

Installation Manual

DSC
Power832

S E C U R I T Y S Y S T E M

PC5132-900
Version 1.0

This device complies with RSS-210 of Industry Canada. Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Ce dispositif satisfait aux exigences d'Industrie Canada, prescrites dans le document CNR-210. son utilisation est autorisée seulement aux conditions suivantes: (1) il ne doit pas produire de brouillage et (2) l'utilisateur du dispositif doit être prêt à accepter tout brouillage radioélectrique reçu, même si ce brouillage est susceptible de compromettre le fonctionnement du dispositif.

FCC COMPLIANCE STATEMENT

CAUTION: Changes or modifications not expressly approved by Digital Security Controls Ltd. could void your authority to use this equipment.

This equipment generates and uses radio frequency energy and if not installed and used properly, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for Class B device in accordance with the specifications in Subpart "B" of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in any residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to television or radio reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-orient the receiving antenna
- Relocate the alarm control with respect to the receiver
- Move the alarm control away from the receiver
- Connect the alarm control into a different outlet so that alarm control and receiver are on different circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the FCC helpful: "How to Identify and Resolve Radio/Television Interference Problems". This booklet is available from the U.S. Government Printing Office, Washington, D.C. 20402, Stock # 004-000-00345-4.



Important Note

Double End of Line resistors must be enabled in the POWER832 for the wireless zones to be supervised. If normally Closed or Single EOL resistors are selected the POWER832 will not be able to supervise the wireless devices.

If a wireless device stops sending a supervisory signal (the unit stops functioning) the panel will not indicate a supervisory trouble condition unless Double EOL resistors are used.

In addition, all hardwire zones must be wired for Double EOL resistors.

Thank you for your purchase of the PC5132-900 Wireless Receiver. This product is the result of several years of development and will allow you to add any number of wireless zones to the POWER 832 control panel, up to a maximum of 32.

A short list of advantages:

- Twelve minute supervisory time as opposed to fifty or sixty minutes
- Programmable supervisory window, from one to twelve hours
- Standard alkaline batteries versus specialized batteries
- Orthogonal antenna design

We are confident you will find the PC5132-900 Wireless Receiver a unique and useful control panel enhancement.

We welcome your input. Please send your comments to:

Digital Security Controls
c/o PC5132-900 Product Manager
1645 Flint Road, Downsview, Ontario
Canada M3J 2J6

DSC
Power 832
SECURITY SYSTEM

Overview

S E C T I O N 1

1.1 Specifications and Features

PC5132-900 Wireless Receiver

- Current Draw: 120 mA
- Frequency: 922 to 926 MHz, Spread Spectrum
- Zones
 - Receiver can receive signals from up to 32 wireless devices.
- Antenna
 - Othagonal design for enhanced performance.
- Supervisory
 - Programmable supervisory window, 1 to 12 hours.
- Location
 - can be wired up to 1,000' (330 m) from the main panel
 - connects to KEYBUS

WLS-904 Motion Detector

- Standard alkaline batteries, four 'AAA' batteries, 30 to 36 month life
- Fully supervised for communication integrity
- 12 minute supervisory time
- Easy enroll process
- Walk test LED
- 3 minute 'High Traffic Shutdown'

WLS-905 Universal Transmitter

- Standard alkaline batteries, three 'AAA' batteries, 30 to 36 month life
- Fully supervised for communication integrity
- 12 minute supervisory time
- Easy enroll process
- Built-in reed switch or terminals for external contacts
- Normally open/Normally closed models available

WLS-906 Smoke Detector

- Standard alkaline batteries, six 'AA' batteries, 30 to 36 month life
- Fully supervised for communication integrity
- 12 minute supervisory time
- Easy enroll process
- Photoelectric detection technology

1.2 - Glossary of Terms

Backplate The mounting bracket used to secure each wireless device to the wall or ceiling.

Enrolling The term used for adding a wireless device to the POWER 832 panel. Enrolling a device tells the panel which zone the wireless device will use as well as what kind of device it is.

KEYBUS The four wire conductor that connects to every module on the system.

Module An additional device that connects to the security system to expand its capabilities. For example, the PC5132-900 wireless zone expander module allows the connection of wireless devices.

RF An acronym for 'radio frequency'. RF is often used to refer to wireless radio transmissions technology and devices.

