**Read First**

- Check sensor label for gas type, range and ATO ordering number.

**NOTES:**
- Dimensions shown are in inches [millimeters].
- XIR PLUS SENSORS MUST BE MOUNTED HORIZONTALLY.
- XCELL SENSORS MUST BE MOUNTED VERTICALLY DOWN.

**CUSTOMER ____________________________**
**P.O. NO. ____________________________**
**MSA NO. _____________________________**
**LOCATION __________________________**
**TAG NO. _____________________________**
**TOTAL NO. OF UNITS __________________**

**MOUNTING BRACKET (PART NUMBER 10179361)**

**SHORT LID**
(USED FOR MAIN BOARD WITHOUT RELAYS OR JUNCTION BOX BOARD)

**DEEP LID**
(USED FOR MAIN BOARD WITH RELAYS)

**REVISIONS**
1. DIMENSIONS SHOWN ARE IN INCHES [MILLIMETERS].
2. MAIN HOUSING AND REMOTE JUNCTION BOX HAVE THE SAME DIMENSIONS.
RETROFIT APPLICATION NOTES:

1. WIRE GAUGE NEEDS TO BE 18-14 AWG TO THE X5000.
2. SUFFICIENT POWER MUST BE SUPPLIED TO THE X5000 IN ACCORDANCE WITH THE MAXIMUM WIRE LENGTHS. SEE TABLES 1-3.

IF THESE REQUIREMENTS ARE MET, PERFORMANCE OF THE X5000 SHOULD MEET THE NOISE IMMUNITY STANDARD EQUIVALENT OF THE ULTIMA X USING THE EXISTING WIRING. HOWEVER, THE INSTALLATION MAY NOT FULFILL THE LATEST IEC 61326-1 NOISE IMMUNITY STANDARD AS INDICATED IN THIS I/O DRAWING.

READ THE X5000 MANUAL CAREFULLY BEFORE INSTALLING OR USING THIS DEVICE. THE DEVICE WILL PERFORM AS DESIGNED ONLY IF IT IS USED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
1. ENCLOSURE TO BE MECHANICALLY BOLTED TO STRUCTURAL GROUND.
2. SHIELD TO BE BONDED TO CASE SCREW REQUIRED WHEN REMOTING XIR PLUS SENSOR.
3. GREEN SENSOR WIRE TO BE BONDED TO ENCLOSURE CASE SCREW. KEEP WIRE AS SHORT AS POSSIBLE.
4. IF A LOW IMPEDANCE (360°) SHIELD CONNECTION CANNOT BE MADE, BOND SHIELD TO INTERNAL CASE SCREW WITH CLAMP AND LEAVE SHIELD LIFTED AND CUTBACK AT 24VDC SOURCE.
5. WHEN INTERFACING TO RELAYS, USE A BRAIDED SHIELD CABLE AND BOND TO CASE SCREW USING CLAMPS. USE ALPHA WIRE 1454 OR EQUIVALENT.
**DUAL SENSOR GROUNDING CONFIGURATION**

**DIGITAL SENSOR GROUNDING**

**JUNCTION BOX P.C. BOARD**

**XIR PLUS SENSOR GROUNDING**

**GENERAL BRAIDED SHIELD TERMINATION**

- See Note 1
- See Note 2
- See Note 3
- See Note 4
- See Note 5

**NOTES:**

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**INSTALLATION OUTLINE, ULTIMA X5000**

- See Note 1
- See Note 2
- See Note 3
- See Note 4
- See Note 5

**NOTES:**

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**GENERAL BRAIDED SHIELD TERMINATION**

- See Note 1
- See Note 2
- See Note 3
- See Note 4
- See Note 5

**NOTES:**

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5. WHEN INERFACING TO RELAYS, USE A BRAIDED SHIELD CABLE AND BOND TO CASE SCREW USING CLAMPS. USE ALPHA WIRE 1454 OR EQUIVALENT.
**WIRING DISTANCES FROM POWER SUPPLY TO TRANSMITTER**

**NOTES:**
1. WHEN SIZING A SYSTEM'S 24V SUPPLY, A 1 AMP INRUSH CURRENT WITH A 1ms DURATION SHOULD BE CONSIDERED FOR EACH ULTIMA X5000 ON THE POWER SUPPLY.

---

### TABLE 1 - SINGLE SENSOR

<table>
<thead>
<tr>
<th>Sensor Mounting</th>
<th>Sensor</th>
<th>Max Power (W)</th>
<th>24 VDC Supply</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOUNTED ON TRANSmitter</td>
<td>Echem</td>
<td>3.6</td>
<td>2078</td>
</tr>
<tr>
<td></td>
<td>Catalytic</td>
<td>5.3</td>
<td>1421</td>
</tr>
<tr>
<td></td>
<td>XIR Plus</td>
<td>7.0</td>
<td>962</td>
</tr>
<tr>
<td>REMOTE MOUNTED ON JUNCTION BOX (UP TO 328 FT)</td>
<td>Echem</td>
<td>3.6</td>
<td>2096</td>
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<tr>
<td></td>
<td>Catalytic</td>
<td>5.3</td>
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<td>XIR Plus</td>
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<td>982</td>
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### TABLE 2 - DUAL SENSORS

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<th>Sensor Mounting</th>
<th>Sensor 1</th>
<th>Sensor 2</th>
<th>Max Power (W)</th>
<th>24 VDC Supply</th>
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</thead>
<tbody>
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<td>TWO SENSORS MOUNTED ON TRANSmitter</td>
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<td>2078</td>
<td>3136</td>
</tr>
<tr>
<td></td>
<td>Catalytic</td>
<td>5.3</td>
<td>1421</td>
<td>2173</td>
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<tr>
<td></td>
<td>XIR Plus</td>
<td>7.0</td>
<td>962</td>
<td>1516</td>
</tr>
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<td>ONE SENSOR MOUNTED ON JUNCTION BOX (328 FT), ONE SENSOR ON TRANSmitter</td>
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<td>3154</td>
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<tr>
<td></td>
<td>Catalytic</td>
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<td></td>
<td>XIR Plus</td>
<td>7.0</td>
<td>982</td>
<td>1536</td>
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### TABLE 3 - DUAL REMOTED SENSORS

<table>
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<tr>
<th>Sensor Mounting</th>
<th>Sensor 1</th>
<th>Sensor 2</th>
<th>Max Power (W)</th>
<th>24 VDC Supply</th>
</tr>
</thead>
<tbody>
<tr>
<td>TWO SENSORS MOUNTED ON JUNCTION BOX (328 FT)</td>
<td>Echem</td>
<td>3.6</td>
<td>2078</td>
<td>3136</td>
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<td>Catalytic</td>
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<td></td>
<td>XIR Plus</td>
<td>7.0</td>
<td>962</td>
<td>1516</td>
</tr>
</tbody>
</table>

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**NOTES:**
1. WHEN SIZING A SYSTEM'S 24V SUPPLY, A 1 AMP INRUSH CURRENT WITH A 1ms DURATION SHOULD BE CONSIDERED FOR EACH ULTIMA X5000 ON THE POWER SUPPLY.