AURORA / AURORA-T Passive Infrared Motion Detectors

INSTALLATION INSTRUCTIONS

GENERAL INFORMATION
These passive infrared motion detectors are versatile wall-mounted units employing Fresnel lenses and offering efficient protection patterns for commercial and residential applications. Best coverage will be obtained if mounting is selected such that the likely direction of intruder motion is across the pattern.

When installed per the guidelines, the Split-Zone Optics technology in the Aurora Series provides reasonable false alarm protection against pets and other animals up to 40 lbs.

SPECIFICATIONS

- Detection Method: Passive Infrared
- Coverage: Pet Immune Lens, 35 ft x 45 ft (10.6m x 13.7m), 90°
- Detection Zones: Pet Immune Lens - 28 zones (8 over 8 long range, 8 intermed, 4 short range)
- Pulse Processing: Intermediate, Standard, Harsh
- Temperature Comp.: Advanced dual-slope temperature compensation adjusts for ambients both above and below body temperature
- Detectable Walk Rate: 0.5 - 10 ft/Sec (0.15 - 3m/Sec)
- Mount Height: 7.0 ft recommended (2.1m)
- Indicator: Red LED with enable/disable link
- Alarm Relay: Form A, SPST, 90mA@16VDC, 15-ohm protective resistor
- Input Voltage: 8 - 16VDC (Aurora and Aurora-T)
- Current: Model w/LED alarm w/o LED standby
  - Aurora: 10mA 4mA 4mA
  - Aurora-T: 10mA 4mA 4mA
- All currents nominal at 12VDC.
- Standby: Power source should be capable of at least 4 hours of battery standby
- Tamper: Normally closed (with cover on), rated at 0.5A, 30VDC (Aurora-T only)
- Operating Temp.: 14°F - 122°F (-10° C to +50° C)
- Operating Humidity: Up to 95% RH (max), non-condensing
- Dimensions: 2.9"W x 4.1"H x 1.5"D (max protrusion) (60mm x 104mm x 38mm)
- Approvals/Listing: UL639, ULC S306, EN 50131-1; Security Grade 2, Environment Class II
- For Connection to an EN 60950 Class II Limited Power Source

INSTALLATION
For optimal pet immunity performance, be sure to follow all the guidelines described in “Special Instructions for Installations Containing Pets.”

A. Normal Surface Mounting
Mount the unit to a firm vertical surface. The wall wiring hole should be no more than 5/16” (8mm) in diameter.

1. Remove the front cover as shown in Figure 2.
2. Refer to Figure 3. Knockout holes “A” in the base are for normal surface mounting on a wall (remove PC board for full access to holes). For corner mounting, see B. Corner Mounting. Also break out the desired wire entry hole at this time, marked X1 or X2 in Figure 3.
3. Feed wiring through the wire access hole. Make sure wires have sufficient slack to allow the PC board to be moved up and down freely when the wires are connected to the board’s terminals.
4. Mount the base. A level may be used on the front case to ensure that the unit is vertical (see Figure 2).
5. Replace the PC board, positioning it to the appropriate setting (see Vertical Lens Adjustment table later in this document). Note the mounting orientation of this detector: terminal strip at the bottom
6. Refer to the WIRING CONNECTIONS section before replacing the front cover.

B. Corner Mounting
1. Remove the front cover as shown in Figure 2.
2. Knockout holes “B” in the base are used for corner mounting on a wall. Mount in selected corner with 4 screws.
3. Replace the PC board, positioning it to the appropriate setting (see Vertical Lens Adjustment table later in this document). Note the mounting orientation of this detector: terminal strip at the bottom
4. Refer to the WIRING CONNECTIONS section before replacing the front cover.

Special Instructions for Installations Containing Pets
To take full advantage of the pet immunity in the Aurora Series, the guidelines below should be followed:

- Mount the center of the detector 7 ft (2.1m) high.
- Set the PIR sensitivity for Standard (STD).
- Mount where animals cannot come within six feet of the detector by climbing on furniture, boxes, or other objects.
- Do not aim the detector at stairways that can be climbed by animals.

NOTE: This unit will provide immunity to false alarms for an individual animal or a group of animals whose total weight is equal to or less than 40 lbs when the room temperature is above 50°F (10°C).
WIRING CONNECTIONS
Bring all wires in through the wire access hole and connect to the screw terminals (see Figure 4 for wiring details). Seal any openings in the base with foam or RTV (not supplied) to prevent drafts or insects from entering the unit. Apply power only after all connections have been made and are inspected.

WIRING DETAILS

12VDC POWER CONNECTS HERE (OBSERVE POLARITY)  -  +

TO TAMPER LOOP (AURORA-T/AURORA-AT ONLY)

TO CLOSED CIRCUIT PROTECTIVE LOOP

Figure 4. Wiring Connections

LED ENABLE/DISABLE OPTION
See Figure 3 for location of LED enable/disable jumper link. To enable the LED, remove the LED enable/disable jumper link. To disable the LED, replace the jumper link. See Figure 5 for proper positioning of the link.

<table>
<thead>
<tr>
<th>LED ENABLE/DISABLE</th>
<th>PULSE PROCESSING</th>
</tr>
</thead>
<tbody>
<tr>
<td>LED ENABLE:</td>
<td>INT:</td>
</tr>
<tr>
<td>LINK OFF</td>
<td>LINK ON</td>
</tr>
<tr>
<td>LED DISABLE:</td>
<td>STD:</td>
</tr>
<tr>
<td>LINK ON</td>
<td>NO LINKS CONNECTED</td>
</tr>
<tr>
<td>HARSHE:</td>
<td>LINK ON</td>
</tr>
<tr>
<td>LEFT 2 POSTS</td>
<td>RIGHT 2 POSTS</td>
</tr>
</tbody>
</table>

Figure 5. Selectable Options

PULSE PROCESSING OPTION
See Fig. 3 for location of Pulse Processing selection jumper link.

