

# IRU Sensor Programming Guide



## IRU-###3 Connected to X-420

Part No: IRU-###3

(Example: IRU-2423, IRU-3433)

The IRU series provides a non-contact method of detecting level, presence/absence detection, volume, proximity and distance. With built in technology to compensate for unpredictable variables such as humidity, temperature and agitators the IRU is the right sensor for your application.

### Specification:

- Supply Voltage: 12-28 VDC
- Current Draw: 75mA
- Range:
  - IRU-5413-C20-B81, 4-79 inch, 1 in NPT Mounting
  - IRU-2423-C20-B81, 1-25 Feet, 2 Inch NPT Mounting
  - IRU-3433-C20-B81, 1.25-50 feet, 3 Inch NPT Mounting
- See IRU manual for full specifications

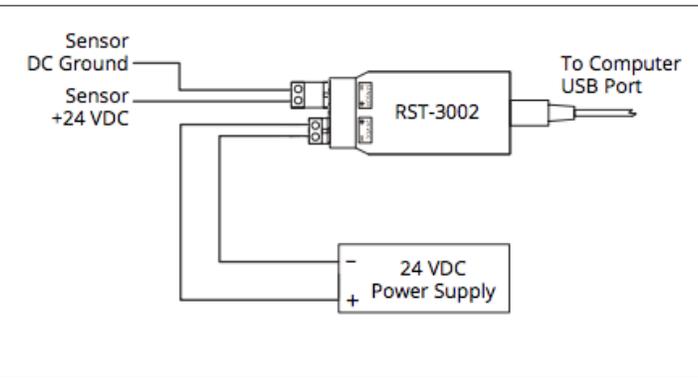
### Connection:

- Red: 12-28 VDC
- Black: Ground
- White: 4-20mA



### IRU Setup Wiring:

Wire up the IRU to the RST-3002 module. Load the software it came with.



### IRU Setup:

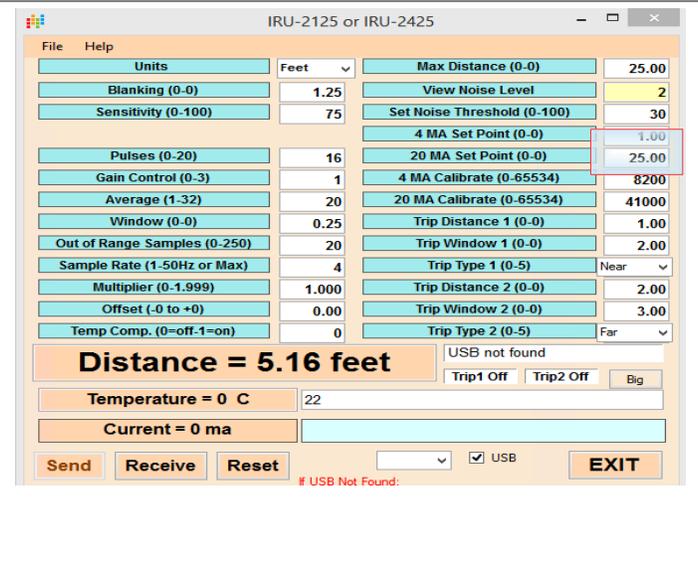
**4 mA Set Point** sets the distance at which the output is 4 mA. This distance is measured from the face of the sensor.

**20 mA Set Point** sets the distance at which the output is 20 mA. This distance is measured from the of the sensor.

Tank Level: Set 4mA to the distance to the bottom of the tank. Set 20mA to distance to the top of the tank.

Distance from Sensor: Set 4 mA at zero and 20mA to the maximum distance to detect.

Other setting maybe set based on application. See IRU manual for details.



### X-420 Setup:

Under the I/O Setup/Analog Inputs set the following:

Set Mode to Analog 4-20mA

Click Edit and set the following:

Decimal Place, Units, Slope and Offset.

#### Tank Level:

The slope is the  $4\text{mA} - 20\text{mA} / 16$ .

The offset is  $\text{slope} * -4$ .

#### Distance From Sensor:

The slope is the  $20\text{mA} - 4\text{mA} / 16$ .

The offset is  $\text{slope} * -4$ .

#### Tank Level Example: 20 foot tank

$4\text{mA} = 20\text{ ft}$  (bottom of tank),  $20\text{mA} = 0\text{ ft}$  (face of sensor)

Slope =  $1.25 \quad (20 - 0 / 16)$

Offset =  $-5 \quad (1.25 * -4)$

#### Distance From Sensor:

$4\text{mA} = 0\text{ in}$  (face of sensor),  $20\text{mA} = 300\text{ in}$  (Max Distance)

Slope =  $18.75 \quad (300 - 0 / 16)$

Offset =  $-75 \quad (18.75 * -4)$

See X-420 Manual for setting up the X-420

[www.controlbyweb.com/x420/specs.html](http://www.controlbyweb.com/x420/specs.html)

### X-420 Edit Analog Input

#### Edit Analog Input

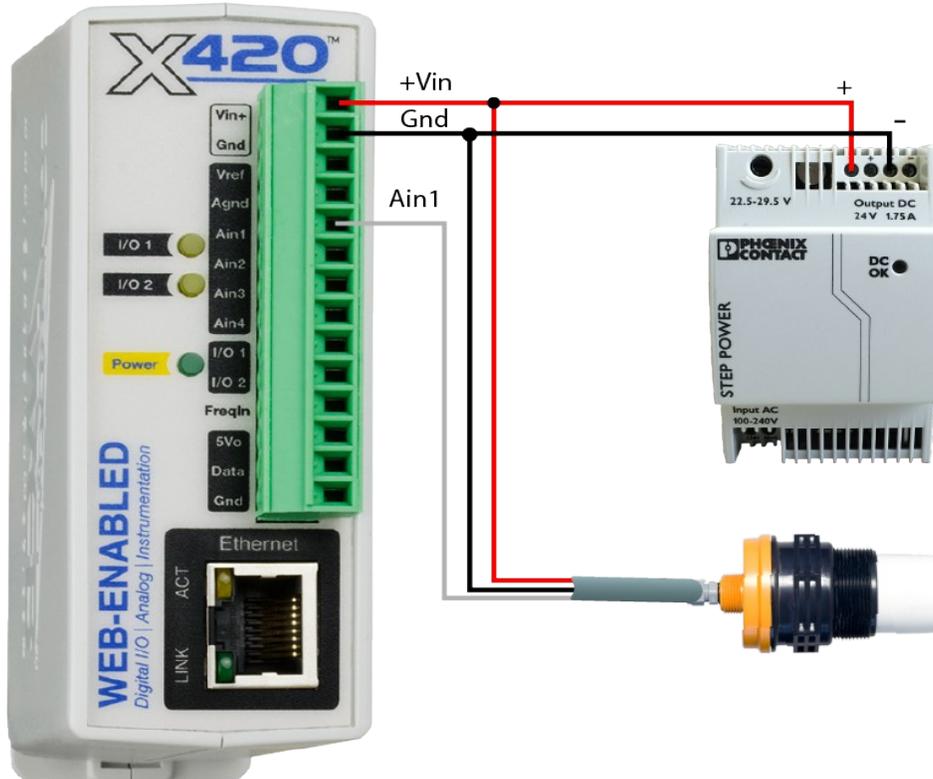
Input Name:

Decimal Places:

Units:

Slope:

Offset:



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Xytronix Research & Design, Inc. Nibley, Utah, USA