: 10.687 GHz (Export only, not U.L. Listed), DS820IB/820ITB: 9.9 GHz (Export only, not U.L. Listed)
- **Coverage:** 20 ft. by 20 ft. (6 m by 6 m)
- **Tamper:** (DS820IT only) Normally Closed (with cover on). Contacts rated at 28 VDC, 125 mA max. Connect tamper circuit to a 24hr. protection circuit.
- **Options:** B335 Low Profile Swivel Mount Bracket (The use of brackets is not recommended for pet applications and may reduce range and increase dead zone areas).
- **Patents:** This product is covered by one or more of the following U.S. patents: #4,680,024, #4,764,755, #5,077,548, #5,208,567, #5,262,783, #5,450,062, and #5,670,943. Other patents pending.

**3.0 Installation**

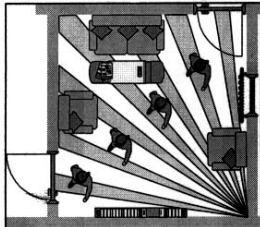
**3.1 Remove the cover** using a small flat blade screwdriver.



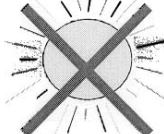
**3.2 Press the vertical adjust tab toward the side of the case and lift out the board.**



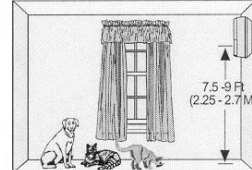
**3.3 Select a mounting location.** Mount the sensor where an intruder will most likely cross through the coverage pattern.



**DO NOT MOUNT OUTDOORS**



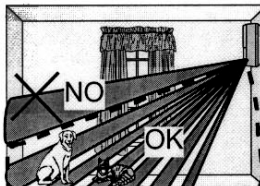
**AVOID DIRECT OR REFLECTED SUNLIGHT**



**Mount the detector 7.5 to 9 feet (2.25 to 2.7 meters) above the floor**

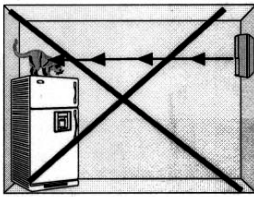
**3.4 Observe the Pet Immunity mounting recommendations.**

**Note: The upper areas are not pet immune.**



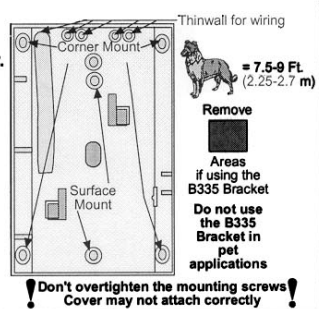
**Don't point where pets can climb**

**Pet Immune Area**



**NO**

**3.5 Mount the detector.**



Detection Systems, Inc.  
 130 Perinton Parkway Fairport, New York, USA 14450-9199  
 (716) 223-4060 • (800) 289-0096 • Fax: (716) 223-9180

1/00  
 Copyright © 2000 Detection Systems, Inc.  
 DS820I/DS820IT Installation Instructions P/N: 38055E

