The IRU-2000 series ultrasonic sensors are designed for applications outside of the tank environment. They are ideal for presence/absence detection, object profiling, and more. With ample programming options, the IRU-2000 series are designed for a variety of applications.

Features

- Programmable response time
- Internal Temperature Compensation
- Programmable filtering
IRU-2000 Specifications

Performance
- Operating Range:
  1 - 25 ft. (0.30 - 7.62 m) for liquids
  1 - 10 ft. (0.30 - 3.05 m) for solids
- Beam Pattern: 9º off axis
- Internal Temperature Compensation
- Frequency: 69 kHz
- Accuracy: ±0.25% of detected range
- Resolution: 0.1 in. (2.5 mm)
- Response Time: Up to 50 Hz, or once every 20 ms

Connectivity
Output:
- 1 Solid State Relay
- Isolated 4-20 mA
- RS-485 with (1) NPN trip point
- 4-20 mA with (2) NPN trip points

Electrical
- Total Current Draw: 80 mA @ 24 VDC
- Supply Voltage: 12 - 28 VDC
- Wiring Connections:
  IRU-2002 & 2003 - 6 pin terminal strip
  IRU-2004 & 2005 -
  - 6 conductor shielded cable
    (6 ft standard length)
  - Optional 5 pin micro-connector

Programming
- Interface with RST-3001/3002 Programmer (purchase separately)
  - The RST-3001 is 32 bit only
  - The RST-3002 is 64 bit compatible
- User selected units of measure

Physical
- ABS with UV Inhibitor
- Surface Mount with 4 screws

Environmental
- Ratings: NEMA 4X
- Operating Temp: -40º - 140°F (-40º - 60ºC)
# Common Model Configurations

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Model Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IRU-2002</td>
<td>1 - 25 ft range, 69 kHz, Surface mount, <strong>Solid-state relay output, 6-pin terminal strip</strong></td>
</tr>
<tr>
<td>IRU-2003</td>
<td>1 - 25 ft range, 69 kHz, Surface mount, <strong>Isolated 4-20 mA output, 6-pin terminal strip</strong></td>
</tr>
<tr>
<td>IRU-2004-C6</td>
<td>1 - 25 ft range, 69 kHz, Surface mount, <strong>RS-485 with 1 NPN trip point, 6 ft cable</strong></td>
</tr>
</tbody>
</table>

---

## IRU-2000 Accessories

Please order separately, by part number.

<table>
<thead>
<tr>
<th>Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Micro-Connector Over Molded Extension Cable</td>
<td></td>
</tr>
<tr>
<td>Straight, 2 m</td>
<td>135415-0002</td>
</tr>
<tr>
<td>Right angle, 2 m</td>
<td>135415-1002</td>
</tr>
<tr>
<td>Straight, 5 m</td>
<td>135415-0005</td>
</tr>
<tr>
<td>Right angle, 5 m</td>
<td>135415-1005</td>
</tr>
<tr>
<td>Programming Module</td>
<td></td>
</tr>
<tr>
<td>RST-3001 (USB)</td>
<td>125389</td>
</tr>
<tr>
<td>RST-3002 (USB) 64 bit compatible</td>
<td>125389-1000</td>
</tr>
</tbody>
</table>
# Model Configuration Options

**Model Number:** IRU - 200 _____ - _____

### A. Output

- □ **2** (1) solid state relay
- □ **3** isolated 4-20 mA
- □ **4** RS-485 with (1) NPN trip point
- □ **5** 4-20 mA with (2) NPN trip points

### B. Cable/Micro Connector (IRU-2004/2005 only)

- □ **CL** Cable (specify L=length in feet; standard 6 ft.)
- □ **M** 5-pin micro-connector

## Wiring

### IRU-2002

- +24 VDC
- - VDC
- Clock Synch
- Digital Pulse Width
- Relay
- Relay

### IRU-2003

- +24 VDC
- - VDC
- Clock Synch
- Digital Pulse Width
- 4-20mA Circuit Power (+24 VDC)
- 4-20mA Output

### Cable

<table>
<thead>
<tr>
<th></th>
<th>IRU-2004</th>
<th>IRU-2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>+24 VDC</td>
<td>+24 VDC</td>
</tr>
<tr>
<td>Black</td>
<td>- VDC</td>
<td>- VDC</td>
</tr>
<tr>
<td>Green</td>
<td>Clock</td>
<td>Clock</td>
</tr>
<tr>
<td>White</td>
<td>NPN trip</td>
<td>NPN 2</td>
</tr>
<tr>
<td>Blue</td>
<td>T (+) or (B)</td>
<td>NPN 1</td>
</tr>
<tr>
<td>Orange</td>
<td>T(-) or (A)</td>
<td>4-20</td>
</tr>
</tbody>
</table>

### Micro-Connector

<table>
<thead>
<tr>
<th></th>
<th>IRU-2004</th>
<th>IRU-2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Brown</td>
<td>+24 VDC</td>
<td>+24 VDC</td>
</tr>
<tr>
<td>2 White</td>
<td>NPN 1</td>
<td>NPN 1</td>
</tr>
<tr>
<td>3 Blue</td>
<td>VDC Grnd</td>
<td>VDC Grnd</td>
</tr>
<tr>
<td>4 Black</td>
<td>4-20 mA</td>
<td>4-20 mA</td>
</tr>
<tr>
<td>5 Grey</td>
<td>NPN 2</td>
<td>NPN 2</td>
</tr>
</tbody>
</table>