Spread Spectrum A specialized radio transmission technology used by the PC5132-900 wireless zone expander module. Spread Spectrum radio technology is very reliable and very resistant to interference or jamming.

Wireless Any system, module or device that uses radio signals in its operation.

ESN Electronic Serial Number, refers to a modules serial number.

1.3 Additional Devices

WLS-904 Wireless Motion Detector

The wireless motion detector can be used in conjunction with the PC5132-900 Wireless Receiver to include wireless space protection. The device comes with four 'AAA' batteries. Operating temperature ranges from 0°C to 50°C / 32°F to 150°F.

WLS-905 Universal Transmitter

The wireless universal transmitter can be used in conjunction with the PC5132-900 Wireless Receiver. The device has two built-in reed switches. External contact terminals are provided for wiring contacts if the reed switches are not used. The device comes with three 'AAA' batteries. Operating temperature ranges from 0°C to 50°C / 32°F to 150°F.

WLS-906 Smoke Detector

The wireless smoke detector can be used in conjunction with the PC5132-900 Wireless Receiver. The device uses photoelectric technology and is designed for ceiling or wall mounting. The device comes with six 'AA' batteries. Operating temperature ranges from 0°C to 50°C / 32°F to 150°F.

Batteries

The wireless devices are designed to use Eveready Alkaline Energizer batteries.



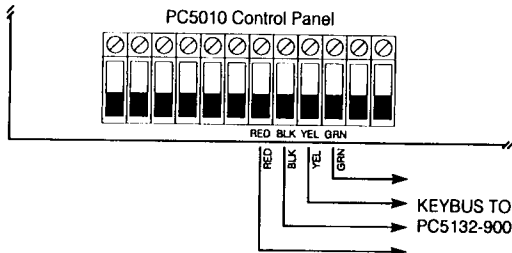
Do not use other brands of batteries. Using any other brand voids any UL and ULC approvals and may affect the system operation.

Getting Started

S E C T I O N 2

2.1 Connecting the PC5132-900 Receiver

Wire the PC5132-900 to the four wire KEYBUS of the POWER 832 according to the following diagram.



After wiring is complete the panel must be told the module has been added.

This will happen automatically if the panel is powered up after the module is connected.

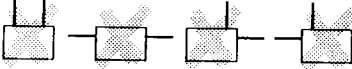
Being able to connect the PC5132-900 to the KEYBUS allows you to locate the receiver as close to the wireless zones as possible, reducing the overall range of the transmissions and improving reliability.

2.2 Installing the Antennas

The two antennas must be screwed into the terminals marked ANT1 and ANT2, not GND1 and GND2. Also they must be installed as indicated in the following two diagrams:



Do not install the antennas as indicated in the following diagrams:



If the antennas are installed incorrectly the PC5132-900 may not reliably receive signals from the transmitters.

2.3 Adding Wireless Devices

The following is the procedure for adding wireless transmitters to the POWER 832 panel:

Step 1 - Enter [*], [8], [Installer Code]

Step 2 - Enter Program Section [804]

Step 3 - Enter the two digit number for the zone to be wireless

Step 4 - Enter the five digit ESN number on the back of the wireless device.

The device is now added to the panel. Continue with steps 3 and 4 until all of the ESN numbers for all of the wireless zones are added. Press [#] twice to exit Installer Programming.

In addition to the above you must also make sure the zone is added to one of the Partitions (See Section 5.9 "Partitions" of POWER 832 PC5010 Installation Manual).

In addition to the above you must also program how the zone will operate (See Section 5.1 "Zone Definitions" POWER 832 PC5010 Installation Manual).

When adding the wireless devices it is important that the zone location [1 to 32] is not shared by a hard-wired zone. For zones 1 to 8 it is important that the main board zone be disabled. In order to do this enter the following from any keypad.

Step 1 - Press [*] [8] [Installer Code] to enter Installer Programming.

Step 2 - Press [013] to view the First System Option Code.

Step 3 - Make sure that Light [3] (zones 1 to 4) and Light [4] (zones 5 to 8) are OFF (disabled).

2.4 Deleting Wireless Devices

To remove a wireless device from the panel, follow the guideline for adding a wireless device. Program the ESN number as [00000]. The wireless device for the zone will be removed. It may be required to power down the panel to clear troubles that have been caused by deleted zones.

