Safety-Related Precautions

Before installation, make sure to read this instruction manual carefully for safe and effective product operation.

After reading this installation instructions, make sure to keep it in a convenient place for future use.

- **Warning**: This icon denotes a situation involving the risk of serious injury or even death. Details of the actions to be avoided are written beside or near icon.

- **Caution**: This icon denotes a situation involving the risk of serious injury or damage to property if the warning given is ignored.

<table>
<thead>
<tr>
<th>Warning</th>
<th>Caution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never use this product for any application expect purpose for detecting moving object such as human or car. In addition, never use for any activation for a shutter or other. It may cause hazards.</td>
<td>To avoid the risk of electric shock, never touch the main body of the product with wet hands. (Also, if the product is wet after rain, do not touch it).</td>
</tr>
<tr>
<td>Never attempt to disassemble or modify the product, which increases the risk of fire or damage of the product.</td>
<td>Never connect the terminal with higher power supply or current draw over the specification. It increases the risk of fire or damage to the product.</td>
</tr>
</tbody>
</table>

Avoid applying water directly from brackets, houses, or otherwise splashing water directly onto the product. It increases the risk of damaging the product.

Clean and inspect the device periodically for safe operation. If any defect is detected, ask your local shop to repair the device.

1. INSTALLATION HINTS

- **Maximum mounting height is 8.3 ft. (2.5 m)**
- **Mount the detector directly to a wall or ceiling with the optional bracket (model CA-1W or CA-2C)**
- **Avoid moving objects in the detection area (i.e., swaying trees, bushes, etc.)**
- **Aim the detector at wall or the ground, to avoid unwanted detection.**

When using the pet alley area, the mounting height should be between 4-5 ft. (1.2-1.5 m).

Avoid looking directly at air conditioning or heating vents.

Avoid vapor or high humidity that can cause condensation.

2. DETECTION AREA PATTERNS

**LX-402**

A. **TOP VIEW**

B. **SIDE VIEW**

1. Multi-Level Area

2. Pet Alley Area

**LX-802N**

A. **TOP VIEW**

B. **SIDE VIEW**

1. Multi-Level Area

2. Pet Alley Area

This product detects temperature differences between the moving object and the background temperature in the detection area. So, if the object does not move, the detector can not detect it, and changing of the temperature differences may affect the detector's detection range.

Additionally, since this product has directional characteristic it is difficult to detect the target that is approaching the detector.
3. DESCRIPTION AND OPERATION

Day/Night Mode Adjustment
Adjust Day/Night Mode according to desired DAY/NIGHT operating periods.

Multi-Level/Pet Alley Adjustment Screw
Loosen screw and select.
For Multi-Level: Lower position "M"  
For Pet Alley: Upper position "P"

Mount Pitch 3.28 inches (83.5 mm)

Sensitivity Switch
Selectable 3 position [H, M, L].

4. INSTALLATION PROCEDURE

Installation on wall

1. Loosen cover screw and remove cover.
   - If angle adjustment is required, use the optional "CA-1W" mounting bracket.

2. Pull wire through the back of the detector, remove adjustment screw and remove the PCB from the base. (see illus.)

Installation on ceiling

1. Install the bracket "CA-2C" on ceiling and pull wire.

2. Attach the LX-602/602N to the bracket and pull wire.
   - Use optional ceiling mount bracket "CA-2C".

3. NOTE!
   - Connect wires to terminals, as shown.

4. Connect wires to terminals, as shown.

5. Power supply wires should not exceed the following lengths:
   - AWG 20: 630 ft (190 m)
   - AWG 20: 170 ft (51 m)
   - AWG 18: 270 ft (82 m)

6. Set the Day/Night mode adjustment to the "24HR" setting.

7. After conducting Walk Test.
   - Set Pulse Count to "TEST" mode. Adjust sensitivity setting (see section 6-2 and 3).
   - Replace the cover and supply power to unit.
   - After warmup period is complete (approx. 60 sec.), conduct Walk Test.
   - The LED indicator lights when the unit detects moving object.