**3.6 Wire the detector.**  
(DS820iT only)  
6-15 Alarm Tamper VDC Contacts

Normally Closed contacts

**3.7 Set the height adjustment for 7.5 to 9 feet (2.25 - 2.7 meters).**

7.5-9ft

**3.8 Select LED operation.**

LED ON

ON OFF

**3.9 Walk test the detector.** This test should be performed at the time of installation and annually thereafter.

Walk Test

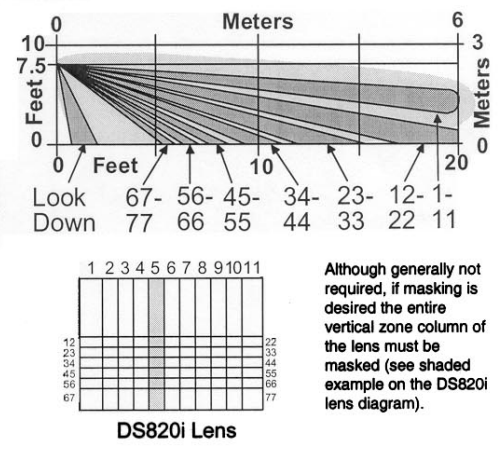
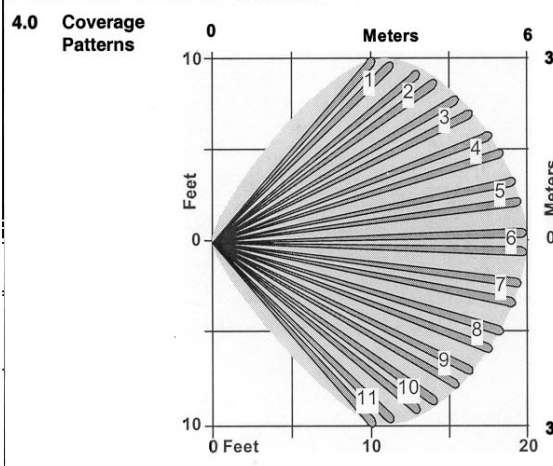
- Green = PIR detect
- Yellow = MW detect
- Red = Alarm

**3.10 Adjust the microwave range, if necessary.** Set the adjustment as low as possible for proper catch performance.

INCREASE

**3.11 In non-pet applications only,** if look-down is desired, peel away the look-down mask. **Do not remove the clear plastic lens.**

Peel away the mask



**5.0 FCC Notice**  
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:  
1) This device may not cause harmful interference.  
2) This device must accept any interference, including interference that may cause undesired operation.

**Installation Instructions**  
**DS835i/DS835iT TriTech® Microwave/PIR Intrusion Detector**  
**with Pet Immunity**

**1.0 Description**

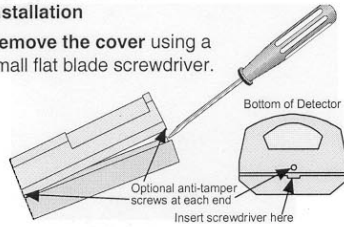
The DS835i is a TriTech® Passive Infrared (PIR)/Microwave (MW) Motion Detector designed to detect movement of a human body in the interior of a structure as it moves across the Sensor's field of view. When motion is detected the unit sends an alarm signal to the Control Panel. With Detection Systems' Pet Friendly® pet immunity, the DS835i will not detect a dog up to 100 pounds (45 kilos) or two 60 pound (26 kilos) dogs, up to 10 cats, numerous rodents or flying birds. The DS835i is a high performance PIR Motion Sensor which uses advanced signal processing to provide outstanding catch performance and unsurpassed false alarm immunity. This pet immunity feature has not been tested by Underwriters Laboratories.

**2.0 Specifications**

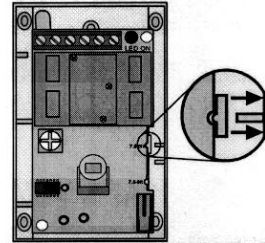
- **Input Power:** 6 to 15 VDC, 16 mA DC standby (up to 35 mA DC during walk testing and alarm).
- **Standby Power:** No internal standby battery. For UL Listed Product Installations, 4 hours (64 mA-H) standby power must be provided by the control unit or by a Listed burglary power supply.
- **Alarm Relay:** Silent operating Normally Closed reed relay. Contacts rated 3 watts, 125 mA, 28 VDC maximum for DC resistive loads; and protected by a 4.7 ohm, 1/2 watt resistor in the common "C" leg of the relay. Do not use with capacitive or inductive loads.
- **Operating Temperature:** -40° to +120°F (-40° to +49°C). For U.L. Listed Requirements, the temperature range is +32° to +120°F (0° to +49°C).
- **Microwave Frequency:** DS835i/835iT: 10.525 GHz (U.L. Listed), DS835iA/835iT A: 10.687 GHz (Export only, not U.L. Listed), DS835iB/835iT B: 9.9 GHz (Export only, not U.L. Listed)
- **Coverage:** 35 ft. by 35 ft. (10.7 m by 10.7 m)
- **Tamper:** (DS835iT only) Normally Closed (with cover on). Contacts rated at 28 VDC, 125 mA max. Connect tamper circuit to a 24 hour protection circuit.
- **Options:** B335 Low Profile Swivel Mount Bracket (The use of brackets is not recommended for pet applications as it may reduce the sensor range).
- **Patents:** This product is covered by one or more of the following U.S. patents: #4,680,024; #4,764,755; #5,077,548; #5,208,567; #5,262,783; #5,450,062; #5,670,943. Other patents pending.

