



# LC-104PIMW

## Passive Infrared & Microwave Motion Detector with Pet Immunity



### Installation Instructions



**A new generation of professional movement spread spectrum analyzing PIR & MW detectors.** The LC-104PIMW is a combination of PIR & MW detectors, providing protection from intruders by PYRO sensor element and MW (based on Doppler concept). Using micro controller for PIR & MW signal analyzing, with special ASIC technology for PIR pulse processing, assures "false alarm free" operation.

#### 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. Recommended mounting height 1.8m-2.4m. The LC-104PIMW performs best when provided with a constant and stable environment. **Avoid the Following Locations** \* Facing direct sunlight. \* Facing areas that may change temperature rapidly. \* Areas where there are air ducts or substantial airflows. \* Avoid screen, curtain that may block detection area.

#### MOUNTING DETECTOR BASE

The detector can either be wall or corner mounted. If ceiling or special wall mounting is required, use the optional bracket base. Refer to bracket description.(Fig.6 & 7)

1. To remove the front cover, unscrew the holding screw and gently raise the front cover (Fig.2-11).
2. To remove the PC board, carefully unscrew the holding screw located on the PC board(Fig.2-9).
3. Break out the desired holes for proper installing (Fig.1-B or C).
4. The circular and rectangular indentations at the bottom base are the knockout holes for wire entry. You may also use mounting holes that are not in use for running the wiring into the detector.(For option with bracket - lead wire through the bracket, Fig.2-7)
5. Mount the detector base to the wall, corner or ceiling. (For option with bracket install bracket (Fig.6, Fig.7).
6. Reinstall the PC board by fully tightening the holding screw. Connect wire to terminal block.
7. 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.5)

**Terminals 1 & 2 - Marked "T1", "T2" (TAMPER)** If a Tamper function is required 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 "EOL" - End of line option.**

**Terminals 4 & 5 - Marked "NC", "C" (RELAY)** These are the output relay contacts of the detector. Connect to a normally closed zone in the control panel.

**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 8.2 -16Vdc source (usually from the alarm control unit)

T2	T1	EOL	NC	C	-12V+	
1	2	3	4	5	6	7

**FIG 1 - Knockout holes**

**FIG 2 - Detector Installation**

**FIG 3 - Lens pattern**

**FIG 4 - Terminal block**

**SETTING - UP THE DETECTOR**

**MW SENSITIVITY ADJUSTMENT:**

**Switch 3 of DIP-5. Use for Setting "MW"** - provides sensitivity control of MW (DOPPLER) according to the environment. **Position Down "OFF"** - **High sensitivity** For normal operation - immediate detection. **Position Up "ON"** - **Low sensitivity** For harsh environments.

**POTENTIOMETER "MW"** - adjustment according to protected area range. The potentiometer at mid-scale is equivalent to a distance of 15m, at min-scale - 7m. Rotate the potentiometer clockwise to increase range, counter-clockwise to decrease range.

**NOTE:** Dimension change according to installation location and room size.

**PIR SENSITIVITY ADJUSTMENT:**

**Switch 2 of DIP-5. Use for Setting "PIR"** - provides sensitivity control of PIR according to the environment.

**Position Down "OFF"** - **High sensitivity** For stable environments. **Position Up "ON"** - **Low sensitivity** For harsh environments.

**POTENTIOMETER "PIR"** - adjustment according to protected area range. Use "PIR" to adjust the detection range between 68% and 100% (factory set to 84%). Rotate the potentiometer clockwise to increase range, counter-clockwise to decrease range.

**PET IMMUNITY SETTING:**

**Switch 4 of DIP-5. Use for Setting "PET" 15kg - 25kg**

**Position Up "ON"** - Immunity to an animal up to 15 kg. **Position Down "OFF"** - Immunity to an animal up to 25 kg.

**Switch 1 of DIP-5. Use for Setting: "LED"** - LED Enable / Disable.

**Position On - LED ENABLE** The RED LED will activate when the detector is in alarm condition.

**Position Off - LED DISABLE** The LEDS are disabled.

**Note:** the state of the switch "LED" does not affect the operation of the relay. When an intrusion is detected, the LED will activate and the alarm relay will switch into alarm condition for 2 sec.

