IRU Sensor Programming Guide

IRU-###3 Connected to X-420

Part No: IRU-###3

(Example: IRU-242**3**, IRU-343**3**)

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
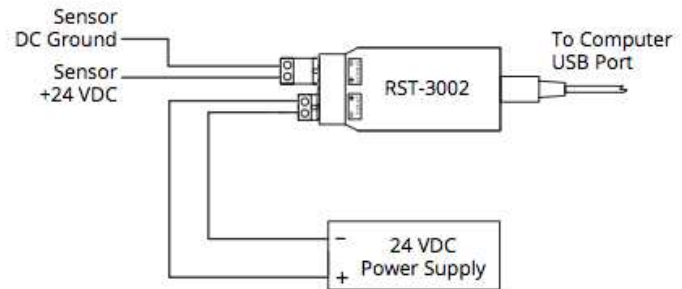 See IRU manual for full specifications

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

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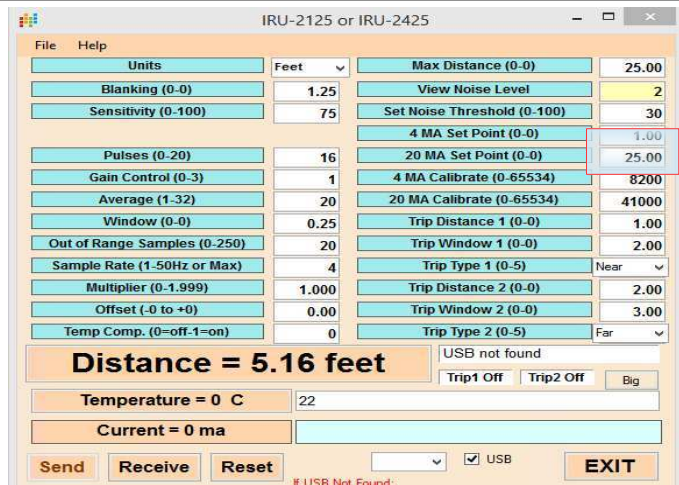 Load the software it came with.

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.

IRU-2125 or IRU-2425		
Units	Feet	
Blanking (0-0)	1.25	
Sensitivity (0-100)	75	
Max Distance (0-0)		25.00
View Noise Level		2
Set Noise Threshold (0-100)		30
4 MA Set Point (0-0)		1.00
Pulses (0-20)	16	
20 MA Set Point (0-0)		25.00
Gain Control (0-3)	1	
4 MA Calibrate (0-65534)		8200
Average (1-32)	20	
20 MA Calibrate (0-65534)		41000
Window (0-0)	0.25	
Trip Distance 1 (0-0)		1.00
Out of Range Samples (0-250)	20	
Trip Window 1 (0-0)		2.00
Sample Rate (1-50Hz or Max)	4	
Trip Type 1 (0-5)	Near	
Multiplier (0-1.999)	1.000	
Trip Distance 2 (0-0)		2.00
Offset (-0 to +0)	0.00	
Trip Window 2 (0-0)		3.00
Temp Comp. (0=off-1=on)	0	
Trip Type 2 (0-5)	Far	

Distance = 5.16 feet   USB not found
                            Trip1 Off Trip2 Off Big
Temperature = 0 C   22
Current = 0 ma

Send   Receive   Reset   [ ] ☑ USB   EXIT
                         If USB Not Found:

X-420 Setup:	**X-420 Edit Analog Input**

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 4mA – 20mA / 16.
   The offset is slope * -4.

Distance From Sensor:
   The slope is the 20mA – 4mA / 16.
   The offset is slope * -4.

Tank Level Example: 20 foot tank
   4mA=20 ft (bottom of tank), 20mA = 0 ft (face of sensor)
      Slope = 1.25   (20 – 0 /16)
      Offset = -5   (1.25 * -4)

Distance From Sensor:
   4mA=0 in (face of sensor), 20mA =300 in (Max Distance)
      Slope = 18.75   (300 – 0 /16)
      Offset = -75   (18.75 * -4)

See X-420 Manual for setting up the X-420
www.controlbyweb.com/x420/specs.html

X-420 Edit Analog Input

Edit Analog Input

Input Name:	iru 4-20mA
ⓘ Decimal Places:	2
Units:	ft
ⓘ Slope:	1.56
ⓘ Offset:	-6.25

+Vin
Gnd
Ain1
+
–
22.5-29.5 V
Output DC
24 V 1.75 A