



DSC®

LC-104-PIMW (Form A) LC-124-PIMW (Form C)

Sensor de movimiento de tecnología doble (sensor PIR y microondas) con inmunidad a mascotas

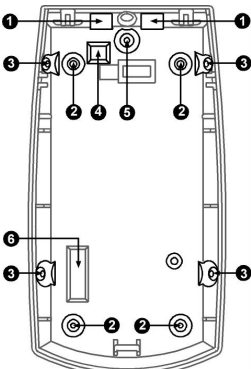


Fig 1 Knockout holes | Orificios troquelados | Trous de débouchure |
Fiori ciechi | Otwory montażowe
LC-L1ST accessory bracket Installation - Wall mount bracket (ceiling mount available)
Instalación del soporte-Escuadra de montaje en pared (escuadra para techo disponible)
Installation du support-Support de montage mural (support pour montage au plafond disponible)
Installazione dello snodo-Snodo per il montaggio a parete (disponibile snodo per il montaggio a soffitto)
Montaż uchwyty - Uchwyty do montażu na ścianie (dostępny także uchwyt do montażu na suficie)

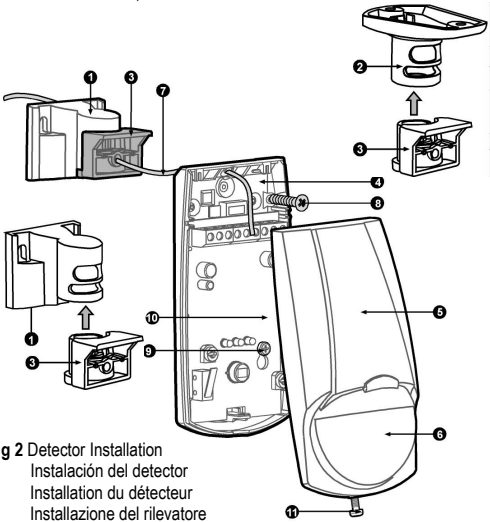


Fig 2 Detector Installation
Instalación del detector
Installation du détecteur
Installazione del rilevatore
Montaż czujki

P/N 7111672 Rev. J

ENGLISH

The detector provides an analysis of environmental conditions through the entire movement speed frequency spectrum, allowing focus on intruders and eliminating environmental factors of false alarms. The spectrum analysis is embedded in the VLSI based electronics of the detector assuring high reliability and trouble free operation. As the LC-104 (Form A) and LC-124 (Form C) is a combined technology (PIR & microwave) alarm signal relay activation occurs only when signals from both sensors (PIR & MW) are present at the same time. The effective detection range is the range of which the patterns (PIR & MW) are intersected. The GAIN potentiometer adjustment changes the MW signal intensity so that the effective pattern will be scaled. This Installation Manual shall be used in conjunction with the Installation Manual of the ALARM Control Panel.

TYPICAL INSTALLATION

Select mounting location

Choose a location most likely to intercept an intruder. (Our recommendation is a corner installation). See detection pattern (Fig.3). The quad-element high quality sensor detects motion crossing the beam; it is slightly less sensitive detecting motion toward the detector.

Avoid The Following Locations: * Facing direct sunlight. * Facing areas that may change temperature rapidly. * Areas where there are air ducts or substantial airflows.

The LC-104-PIMW / LC-124-PIMW perform better when provided with a constant and stable environment.

This detector shall be installed and used within an environment that provides the pollution degree max 2 and overvoltages category II, NON HAZARDOUS LOCATIONS, indoor only. The detector is designed to be installed by service persons only.

MOUNTING THE DETECTOR

1. Remove the front cover by unscrewing the holding screw (Fig. 2-11) and gently raise the front cover. (Fig. 2-5)
2. Remove the PC board by unscrewing the holding screw located on the board. (Fig. 2-9)
3. Break out the desired holes for proper installation (Fig. 1 – 2) for flat mount or Fig. 1-3 for corner mount) Use 4 screws type 3x30mm.
4. The circular and rectangular indentations at the bottom base (Fig. 1-1, Fig. 1-4) are the knockout holes for wire entry.
5. Mount the detector base to the wall or corner. (Fig. 3A)
6. For optional **LC-L1ST accessory** bracket installation open hole Fig. 1-6 for the bracket screw and install Bracket wall adapter (Fig. 2-183) or Bracket ceiling adapter (Fig. 2-283)
7. Reinstall the PC board by fully tightening the holding screw.
8. Connect wire to terminal block. (Fig. 4)
9. Replace the cover by inserting it back in the appropriate closing pins and screw in the holding screw.