**LED INDICATORS:**

**YELLOW LED** - MW detection's. **GREEN LED** - PIR detection's. **RED LED** - Alarm

**ALARM MODE SETTING:**

**Switch 5 of DIP5. Use for Setting** the mode of the detector. **Position Down - OFF "AND"** - The alarm signal occurred only when both sensor signals (PIR & MW) are present at the same time.

**Position Up -ON "OR"** - The alarm signal (relay activation) occurred when one of the sensors signals ( PIR & MW) is present.

**NOTE:** You must reset the detector from Control Panel before the new settings will take effect.

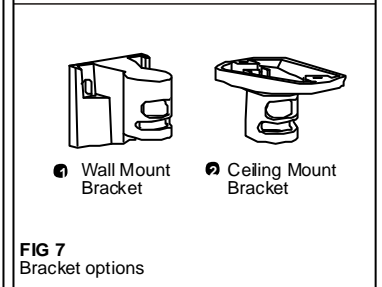
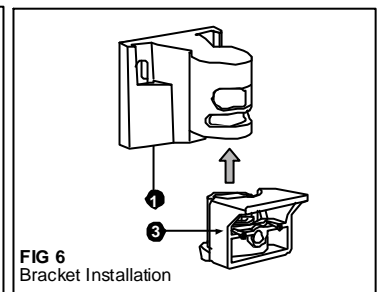
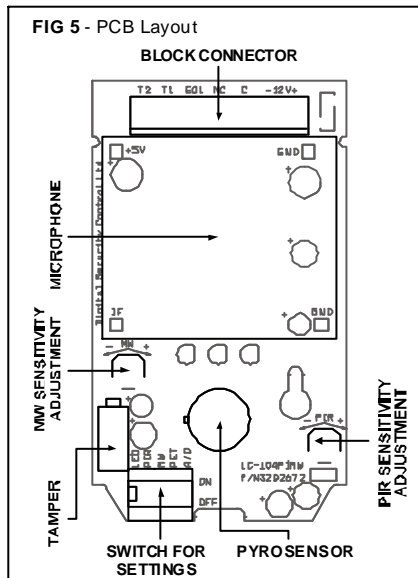
**TEST PROCEDURE:**

Wait for one minute warm up time after applying 12 Vdc power. Conduct testing with the protected area cleared of all people. **Walk test 1.** Remove front cover. Set LED to ON position. **2.** Reassemble the front cover. **3.** Start walking slowly across the detection zone. **4.** Observe that the red LED lights whenever motion is detected. **5.** Allow 5 sec. between each test for the detector to stabilize. **6.** After the walk test is completed, you can set the LED to OFF position.

**NOTE:** Walk tests should be conducted, at least once a year, to confirm proper operation and coverage of the detector.

**TECHNICAL SPECIFICATION**

<b>Detection Method:</b>	Quad element PIR & microwave pulse Doppler
<b>Power Input:</b>	8.2 to 16 Vdc
<b>Current Draw</b>	Active: 25.5 mA Standby: 16.5 mA
<b>Temp. Compensation:</b>	YES
<b>Alarm Period:</b>	2 +/- 1 sec
<b>Alarm Output:</b>	N.C 28Vdc 0.1 A with 10 Ohm series protection resistors
<b>Tamper Switch:</b>	N.C 28Vdc 0.1A with 10 Ohm series protection resistor - open when cover is removed
<b>Warm Up Period:</b>	1 min
<b>LED Indicator:</b>	Yellow & Green LEDs are blinking during warm up period and self testing <b>Red LED:</b> ON during alarm <b>Green LED:</b> PIR CHANNEL <b>Yellow LED:</b> MW CHANNEL
<b>Dimensions:</b>	118mm x 62.5mm x 40mm (4.65" x 2.46" x 1.61")
<b>Weight:</b>	120 gr.



**LIMITED WARRANTY:** Digital Security Controls Ltd, 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 Ltd shall, at its option, repair or replace the defective equipment upon returns 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 Ltd, 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 Ltd. Digital Security Controls Ltd 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 Ltd 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 Ltd, 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 Ltd could void the user's authority to operate this equipment.