Intermediate Pulse Processing (INT): This is the recommended setting for any location where an intruder is expected to cover only a small portion of the protected area. It tolerates normal environments on this setting.

NOTE: NOT recommended for pet immune applications.

Standard Pulse Processing (STD): This is the recommended setting for most applications, including pet immune applications. It tolerates environmental extremes on this setting.

Harsh Pulse Processing (HARSHE): This is the recommended setting for the severest of environments and should only be used in locations where an intruder is expected to cover moderate to large portions of the protected area.

VERTICAL LENS ADJUSTMENT
Use the table below and see Fig. 6 for vertical lens adjustment.

Vertical Lens Adjustment Table

<table>
<thead>
<tr>
<th>Mtg. Ht (ft)</th>
<th>notch 3</th>
<th>notch 4</th>
<th>notch 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.5</td>
<td>29</td>
<td>13</td>
<td>9</td>
</tr>
<tr>
<td>7</td>
<td>35*</td>
<td>16</td>
<td>10</td>
</tr>
<tr>
<td>7.5</td>
<td>35</td>
<td>19</td>
<td>12</td>
</tr>
<tr>
<td>8</td>
<td>35</td>
<td>22</td>
<td>14</td>
</tr>
<tr>
<td>9</td>
<td>35</td>
<td>27</td>
<td>18</td>
</tr>
</tbody>
</table>

* Pet immunity: Mount at 7ft., notch 3 only.

Figure 6. PCB Vertical Lens Adjustment

TEST PROCEDURES
NOTE: This detector should be tested at least once each year.

IMPORTANT: Two-minute warm-up time is required after applying power. Testing should be conducted with the protected area cleared of all people. Disarm the system’s control during testing to prevent unwanted alarms.

1. Remove front cover and set Pulse Processing Option to the setting that will be used for this detector in the installation. The LED must be enabled at this time (see Figure 5).

2. Replace front cover and walk through protective zones, observing that the detector’s LED lights whenever motion is detected (the LED serves as a Walk-Test indicator during this procedure).

The absolute range of all PIR units is subject to variation because of different types of clothing, backgrounds, and ambient temperature. For this reason, ensure that the most likely intruder routes are well within the PIR’s protective zones and that Walk-Testing is carried out along these routes. After the Walk-Test is complete, the LED may be disabled (see Figure 5).

TROUBLESHOOTING

Intermittent Alarm (LED Operative)
A. Rapid temperature change. Check for electric or gas heaters, open flames, electric arcs, etc.
Remedy: Locate source and reposition detector.
B. Drafts causing drapes, light fixtures, display material to move.
Remedy: Eliminate source of motion.

Intermittent or Continuous Alarm
A. DC voltage supplied to detector is inadequate or intermittent, or polarity is reversed.
Remedy: Ensure that polarity is corrected, adequate voltage is supplied, wiring is intact (no opens/shorts), and connections secure.

B. Protective loop is interrupted (open).
Remedy: Determine whether interruption is in protective loop wiring or at detector’s alarm relay contacts. Disconnect protective loop at detector relay contact terminals. Check continuity across terminals. If absent (and proper voltage is supplied to the detector), return unit for replacement. If present, check protective loop wiring.

LED Inoperative
A. LED jumper link ON.
Remedy: Remove LED jumper link (see Figure 5).
B. LED malfunction.
Remedy: Check for broken/shorted leads. Return unit for replacement.

Detection Area Changes
A. Repositioned furniture or equipment in the protected area.
Remedy: Caution customer about layout changes. Reposition detector.
B. Mounting surface is unstable. A few degrees of vertical shift can change range substantially.
Remedy: Mount on secure surface.

Panel Indicates Continuous Fault In Zone Of Protection Containing PIRs (PIR’s alarm LED not lit)
Too many detectors being used in the zone. Each detector adds 15 ohms of series resistance and the zone’s allowable loop resistance is being exceeded.
Remedy: Reduce the number of detectors used in the zone until the series resistance is within the allowable loop resistance permitted by the control.

FEDERAL COMMUNICATIONS COMMISSION (FCC) PART 15
The user shall not make any changes or modifications to the equipment unless authorized by the Installation Instructions or User’s Manual. Unauthorized changes or modifications could void the user’s authority to operate the equipment.

CLASS B DIGITAL DEVICE STATEMENT
This equipment has been tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause 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:
- If using an indoor antenna, have a quality outdoor antenna installed.
- Reorient the receiving antenna until interference is reduced or eliminated.
- Move the radio or television receiver away from the receiver/control.
- Move the antenna leads away from any wire runs to the receiver/control.
- Plug the receiver/control into a different outlet so that it and the radio/television receiver are on different branch circuits.
- Consult the dealer or an experienced radio/TV technician for help.

This Class B digital apparatus complies with Canadian ICES-003. It is designed to be used in the country of purchase only. The label indicates the country for which the equipment is designed.

CET APPAREIL EST CONFORME À LA PARTIE 15 DES RÈGLES DE LA FCC & DE RSS 210 DES INDUSTRIES CANADA. SON FONCTIONNEMENT DANS LE CANADA DOIT RESPECTER TOUTES LES CONSIGNES DU MANUEL D’UTILISATION. TOUTE MODIFICATION NON AUTORYSÉE VIDE LE DÉTAILleur DE SA DÉGAGER RESPONSABILITÉ, SI CELLE-CI CAUSERAIT DES INTERFÉRENCES. L’appareil est conçu pour être utilisé dans le pays d’achat et seulement dans ce pays.

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