

## Thank You

Thanks for purchasing a MNU ultrasonic Modbus sensor from us! We appreciate your business and your trust. Please take a moment to familiarize yourself with the product and this manual before installation. If you have any questions, at any time, don't hesitate to call us at 402-434-9102.

NOTE: Scan the QR code to the below to visit [www.binmaster.com/literature](http://www.binmaster.com/literature).



BinMaster Support Literature

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## 1 Description

MNU ultrasonic sensors are rugged units, with a PC/PBT housing, 1"-3" NPT threads for mounting, and a NEMA 6P rating (protects against ingress of dripping, sprayed, and submersing water). All MNU sensors are fully programmable via RST-485 Modbus communications with the Modbus software and an RST-6001 unit.

## 2 How To Read Your Label

Each label comes with a full model number, a part number, and a serial number. The model number for the MNU will look something like this:

▲ SAMPLE: MNU-6424-M

The model number correlates with all the configurable options and tells you exactly what you have. Compare the model number to the options on the datasheet to identify your exact configuration. You can also call us with the model, part, or the serial number and we can help you.

The label also includes the pinout, as does this installation guide.

## 3 Warranty

BinMaster warrants this product against defects in material and workmanship for two (2) years according to the following terms;

- 1.) This warranty extends to the original purchaser only and commences on the date of original purchase.
- 2.) BinMaster's sole obligation under said warranty is to repair, or at its option replace the defective parts. The buyer shall have no other remedy. All special, incidental and consequential damages are excluded. The buyer must deliver the product under warranty prepaid to the factory. BinMaster's obligation is limited to the cost of material and labor to repair or replace, and does not include transportation expenses.
- 3.) This warranty shall be voided, in our sole judgment, by alterations of equipment except by BinMaster, or tampering with, improper installation or maintenance, accident or misuse, or act of God. This warranty expressly excludes all damage to the product resulting from careless or neglectful packaging or transportation. The warranty does not extend to repairs made necessary by normal wear.
- 4.) This warranty is in lieu of all other warranties, expressed or implied including any implied warranties or merchantability or fitness for particular purpose. No employee, agent, franchise dealer or other person is authorized to give any warranties of any nature on behalf of BinMaster.
- 5) BinMaster shall in no event be responsible for any warranty work done without first obtaining BinMaster's written consent.
- 6) Except as provided herein, BinMaster shall have no liability, loss or damage caused or alleged to be caused directly or indirectly by this equipment.
- 7) This warranty gives the buyer specific legal rights, and you may also have other rights which vary from state to state.
- 8) For service, please call 402-434-9102.

## 4 Mounting Instructions

Mounting your MNU ultrasonic sensor is easy if you follow a few simple steps:

- Never over-tighten the sensor.
- Always screw in your sensor by hand to avoid cross-threading. Thread failure can be a problem if you damage threads by over-tightening them or by crossing threads.
- Mount your MNU sensor so that it has a clear, perpendicular sound path to the surface being monitored. Your sensor should be mounted away from tank or vessel walls and inlets. (See Figure 4.1)
- The sound path should be free from obstructions and as open as possible for the 9° off axis beam pattern.

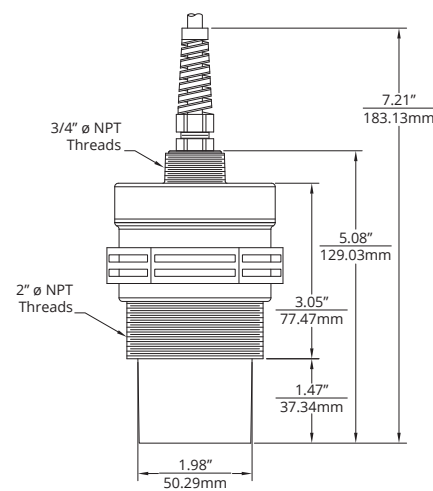
# MNU Ultrasonic Modbus Sensor Installation Guide



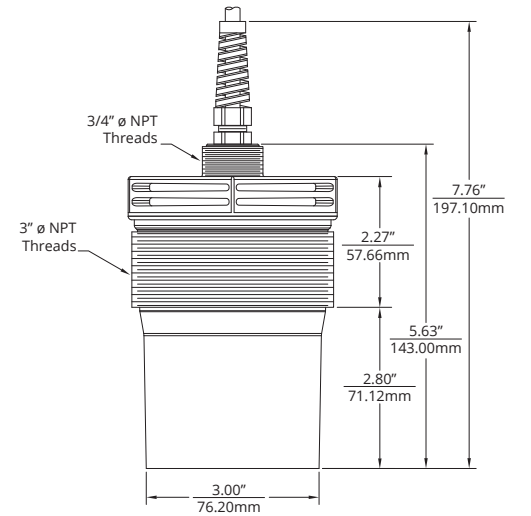
BinMaster  
PO Box 29709 Lincoln, NE 68529  
[www.binmaster.com](http://www.binmaster.com) | phone: 402-434-9102 | email: [info@binmaster.com](mailto:info@binmaster.com)

