



PRODUCT SPECIFICATIONS

ADAPTIVE BED SENSOR



1. APPLICATION

For use as a bed occupancy sensor, either between the mattress and bedding, or under the mattress.

2. THEORY OF OPERATION

Most bed occupancy sensors have a binary output, either occupied or unoccupied. The distinction between the two states is whether the force applied to the bed occupancy sensor is greater than or less than a preset activation pressure. This presents a problem when the bed occupancy sensor is desired to be installed under the mattress. It is difficult to make a universal product that will reliably work under all of the various kinds and weights of mattresses.

The Adaptive Bed Sensor is able to measure the force applied to it. Thus it can measure the weight of the mattress, and compensate for it. After installation, the Adaptive Bed Sensor is calibrated as installed in an unoccupied bed. It uses this calibration value to set a threshold for determining whether the bed is occupied or unoccupied. After calibration, the Adaptive Bed Sensor continuously refines the threshold value and can automatically adapt to changes in the environment.

The signal to the owners monitoring system is similar to that of a conventional bed occupancy system. The Adaptive Bed Sensor provides an electronic switch to indicate occupancy/vacancy. The switch is closed in the occupied state, and open in the vacant state. The connection to this switch is via a supplied cable, or a cable connector/jack, depending on the model of the Adaptive Bed Sensor.

3. INSTALLATION

- 3.A.** Depending on the model of Adaptive Bed Sensor, if needed, connect the Adaptive Bed Sensor mat to the control unit by the included cable and connector.
- 3.B.** Using the included cable, or cable and connector, connect the control unit to the user's monitoring system.
- 3.C.** Place Adaptive Bed Sensor between mattress and foundation. Locate where most of the person's weight is incident. This is usually anywhere from hips to waist area.
- 3.D.** The cable should be on the opposite side of where the person gets in/out of bed.
- 3.E.** To calibrate, verify that the bed is unoccupied. Locate the button on the control unit and hold it down until the LED turns on.

4. CARE

- 4.A.** Cleaning: Wipe down with moistened cloth, and wipe dry.
DO NOT MACHINE WASH!

5. CONSTRUCTION

- 5.A.** Length of Switch: 30 inches
- 5.B.** Width of Switch: 11 inches
- 5.C.** Top Material: PVC coated nylon cloth, waterproof, anti-microbial
- 5.D.** Bottom Material: PVC coated polyester cloth, waterproof, anti-slip
- 5.E.** Cable: 4-conductor, 26AWG shielded cable. Various

cable lengths and connectors available upon request.
Wireless transmitter may also be incorporated.

5.F. Control Box:

2.4 inch x 3.6 inch x 0.8 inch.

5.G. Battery:

(2) AAA Batteries, 2 year life expectancy.

6. OPERATIVE SPECIFICATIONS

6.A. Activation Force: Minimum weight of individual is 50 lbs.

6.B. Interface: Normally open, momentary contact , electronic switch.
Vacant: open. Occupied: closed.

6.C. Max Operating Current With Relay Output: 500 mA

6.D. Max Operating Voltage With Relay Output: 24 Volts

7. DIMENSIONS