8. After wiring, pack the provided sponge into the opening between each wires and the knockout hole.
   - Select HIGH, MEDIUM or LOW sensitivity (H, M, L).
   - Fasten cover with the cover screw. (see section 6-5)

5. OPTIONAL BRACKETS

1. Ceiling Mount Bracket "CA-2C"
   - Adjust Horizontally: ±45°
   - Adjust Vertically: 0° to 20° downward

2. Multi-Angle Wall Mount Bracket "CA-1W"
   - Adjust Horizontally: ±45°
   - Adjust Vertically: 0° to 20° downward

Note! Maximum mounting height is 8.3 ft (2.5 m)
6. SETTING AND ADJUSTMENT

1. Day/ Night Mode
Adjust the Day/Night Mode switch of the detector according to the brightness of the surrounding area.

- **NORMAL Position**
  - To have the standard detector function only during evening/night time, set the dial to the reference position (●).
  - To have the detector begin to function while the surrounding area is lighter, turn the dial gradually to the DAY side.
  - To have the detector function at all time, or to perform a walk test, set the dial to the DAY position.

Unit is pre-set at "NORMAL" position.

2. Pulse Count Switch

- **TEST** mode
  - Select “2” for normal applications. (STANDARD Position)

- **TEST** mode
  - Select “TEST” mode when conducting WALK TEST, or for use in extremely stable environments.

Unit is pre-set at “2” position.

3. Sensitivity Switch

- **M**
  - Use “M” position for normal applications. (STANDARD Position)

- **H**
  - Use “H” Position when you need high sensitivity. (ex. Pet Alley Area)

- **L**
  - Use “L” position in areas that may be unstable.

Unit is pre-set at “M” position.

7. DETECTION AREA ADJUSTMENT

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Changing vertical detection area

1. Multi-Level Area

Use this area for normal applications.

Unit is pre-set at “Multi-Level” setting.

2. Pet Alley Area

Provide a horizontal detection pattern with no declination of zones, allowing pets to move through the area.

Selecting Pet Alley Pattern

- Carefully loosen the adjustment screw.
- Slide the cover down and fasten the screw at the “P” position.
- Flip the Mirror to the upper position.

NOTE! Sensitivity setting must be one step higher position when pet alley area is selected.

NOTE! Pet Alley Area will not function if two changes are not performed.

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Eliminating unwanted detection zones (LX-402 only)

Unwanted detection zones can be eliminated by simply masking the lens with the provided masking strip, as follows:

1. Remove cover and apply strip to the inside of lens on the zone to be eliminated. (see illus.)

2. Example: ZONE “a” can be eliminated by masking the lens at area “a” (see illus.).
# 8. TROUBLESHOOTING

<table>
<thead>
<tr>
<th>PROBLEM</th>
<th>PROBABLE CAUSE</th>
<th>REMEDY</th>
</tr>
</thead>
<tbody>
<tr>
<td>LED does not light up.</td>
<td>Improper power supply voltage. (disconnection, low voltage)</td>
<td>Confirm the power supply is under specification.</td>
</tr>
<tr>
<td></td>
<td>Wrong polarity</td>
<td>Switch positive and negative at terminal.</td>
</tr>
<tr>
<td></td>
<td>The detector is in warm up period.</td>
<td>Wait for, (approx. 60 sec.)</td>
</tr>
<tr>
<td></td>
<td>The Day/Night Mode Adjustment knob setting is inappropriate.</td>
<td>See section 6-1.</td>
</tr>
<tr>
<td></td>
<td>Incorrect detection area.</td>
<td>See section 2.</td>
</tr>
<tr>
<td>LED lights up even though no one is in detection area.</td>
<td>Moving object within area. (curtain, wall hanging, etc.)</td>
<td>Remove the object from the detection area.</td>
</tr>
<tr>
<td></td>
<td>Improper power supply voltage</td>
<td>Confirm the power supply is under specification.</td>
</tr>
<tr>
<td></td>
<td>The unit is detecting persons, cars or other objects beyond the set area</td>
<td>Check the detection area.</td>
</tr>
<tr>
<td></td>
<td>Temperature of object within area is changing rapidly (heater, air conditioning, etc.)</td>
<td>Remove the heat sources from the detection area.</td>
</tr>
<tr>
<td>The LED lights up, but there is no relay output</td>
<td>Relay contact is stuck or damaged due to overloading</td>
<td>Check load of output.</td>
</tr>
<tr>
<td></td>
<td>Faulty wiring</td>
<td>The unit needs repair or replacement.</td>
</tr>
<tr>
<td></td>
<td>Alarm output connects to other devices as follows. when NC output is used</td>
<td>when NC output is used</td>
</tr>
<tr>
<td></td>
<td>connect in parallel</td>
<td>connect in parallel.</td>
</tr>
<tr>
<td></td>
<td>when NO output is used</td>
<td>when NO output is used</td>
</tr>
<tr>
<td></td>
<td>connect in series</td>
<td>connect in parallel.</td>
</tr>
</tbody>
</table>