Part # 122950-0011  
Doc #9004246 Rev A

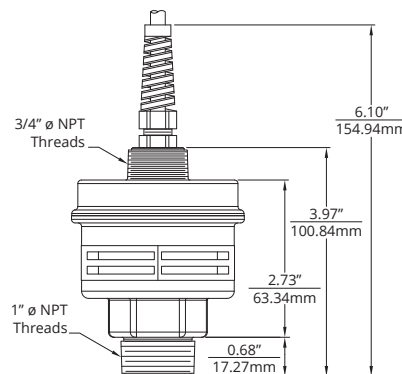
## 5 Dimensions



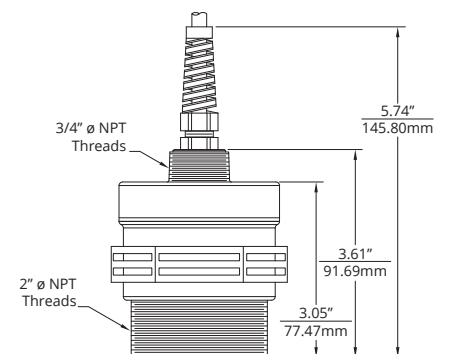
MNU-2424 & MNU-6424



MNU-3434



MNU-5414



MNU-5424 & MNU-7424

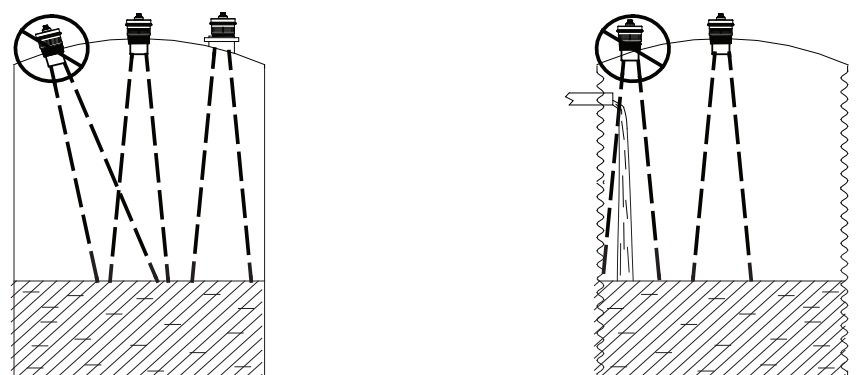
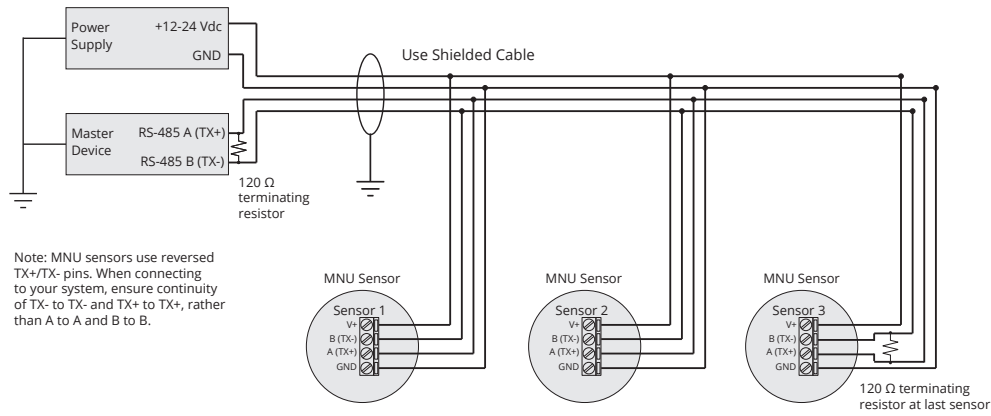


Figure 4.1

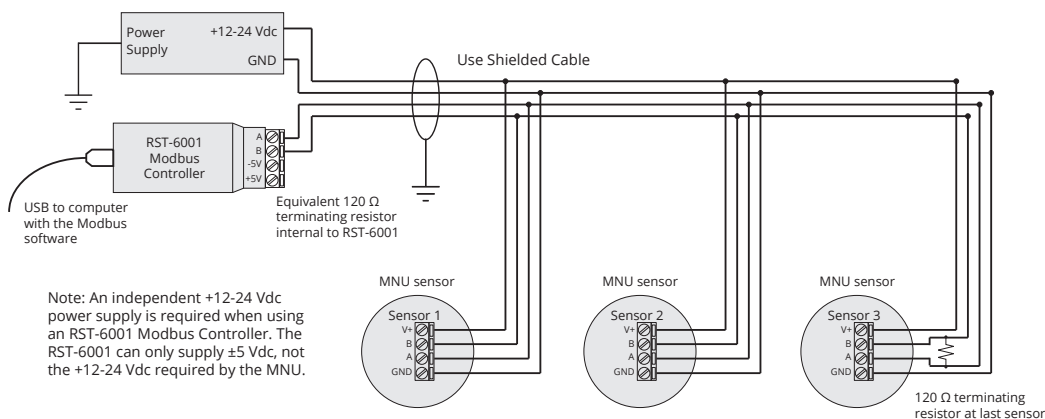
## 6 Wiring Information

		Modbus		Modbus
Pigtail (2 Twisted Pairs)	Red	+ 24 VDC	Power Supply	12-24 VDC
	Black	DC Ground		
	Green	A (TX-)		
	White	B (TX+)		
	Shield	Case Gnd		
Micro Connector	1 Brown	+24 VDC		
	2 White	A (TX-)		
	3 Blue	DC Ground		
	4 Black	B (TX+)		