DETECTOR INSTALLATION

Terminal Block Connections (See Fig. 4)

Terminals 1 & 2 - Marked "T2, T1" (TAMPER) Connect these terminals to a 24-hour normally closed protective zone in the control unit. If the front cover of the detector is opened, an immediate alarm signal will be sent to the control unit.

Terminal 3 Marked "NC" - This is the NC (Normally Closed) output of ALARM relay. (This contact is functional on LC-104-PIMW and LC-124-PIMW)

Terminal 4 Marked "C" - This is the COMMON output of ALARM relay (This contact is functional on LC-104-PIMW and LC-124-PIMW).

Terminal 5 Marked "NO/EOL" - This is the NO (Normally Open) of the ALARM relay on the LC-120 or End Of Line on the LC-100.

Terminal 6 – Marked "-" (GND) Connect to the negative Voltage output or ground of the control panel.

Terminal 7 - Marked "+*" (+12V) Connect to a positive Voltage output of 9.6-16VDC source. Use only a listed power limited source.

Note: The detector shall be provided with minimum of 4 hours of standby power from either a listed compatible control unit or power supply.

SETTING - UP THE DETECTOR (Dipswitch Fig.5-2)

LED ENABLE / DISABLE

Switch 1 of dipswitch marked "LED" - LED's Enable/Disable
Position Up "ON" - LED's ENABLE The 3 LED's will be activating Red for ALARM, Green for PIR detection, Yellow for MW detection. (Factory Setting)

Position Down "OFF" - LED's DISABLE The LED's are disabled.

NOTE: The state of the switch "LED" - does not affect the operation of the relays. When an intrusion is detected, the alarm relays will switch into alarm condition for 2 sec.

PIR SENSITIVITY ADJUSTMENT

Switch 2 of dipswitch marked "PIR" - provides sensitivity control of PIR according to the environment.

Position Up "ON" - (Pulse=1) - High sensitivity for stable environments. (Factory Setting)

Position Down "OFF" - (Pulse=Auto) - Low sensitivity for harsh environments.

MW SENSITIVITY ADJUSTMENT

Switch 3 of dipswitch marked "MW" - provides sensitivity control of Microwave detection according to the environment.

Position Up "ON" - (8 Pulses) - Low sensitivity for harsh or unstable environments.

Position Down "OFF" (2 Pulses) - High sensitivity for stable environments (Factory Setting)

PET IMMUNITY SETTING

Switch 4 of dipswitch marked "PET" - provides setting for pet weight 15kg (33lbs) or 25kg (55lbs)

Position Up "ON" - Immunity to an animals up to 15 kg (33lbs) (Factory Setting)

Position Down "OFF" - Immunity to an animals up to 25kg (55lbs)

Note: Pet immunity feature has not been tested by UL.

AND/OR FUNCTION SETTING

Switch 5 of dipswitch marked "A/O" - provides setting for ALARM relay activation.

Position Up "ON" - OR mode - the ALARM relays will activate as a function of PIR OR MW detection (The first channel that detects will activate the ALARM)

Position Down "OFF" - AND mode - the ALARM relays will activate as a function of both PIR AND MW detection. (Factory Setting)

NOTE: Detector must be restart by temporary remove power before the new settings will take effect.

RANGE CALIBRATION

The "MW" potentiometer (Fig. 5-4) adjusts the MW detection range between minimum and maximum (factory set to middle position).

The "PIR" potentiometer (Fig. 5-1) adjusts the PIR detection range between Minimum and Maximum (factory set to Middle Position).

See Fig. 3 to determine detection range using SENS potentiometer.

NOTE: The "MW" and "PIR" potentiometer may need to be adjusted to the Maximum positions in order to achieve maximum area of coverage as indicated in Fig. 3.

WIRE SIZE REQUIREMENTS

ESPAÑOL

Este detector proporciona un análisis de las condiciones ambientales a lo largo del espectro completo de velocidades de movimiento, lo que le permite centrarse en intrusos y eliminar los factores ambientales típicos de las falsas alarmas. El análisis del espectro está integrado en la electrónica del detector basada en la tecnología VLSI, lo que asegura una alta fiabilidad y un funcionamiento sin fallos. Dado que el LC-104-PIMW / LC-124-PIMW está construido sobre una tecnología combinada (sensor pasivo infrarrojo y microondas), la activación del relé de la señal de alarma se da sólo cuando se reciben señales de ambos sensores (PIR y microondas) al mismo tiempo. El alcance eficaz de detección es el alcance de la intersección de ambos patrones (PIR y microondas). El ajuste de la ganancia (GAIN) del potenciómetro modifica la intensidad de la señal de microondas para escalar el patrón efectivo. Este Manual de instalación deberá utilizarse conjuntamente con el Manual de instalación del panel de control de la alarma.