2.5 Testing Wireless Devices/Module Placement Test

It is extremely important to test each wireless device, preferably before the unit is mounted. The following is the procedure for testing wireless devices:

Step 1 - Enter [*] [8] [Installer Code]

Step 2 - Enter Program Section [904]

Step 3 - Enter the two digit zone number for the device to be tested

Step 4 - Door Contact. Open and close the contact by moving the magnet or operating the external device connected to the Door Contact. The keypad will display the test result after the zone is restored.

- Motion Detectors and Smoke Detectors. Remove the Detector from its backplate, wait for 5 seconds, then reattach the Detector to its backplate. The keypad will display the test result after the Detector is reattached to its backplate.

Step 5 - The results of the test

Step 6 - Continue Steps 3 through 5 until all devices have been tested.

Step 7 - Press the [#] key twice to exit Installer Programming.

When performing a test one of three results will be displayed; Good, Fair and Bad. The panel will show the following:

Placement	LED Keypad	LCD Keypad	Bell/Buzzer
Good	Light 1 On Steady	Good	1 Beep/Squawk
Fair	Light 2 On Steady	Fair	2 Beeps/Squawks
Bad	Light 3 On Steady	Bad	3 Beeps/Squawks

Wireless devices can be mounted where results were Good or Fair.

Devices indicating a Bad result must be moved to another location.



No device should be mounted where a Bad test result was indicated.

If multiple tests on the same device are performed you must wait at least 10 seconds between tests.

2.6 Supervision of the PC5132-900

To allow a trouble to be indicated should the PC5132-900 module be removed from the system, enter the following at any keypad.

Step 1 - Press [*] [8] [Installer Code] to enter Installer Programming

Step 2 - Follow the steps in Section 2.3 "Adding Wireless Devices"

Step 3 - Press [902] to enable supervision. The panel will automatically search for all modules on the system. Once the search (it will take about 1 minute) is complete enter the following to confirm the modules on the system.

Step 4 - Press [903] to display all modules.

Light [17] will indicate that the PC5132-900 is present on the system.

If the module is connected but not showing as being present, it may be due to one of the following reasons:

- It is not connected to the KEYBUS
- There is a KEYBUS wiring problem
- The module is more than 1000 ft./ 330 m from the panel
- The module does not have enough power
- No zones have been enrolled on the PC5132-900

2.7 Supervision of Wireless Zones

To allow a trouble to be indicated should a wireless zone stop operating or is removed from the system, enter the following at any keypad.

Step 1 - Press [*] [8] [Installer Code] to enter Installer Programming

Step 2 - Press [013] to view the First System Option Code.

Step 3 - Make sure that Light [1] is OFF and that Light [2] is ON.

This will enable double end of line supervision, and allow wireless zones that do not send signals to the PC5132-900, to cause a Zone Supervisory trouble.



Important Note

Double End of Line resistors must be enabled in the POWER832 for the wireless zones to be supervised. If normally Closed or Single EOL resistors are selected the POWER832 will not be able to supervise the wireless devices.

If a wireless device stops sending a supervisory signal (the unit stops functioning) the panel will not indicate a supervisory trouble condition unless Double EOL resistors are used.

In addition, all hardwire zones must be wired for Double EOL resistors.

Wireless Devices

S E C T I O N 3

3.1 WLS-904 Motion Detector

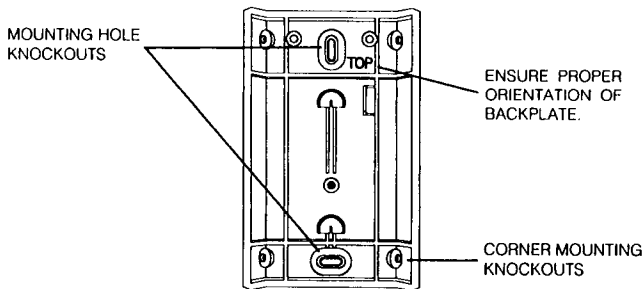
Each Motion Detector should be located so that it provides optimal coverage of the intended area. Refer to Changing Motion Detector Lenses below for information on the four lenses available for the WLS904 Motion Detector. When locating Motion Detectors, observe the following:

- For the Wall-to-Wall, Corridor and Curtain Lenses, the Mounting Height should be 6-10 ft./ 2-3 m from the floor. The nominal mounting height is 7.5 ft./ 2.3 m.
- For the Pet Alley Lens only, the Mounting Height should be 4-5 ft./ 1.2-1.5 m from the floor.
- Do not aim the detector at reflective surfaces such as mirrors or windows. This may distort the coverage pattern or reflect sunlight directly onto the detector. Avoid locations where the detector may be exposed to direct or reflected sunlight.
- Avoid locations that are subject to direct air flow, such as near an air duct outlet.
- Do not locate the detector near sources of steam or oil vapor, such as a stove or fryer.
- Do not obscure the Detector's coverage pattern with large objects within the detection area.