# 9. SPECIFICATIONS

<table>
<thead>
<tr>
<th>Model</th>
<th>LX-402</th>
<th>LX-802N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detection method</td>
<td>Passive Infrared</td>
<td></td>
</tr>
<tr>
<td>Detection area</td>
<td>40ft x 50ft (12mx15m) 120° wide</td>
<td>80ft x 60ft (24mx24m) Long range</td>
</tr>
<tr>
<td>Coverage</td>
<td>Multi-Level Area 40 zones 12 zones</td>
<td>Pet Alley Area 18 zones 4 zones</td>
</tr>
<tr>
<td>Mounting height</td>
<td>Multi-Level Area 8.3ft (2.5m) max</td>
<td>Pet Alley Area 4.5ft (1.4m) max</td>
</tr>
<tr>
<td>Detection speed</td>
<td>1-3.8s/sec. (0.3-1.0m/sec.)</td>
<td></td>
</tr>
<tr>
<td>Sensitivity adjustment</td>
<td>Selectable 3 position (H.M.L)</td>
<td></td>
</tr>
<tr>
<td>LED indicator</td>
<td>LED lights during detection</td>
<td></td>
</tr>
<tr>
<td>Alarm period</td>
<td>2x1 sec. (Delay timer)</td>
<td></td>
</tr>
<tr>
<td>Alarm output</td>
<td>NC. NO. 28V DC 0.2A max</td>
<td></td>
</tr>
<tr>
<td>Tamper switch</td>
<td>Opens when cover removed</td>
<td></td>
</tr>
<tr>
<td>Pulse count</td>
<td>2 (20x5 sec.) or TEST (1 pulse)</td>
<td></td>
</tr>
<tr>
<td>Day/Night Mode adjustment</td>
<td>Approx. 10 to 100,000 lux</td>
<td></td>
</tr>
<tr>
<td>Warm up period</td>
<td>Approx. 60 sec.</td>
<td></td>
</tr>
<tr>
<td>Power input</td>
<td>10.8-13.2VDC</td>
<td></td>
</tr>
<tr>
<td>Current draw</td>
<td>25 mA max</td>
<td></td>
</tr>
<tr>
<td>Mounting</td>
<td>Wall (Indoor/Outdoor)</td>
<td></td>
</tr>
<tr>
<td>Operating temperature</td>
<td>-4°F to +122°F (-20°C to +50°C)</td>
<td></td>
</tr>
<tr>
<td>Environment humidity</td>
<td>95% max</td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>6.0oz (170g)</td>
<td>6.8oz (190g)</td>
</tr>
<tr>
<td>IP Rating</td>
<td>IP54</td>
<td></td>
</tr>
<tr>
<td>Accessory</td>
<td>Masking strips (LX-402 only), Mounting screw, spongs</td>
<td></td>
</tr>
</tbody>
</table>

※ Specifications may be changed without prior notice for improvements.

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**OPTEX**

**OPTEX SECURITY S.A.S (FRANCE)**

Tel: +33 (0)1 30 87 98 38
URL: http://www.optex-security.fr

**OPTEX SECURITY K.K. (KOREA)**

Tel: +82-31-756-0901
URL: http://www.optexsecurity.com

**OPTEX SECURITY K.K. (CHINA)**

Tel: +86-21-30111448
URL: http://www.optexchina.com

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NOTE: These units are designed to detect movement of an intruder and activate an alarm system if desired. Any part of a complete alarm system is subject to the laws or regulations of the governing authorities. The manufacturer shall not be liable for any damages or other consequences resulting from the use of this product.