INSTALACIÓN TÍPICA

Seleccione la ubicación de montaje

Esoja una ubicación en la que estime más probable la intercepción de un intruso. (Nuestra recomendación es la instalación en una esquina). Véase el patrón de detección (Fig. 3). El sensor Quad de alta calidad detecta el movimiento que cruza el haz, y es algo menos sensible en la detección del movimiento hacia el propio detector.

Evite los siguientes emplazamientos: * Expuesto a la luz directa del sol. * Expuesto a zonas en las que la temperatura pueda variar rápidamente. * Zonas en las que existan conductos de aire o corrientes de aire importantes.

El LC-104-PIMW / LC-124-PIMW presenta un comportamiento óptimo en un entorno constante y estable.

Este detector deberá instalarse y utilizarse en un entorno que proporcione como máximo el grado de contaminación 2 y la categoría de sobretensión II, UBICACIONES NO PELIGROSAS, y sólo en interiores. El detector está diseñado para su instalación únicamente por parte de personal de servicio técnico.

MONTAJE DEL DETECTOR

1. Retirar la cobertura de enfrente por medio de destornillar los tornillos que sostienen el dispositivo (Fig. 2-11) y con cuidado levante la cobertura de enfrente. (Fig. 2-5)
2. Retire el tablero PC por medio de destornillar los tornillos que lo sostienen situados en el tablero (Fig. 2-9)
3. Haga los agujeros deseados para una instalación correcta ((Fig. 1 - 2) para enmarcar en lo plano o (Fig. 1 - 3) para enmarcar en la esquina) Use 4 tornillos de tipo 3x30mm.
4. Las hendiduras circulares y rectangulares en la base del dispositivo (Fig. 1-1, Fig. 1-4) son las entradas para los alambres.
5. Enmarcar la base del dispositivo en la pared o esquina. (Fig. 3A)
6. Para instalación opcional con soporte de pared, abrir el hoyo Fig. 1-6 para el tornillo del soporte de pared y instalar el adaptador de soporte para paredes (Fig 2-183) o el adaptador de soporte para el techo (Fig 2-283).
7. Instalar de regreso el tablero PC por medio de sugerar el tornillo que detiene el tablero.
8. Conectar los alambres en los bloques de terminales (Fig. 4)
9. Reemplazar la cobertura por medio de insertarla en las clavijas de cierre y enrosacar los tornillos que la sostiene.

INSTALACIÓN DEL DETECTOR

Conexiones del bloque de terminales (véase la Fig. 4)

Terminales 1 y 2 - Marcados como "T2, T1" (TAMPER). Conecte estos terminales a una zona protectora normalmente cerrada de 24 horas en la unidad de control. Si se abre la tapa frontal del detector, se enviará inmediatamente una señal de alarma a la unidad de control.

Terminal 3 marcado con "NC" - Este es NC (Normalmente Cerrado) salida de relé de ALARMA (Este contacto es funcional en el LC-104-PIMW y LC-124-PIMW)

Terminal 4 marcado con "C" - Este es el COMMON de el relé de ALARMA (Este contacto es funcional en el LC-104-PIMW y LC-124-PIMW).

Terminal 5 marcado con "NO/EOL" - Este es el contacto NO (Normalmente Abierto por sus siglas en inglés) del relé de ALARMA en el LC-120 o la resistencia de final de línea (EOL) en el LC-100.

Terminal 6 - Marcado como "-" (GND). Conéctelo a la salida de tensión negativa o a la tierra del panel de control.

Terminal 7 - Marcado como "+*" (+12 V). Conéctelo a una salida de tensión positiva de entre 9.6 y 16 V CC.

Configuración del detector (véase la Fig. 5-2)

LED ABILITAR/DESABILITAR

El interruptor 1 marcado "LED" - Abilitar/Desabilitar los LED's

Posición Arriba "PUESTO" - LED's ABILITADO. Los 3 LED's serán activados Rojo para ALARMA, Verde para detección del PIR, Amarillo para detección del microonda. (Ajuste de fábrica)

Posición Abajo "APAGADO" - LED's DESABILITADO. Los LED's serán desabilitados.