When a location has been determined, remove the plastic from the mounting holes and locate the backplate on the wall and mark screw locations. It is suggested that wall anchors be used for all screw locations. Secure the backplate to the wall, and then secure the enrolled Detector to its backplate.

Changing Motion Detector Lenses

Each Motion Detector is supplied with the Wall-to-Wall lens; three additional lenses are available for the WLS904 Motion Detector. The



Motion Detector Backplate

charts on the next page illustrate the range and coverage patterns of each lens.

To change the lens, first open the Motion Detector by removing the screw in the bottom of the battery compartment. With the screw removed, pull the back of the detector away from the front case.



The coils and antenna on the Motion Detector circuit board are very sensitive components precisely adjusted for maximum performance. Do not touch the coils or antenna! Even minor distortions can affect the performance of the Motion Detector.

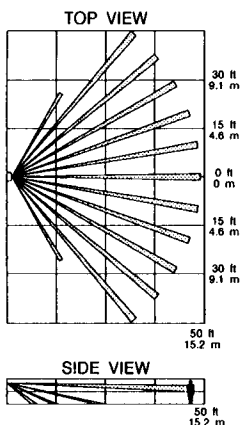
Remove the lens holder by pressing down on the top of the holder and pulling the holder away from the case. When installing the new lens, ensure the grooved surface faces the interior of the case, and the notches on the lens face the bottom of the case. Replace the lens holder by snapping it back into place.

Reassemble the motion detector by first engaging the clips on the bottom of the case. Close the case and then secure the case with the screw in the bottom of the battery compartment.

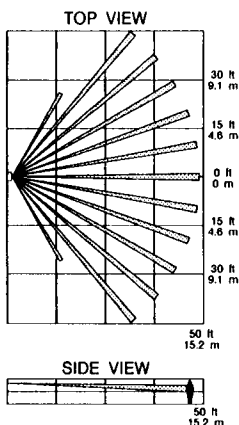
Changing the Motion Detector Sensitivity

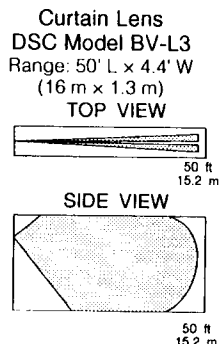
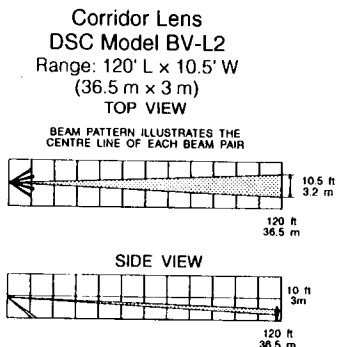
The Motion Detector features a High Sensitivity Mode designed for use with the Corridor and Curtain Lenses. If the corridor or hall is

Wall-to-Wall Lens
DSC Model BV-L1
Range: 50' L x 60' W
(16 m x 18 m)



Pet Alley
DSC Model BV-L1
Range: 50' L x 60' W
(16 m x 18 m)





narrow and the detector does not trip with the Corridor or Curtain Lens, use the High Sensitivity Mode with these lenses.

The High Sensitivity Mode is set by adjusting a jumper on the Motion Detector circuit board. Open the detector case as described in Changing Motion Detector Lenses.

The jumper "J1" is located in the bottom left corner of the circuit board:

- With the jumper shorted, the High Sensitivity Mode is ON
- With the jumper open, the High Sensitivity Mode is OFF

The High Sensitivity Mode should only be used with the Corridor or Curtain Lenses, and only if the detector fails to trip during walk testing with these lenses.

Special Note About Motion Detectors

To prolong battery life, the Motion Detectors feature a High Traffic Shutdown Mode. If a Motion Detector is activated more than once within a 3-minute period, it will delay additional reports to the PC5132-900. The Motion Detector then requires a 3-minute period of no activity before it will resume transmissions to the PC5132-900.