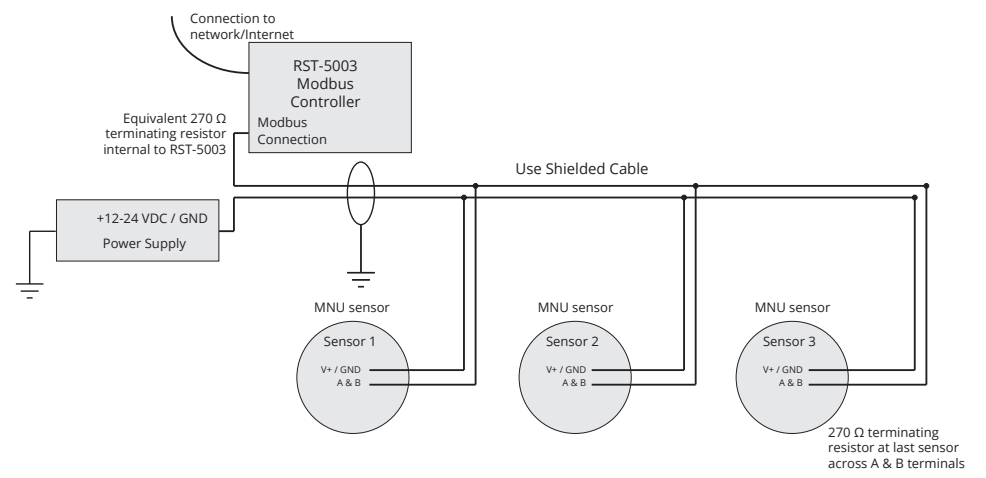
**IMPORTANT:** The Modbus equipment uses reversed TX+/TX- pins. When making connections between the equipment, ensure continuity of A to A and B to B pins. When connecting the modbus equipment to other systems, ensure continuity of TX+ to TX+ and TX- to TX-.



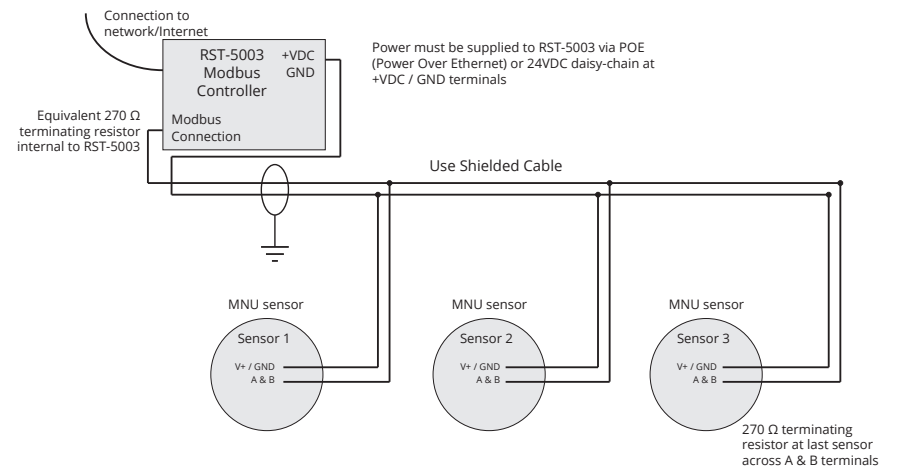
MNU Modbus System Wiring



MNU Modbus System Wiring with RST-6001



MNU Modbus System Wiring with RST-5003 and Power Supply



MNU Modbus System Wiring with RST-5003 and Power Over Ethernet (POE) or VDC

## 7 General Care

Your MNU ultrasonic sensor is very low maintenance and will need little care as long as it was installed correctly. However, in general, you should:

- Avoid applications for which the sensor was not designed, such as extreme temperatures, contact with incompatible corrosive chemicals and fumes, or other damaging environments.
- Inspect the threads whenever you remove the sensor from duty or change its location.

**NOTE:** See your MNU User Manual for Modbus programming instructions and troubleshooting tips.

## 8 Repair Information

If your MNU sensor needs repair, contact us via email, phone, or online chat on our website. We will issue you an RMA number with instructions.

- Phone: 402-434-9102
- Email: info@binmaster.com

## 9 Removal Instructions

- Ensure that power to the sensor is off
- Disconnect cable to sensor.
- Remove the sensor and store it in a dry place, at a temperature between -40° F and 180° F.
- If the sensor was installed in a hazardous location, ensure that the cable will not energize while the sensor is disconnected.