NOTE: El estado del interruptor "LED" - no afecta el funcionamiento del relé. Cuando una intrusión es detectada, el relé de alarm se cambia a una condición de alarma por 2 segundos.

AJUSTE DE LA SENSIBILIDAD DEL SENSOR PIR

Interruptor 2 del microinterruptor, Utilizado para ajustar el sensor "PIR": proporciona el control de la sensibilidad del sensor pasivo infrarrojo

Posición arriba - "ON" (Pulse=1). Alta sensibilidad para entornos estables. (Ajuste de fábrica) **Posición abajo - "OFF"** (Pulse=Auto). Baja sensibilidad para entornos inestables.

AJUSTE DE LA SENSIBILIDAD DEL MICROONDA (MW)

Interruptor 3 marcado "MW" - provee control de sensibilidad para la detección de microonda dependiendo del ambiente.

Posición Arriba "PUESTO" - (8 Pulsos) - Sensibilidad baja para ambientes estables. (Ajuste de fábrica) **Posición abajo - "OFF"** (Pulse=Auto). Alta sensibilidad para entornos estables.

Posición Abajo "APAGADO" - (2 Pulsos) - Sensibilidad alta para ambientes estables. (Ajuste de fábrica)

AJUSTE DE LA INMUNIDAD A MASCOTAS

Interruptor 4 del microinterruptor, Utilizado para configurar la inmunidad a MASCOTAS ("PET") de 15 kg a 25 kg.

Posición arriba - "ON" - Inmunidad a mascotas de hasta 15 kg. (Ajuste de fábrica) **Posición abajo - "OFF"** - Inmunidad a un animal de hasta 25 kg .

AJUSTE DE FUNCIÓN DE AND/OR

Interruptor 5 marcado "A/O" - provee ajuste para la activación del relé de ALARMA.

Posición Arriba "OR" - modo OR - el relé de ALARMA se activara como una función de detección del PIR o MICROONDA. (El primer canal que sea detectado activara la ALARMA)

Posición Abajo "AND" - Modo AND - el relé de ALARMA se activara como una función de ambos detección PIR y MICROONDA. (Ajuste de fábrica)

NOTE: Este detector debe ser reiniciado retirando temporalmente la alimentación para que los nuevos ajustes entren en vigor.

CALIBRACIÓN DEL ALCANCE

El potenciómetro "MW" (Fig. 5-4) ajusta el alcance de detección de las microondas entre el Mínimo y el Máximo (el ajuste de fábrica es el Posición central). El potenciómetro "PIR" (Fig. 5-1) ajusta el alcance de detección

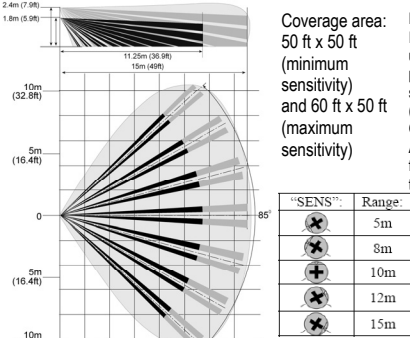


Fig. 3 Lens Pattern | Patrón de la lente | Portée de la lentille
Area of Copertura | Charakterystyka detekcji

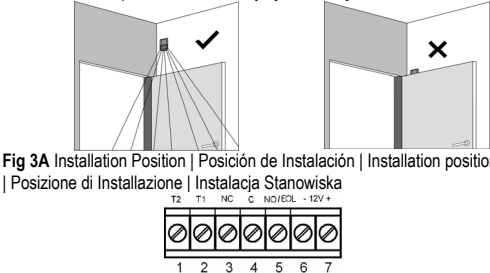


Fig 3A Installation Position | Posición de Instalación | Installation position
| Posizione di Installazione | Instalacja Stanowiska

Fig. 4 Terminal block | Bloque de terminals | Plaque à bornes |
Morsettiera | Opis zacisków

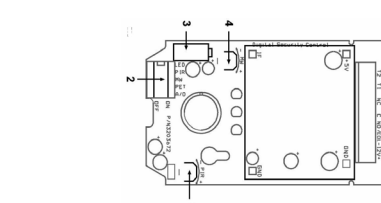
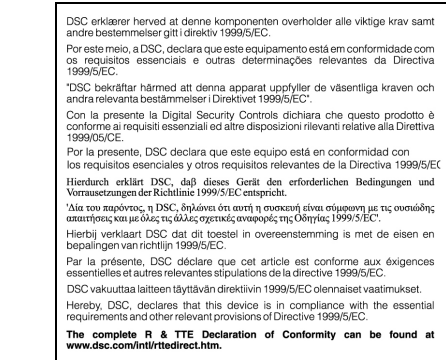