**3.0 Installation**

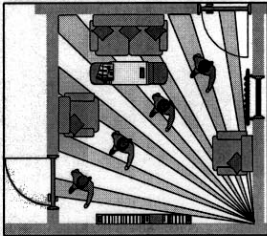
**3.1** Remove the cover using a small flat blade screwdriver.



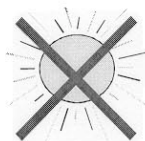
**3.2** Press the vertical adjust tab toward the side of the case and lift out the board.



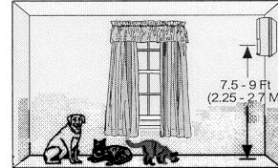
**3.3** Select a mounting location. Mount the sensor where an intruder will most likely cross through the coverage pattern.



**DO NOT MOUNT OUTDOORS**



**Avoid direct or reflected sunlight**

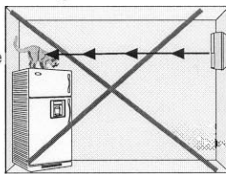


**Mount the detector 7.5 - 9 feet (2.25 - 2.7 meters) above the floor**

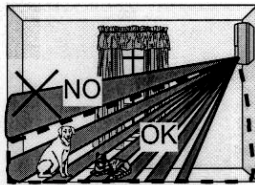
**3.4** Observe the Pet Immunity mounting restrictions.

**Note:** The upper areas are not pet immune.

Don't point where pets can climb

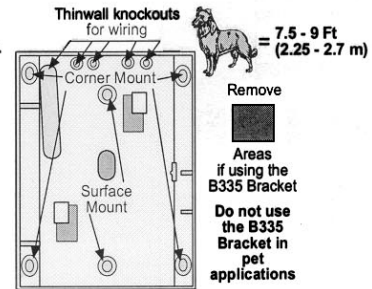


**NO**



**Pet Immune Area**

**3.5** Mount the detector.



**! Don't overtighten the mounting screws! Cover may not attach correctly!**



Detection Systems, Inc.  
 130 Perinton Parkway Fairport, New York, USA 14450-9199  
 (716) 223-4060 • (800) 289-0096 • Fax: (716) 223-9180

1/00  
 Copyright © 2000 Detection Systems, Inc.  
 DS835i/DS835iT Installation Instructions P/N: 39681E

**3.8 Wire the detector.**  
(DS835iT only)  
6-15 Alarm Tamper VDC Contacts Contacts

Normally Closed contacts

**3.9 Snap board into clip so notch aligns with tab on clip.**

**3.10 Select LED operation.**

LED ON  
ON OFF

**3.11 Walk test the detector.** This test should be performed at the time of installation and annually thereafter.

Walk Test

- Green = PIR detect
- Yellow = MW detect
- Red = Alarm

**3.12 Adjust the microwave range, if necessary.** Set the adjustment as low as possible for proper catch performance.

INCREASE

Do not use excessive force when adjusting the microwave pot.

CAUTION

**3.13 In non-pet applications only,** if look-down is desired, peel away the look-down mask. Do not remove the clear plastic lens.

Peel away the mask

**4.0 Coverage Patterns**

Look	67	56	45	34	23	12	1
Down	77	66	55	44	33	22	11

DS835i Lens

Although generally not required, if masking is desired the entire vertical zone column of the lens must be masked (see shaded example on the DS835i lens diagram).

**5.0 FCC Notice**

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- 1) This device may not cause harmful interference.
- 2) This device must accept any interference, including interference that may cause undesired operation.