As the High Traffic Shutdown Mode prevents Motion Detectors from being tested using the regular Walk Test Mode, the Motion Detector features its own built-in test mode. To put the Motion Detector into the Walk Test Mode remove, then reattach, the Detector to its backplate. The Motion Detector Walk Test Mode will then be active for 90 seconds.

During the next 90 seconds, the Motion Detector's light will come on for 3 seconds each time motion is detected. The Motion Detector Walk Test Mode may be used to adjust the detector's location and range. At the end of the 90 second period, the Motion Detector will resume normal operation. During normal operation, the Motion Detector's light will not illuminate when motion is detected.

3.2 WLS-905 Universal Transmitter

Basic Installation

Locate the mounting bracket on the door or door frame, and determine where the magnet will be placed. The dot on top of the magnet must align with one of the dots on the mounting bracket; refer to Figure 1. Also, the top surface of the magnet should be flush with the recessed area of the mounting bracket. Use the spacers provided to mount the magnet so both the dots and surfaces align. Figure 2 illustrates how to assemble and mount the magnet.

When all parts have been mounted, open and close the door to ensure that none of the parts interfere with the motion of the door. Secure the enrolled Transmitter to the mounting bracket.

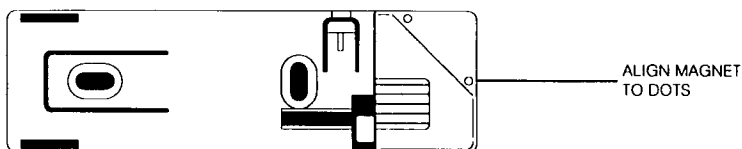


Figure 1. Universal Transmitter Mounting Bracket

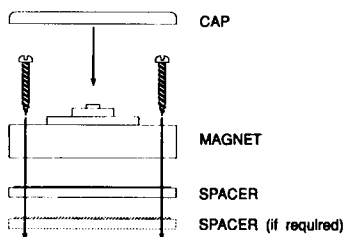


Figure 2. Assembling Magnets

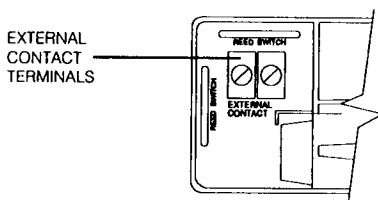
Using the External Contacts

Where it is not practical or desirable to mount the Universal Transmitter on the door, the external contact terminals can be used to allow the use of contacts other than the unit's built-in switches. The external contact terminals can also be used to connect other switches or devices to the Universal Transmitter.

Install switches and magnets as per manufacturer's instructions, and wire the switches to the contact terminals of the Universal Transmitter.

IMPORTANT:

- Only one magnet may be used with the Universal Transmitter.
- **The Universal Transmitter is available in Normally Closed Contact and Normally Open Contact models.**
- External contacts and the unit's built-in contacts cannot be used at the same time; ***only one reed switch or the external contact may be used at a time.***
- The maximum wiring distance between the Universal Transmitter and the external contact is 10 inches (approximately 25 cm).



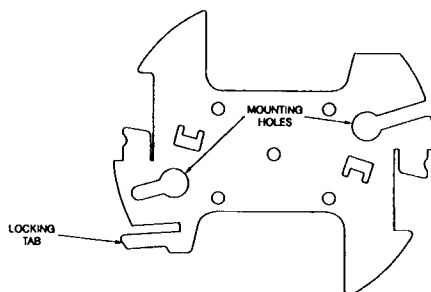
Underside View of Door Contact Showing External Contact Terminals and Internal Reed Switches

3.3 WLS-906 Wireless Smoke Detector

Refer to Appendix A, Guidelines for Locating Smoke Detectors, or NFPA 72 for information on where to locate smoke detectors.

Remove the mounting plate from the detector by holding the case and turning the mounting plate counterclockwise.

To replace the Smoke Detector on its mounting plate, align the mounting plate's locking tab with the lock recess on the case and turn the unit clockwise until it is firmly secured.



Smoke Detector Mounting Plate

Locate the Smoke Detector mounting plate on the wall or ceiling and mark all desired screw locations. It is suggested that wall anchors be used for all screw locations. When the anchors have been placed, secure the mounting plate to the ceiling or wall. Secure the Smoke Detector to its mounting plate.