Fig. 5 PCB Layout

	PIR Sensitivity Adjustment	Ajuste de sensibilidad PIR	Réglage de la sensibilité du détecteur IRP	Regolazione sensibilità PIR	Regulacja czułości (PIR)
1	Sensitivity Adjustment	Ajuste de sensibilidad PIR	Réglage de la sensibilité du détecteur IRP	Regolazione sensibilità PIR	Regulacja czułości (PIR)
2	Dip-Switch for setting	Interruptor del ajuste	Interrupteur de réglage	Interruttori d'impostazione	Przełącznik funkcji
3	Tamper switch	Interruptor de seguridad	Interrupteur anti-sabotage	Deviatori antisabotaggio	Przełącznik antysabotażowy
4	MW Sensitivity Adjustment	Ajuste de sensibilidad MW	Réglage de la sensibilité de l'hyperfréquence	Regolazione Sensibilità microonda	Regulacja czułości mikrofal



EN50131-1 EN50131-2-4 Grade 2 Class 2

FCC ID:F5306LC4105 IC ID:160A-06LC4105



For UL/ULC installations use only detectors operating at 10.525GHz.

UL/ULC tested operation of the product at 0 – 49°C, 93%RH.

Use only resistive loads on the relay outputs.

	Organismes Certificateurs
NF	CNPP Route la Chapelle Réanville CD64 - BP2265 27950 ST MARCEL Tel : +33 (0)2.32.53.64.00 www.cnpp.com
a2p	AFNOR Certification 11 rue Francis de Pressensé 93571 LA PLAINE SAINT DENIS Cedex Tel : +33 (0)1.46.11.37.00 www.afnor.org
Reférentiel Certification:	
NF 324 / I H 58 Rev.3	

Warning! Changes or modifications to this equipment not expressly approved by the party responsible for compliance (DSC Ltd.) could void the user's authority to operate the equipment. This device complies with part 15 of the FCC rules. Operations are subject to the following two conditions:

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

This Class B digital apparatus complies with Canadian ICES-003. The term 'IC' before the radio certification number only signifies that Industry Canada technical specifications were met.

Use #22 AWG (0.5 mm) or wires with a larger diameter. Use the following table to determine required wire gauge (diameter) and length of wire between the detector and the control panel.

Wire Length	m	200	300	400	800
Wire Diameter	mm	0.5	0.75	1.0	1.5
Wire Length	ft.	656	984	1312	2624
Wire Gauge	AWG	22	20	18	16

WALK TESTING

IMPORTANT NOTE: Upon installation, the unit should be thoroughly tested to verify proper operation. The end user should be instructed on how to perform a walk test weekly.

Make sure detector has been set up: Pulse=1, LED=ON and protected area cleared of all people. Create motion in the entire area where coverage is desired, observe the Green LED for PIR detection, and Yellow LED for MW detection. Should the coverage be incomplete, readjust range or relocate the detector.

Once coverage is as required, the alarm LED may be disabled.

Use the optional LC-L1ST wall mount or ceiling mount brackets to solve placement problems. The brackets allow for horizontal positioning of the detector.

Note: For UL installations the detector shall be tested annually.

TECHNICAL SPECIFICATION

Detection Method	Quad (Four element) PIR & microwave pulse Doppler
Power Input	9.6 to 16Vdc
Current Draw	Active: 25mA; Standby: 20mA
Temp Compensation	Yes
Alarm Period	2 ± 1 sec
Alarm Outputs	LC-104-PIMW - Form A - NC LC-124-PIMW - Form C - NC & NO 28Vdc 0.1 A with 10 Ohm series protection resistors
Tamper Switch	NC 28Vdc 0.1 A with 10 Ohm series protection resistors open when cover is removed
Warm up Period	1min
LED Indicator	LED's are blinking during warm up period and self testing
Red LED	ON during alarm
Green LED	PIR CHANNEL
Yellow LED	MW CHANNEL
RF Immunity	10 V/m plus 80% AM from 80 MHz to 2GHz
Static Immunity	8kV contact, 15kV air
Transient Immunity	2.4kV @ 1.2joules
Operation Temp	-10°C ~ +55 °C (14 °F ~131 °F)
IP	40
IK	04
Dimensions	118mm x 62.5mm x 41mm (4.65" x 2.46" x 1.61")
Weight	102gr. (3.6oz.)

Use only resistive loads on the relay outputs

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television 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: -- Reorient or relocate the receiving antenna.

-- Increase the separation between the equipment and receiver.

-- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected. -- Consult the dealer or an experienced radio/TV technician for help.

Limited Warranty

Digital Security Controls warrants that for a period of 12 months from the date of purchase, the product shall be free of defects in materials and workmanship under normal use and that in fulfillment of any breach of such warranty, Digital Security Controls shall, at its option, repair or replace the defective equipment upon return of the equipment to its repair depot. This warranty applies only to defects in parts and workmanship and not to damage incurred in shipping or handling, or damage due to causes beyond the control of Digital Security Controls such as lightning, excessive voltage, mechanical shock, water damage, or damage arising out of abuse, alteration or improper application of the equipment.

The foregoing warranty shall apply only to the original buyer, and is and shall be in lieu of any and all other warranties, whether expressed or implied and of all other obligations or liabilities on the part of Digital Security Controls. Digital Security Controls neither assumes responsibility for, nor authorizes any other person purporting to act on its behalf to modify or to change this warranty, nor to assume for it any other warranty or liability concerning this product.

In no event shall Digital Security Controls be liable for any direct, indirect or consequential damages, loss of anticipated profits, loss of time or any other losses incurred by the buyer in connection with the purchase, installation or operation or failure of this product.

Motion detectors can only detect motion within the designated areas as shown in their respective installation instructions. They cannot discriminate between intruders and intended occupants. Motion detectors do not provide volumetric area protection. They have multiple beams of detection and motion can only be detected in unobstructed areas covered by these beams. They cannot detect motion which occurs behind walls, ceilings, floor, closed doors, glass partitions, glass doors or windows. Any type of tampering whether intentional or unintentional such as masking, painting, or spraying of any material on the lenses, mirrors, windows or any other part of the detection system will impair its proper operation.

Passive infrared motion detectors operate by sensing changes in temperature. However their effectiveness can be reduced when the ambient temperature rises near or above body temperature or if there are intentional or unintentional sources of heat in or near the detection area. Some of these heat sources could be heaters, radiators, stoves, barbecues, fireplaces, sunlight, steam vents, lighting and so on.

Warning: Digital Security Controls recommends that the entire system be completely tested on a regular basis. However, despite frequent testing, and due to, but not limited to, criminal tampering or electrical disruption, it is possible for this product to fail to perform as expected.

Important Information: Changes or modifications not expressly approved by Digital Security Controls could void the user's authority to operate this equipment.

entre el Mínimo y el Máximo (el ajuste de fábrica es el Posición central).

Vea fig. 3 para determinar la gama de la detección usando el potenciómetro de SENS.

NOTA: Puede que tenga que ajustar los potenciómetros "MW" y "PIR" a las posiciones máximas para conseguir la máxima superficie de cobertura, tal y como se indica en la fig. 3.

REQUISITOS DE TAMAÑO DE LOS CABLES

Utilice cables de calibre 22 AWG (0.5 mm) o de mayor diámetro. Utilice la siguiente tabla para determinar el calibre (diámetro) del cable y su longitud entre el detector y el panel de control.

Lunghezza	m	200	300	400	800
Diametro	mm	0.5	0.75	1.0	1.5
Lunghezza	ft.	656	984	1312	2624
Sezione	AWG	22	20	18	16

PRUEBA DE DESPLAZAMIENTO

NOTA IMPORTANTE: Tras realizar la instalación, la unidad deberá ser probada exhaustivamente para verificar que funciona correctamente. Deberá instruirse al usuario final en el modo de realizar una prueba semanal de desplazamiento.

Asegúrese de que se ha configurado el detector: Pulse=1, LED=ON, y ninguna persona en la zona protegida. Genere movimiento en la zona completa que se desee cubrir y observe el LED verde para la detección del sensor PIR y el LED amarillo para la detección por microondas. En el caso de que la cobertura sea incompleta, vuelva a ajustar el alcance o reubique el detector.

Una vez haya conseguido la cobertura que desea, puede desactivar el LED de alarma.

Utilice los soportes opcionales LC-L1ST para montaje en pared / techo para resolver los problemas de ubicación. Estos soportes permiten colocar el detector en posición horizontal.

ESPECIFICACIONES TÉCNICAS

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