Troubleshooting

S E C T I O N 4

The following are some common questions and answers.

1. **When I enter the two digit zone number when 'Adding a Wireless Device' the keypad gives me a long beep.**

The panel will not allow you to enter ESN number unless a PC5132-900 Wireless Receiver is connected to the KEYBUS. To enroll the module ensure the KEYBUS connections are correct then power down and power up the panel with the PC5132-900 Wireless Receiver connected to the KEYBUS.

2. **I have entered the ESN number for the device but when I violate it the zone does not show open.**

Ensure the ESN number has been entered correctly. Ensure the zone is enabled for the Partition. Ensure the zone has been programmed for something other than 'Null Operation'.

3. **When I test a wireless device I constantly get Bad results.**

The device may be out of range or may have weak batteries. Try testing the device closer to the receiver or test the batteries to ensure they have a good charge. Also remember that you must wait at least 10 seconds between tests.

4. **When I try a module placement test on the motion detector I get no result.**

Make sure the batteries are installed correctly. Also, the motion detector has 'High Traffic Shutdown'. To test the motion take off then put back on the backplate.

5. **The LED on the motion detector does not come on when I walk in front of the unit.**

The LED is used for walk test purposes only. To put the unit in walk test mode take off then put back on the backplate. For the next 90 seconds the LED will come on for three seconds every time the unit detects motion.

Guidelines for Locating Smoke Detectors

A P P E N D I X A

Experience has shown that all hostile fires in family living units generate smoke to a greater or lesser extent. Experiments using typical fires in family living units indicate that detectable quantities of smoke precede detectable levels of heat in most cases. For these reasons, NFPA standard 74 requires smoke detectors to be installed outside of each sleeping area and on each additional story of the family unit.

The following information is for general guidance only and it is recommended that NFPA Standard 72 (**National Fire Protection Association, One Batterymarch Park, Quincy MA 02269**) be consulted and that the smoke detector manufacturer's literature be used for detailed installation instructions.

It is recommended that additional smoke detectors beyond those required be installed for increased protection. The added areas include: basement, bedrooms, dining rooms, furnace room, utility room and hallways not protected by the required detectors.

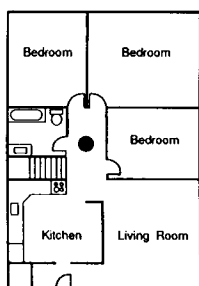


Figure 1: A smoke detector should be located between the sleeping area and the rest of the family unit.

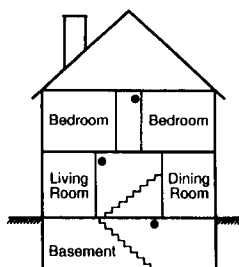


Figure 3: A smoke detector should be located on each story of the living unit.

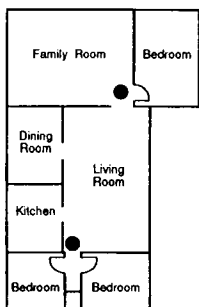
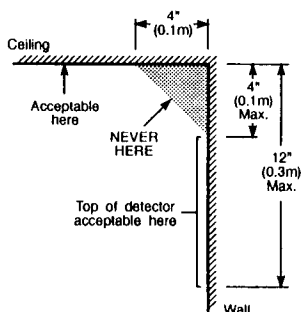


Figure 2: In the family living units with more than one sleeping area, a smoke detector should be located to protect each sleeping area.



NOTE: Measurements shown are to the closest edge of the detector.

Figure 4: Smoke Detector mounting - "Dead" Air Space. The smoke from a fire generally rises to the ceiling, spreads out across the ceiling surface and begins to bank down from the ceiling. The corner where the ceiling and wall meet is an air space into which the smoke may have difficulty penetrating. In most fires, this "dead" air space measures about 4 in. (0.1m) along the ceiling from the corner and about 4 in. (0.1m) down the wall as shown in Figure 4. Detectors should not be placed in the "dead" air space.

! The Smoke Detector is designed to use Eveready Energizer Alkaline Batteries. Do not use other brands of batteries with the Smoke Detector. Using brands other than the Eveready Energizer will void UL and ULC approvals, and may affect the system's operation.



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