

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 888-525-7300.

NOTE: Scan the QR code to the right to see the full user manual on your tablet or smartphone. Or visit www.apgsensors.com/support to find it on our website.



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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 APG Modbus software and an APG 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

APG warrants its products to be free from defects of material and workmanship and will, without charge, replace or repair any equipment found defective upon inspection at its factory, provided the equipment has been returned, transportation prepaid, within 24 months from date of shipment from factory.

THE FOREGOING WARRANTY IS IN LIEU OF AND EXCLUDES ALL OTHER WARRANTIES NOT EXPRESSLY SET FORTH HEREIN, WHETHER EXPRESSED OR IMPLIED BY OPERATION OF LAW OR OTHERWISE INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

No representation or warranty, express or implied, made by any sales representative, distributor, or other agent or representative of APG which is not specifically set forth herein shall be binding upon APG. APG shall not be liable for any incidental or consequential damages, losses or expenses directly or indirectly arising from the sale, handling, improper application or use of the goods or from any other cause relating thereto and APG's liability hereunder, in any case, is expressly limited to the repair or replacement (at APG's option) of goods.

Warranty is specifically at the factory. Any on site service will be provided at the sole expense of the Purchaser at standard field service rates.

All associated equipment must be protected by properly rated electronic/electrical protection devices. APG shall not be liable for any damage due to improper engineering or installation by the Purchaser or third parties. Proper installation, operation and maintenance of the product becomes the responsibility of the user upon receipt of the product.

Returns and allowances must be authorized by APG in advance. APG will assign a Return Material Authorization (RMA) number which must appear on all related papers and the outside of the shipping carton. All returns are subject to the final review by APG. Returns are subject to restocking charges as determined by APG's "Credit Return Policy".

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.
- If you are using a stand pipe, please see our guide to stand pipes on our website: <http://www.apgsensors.com/about-us/blog/how-to-install-a-stand-pipe>.

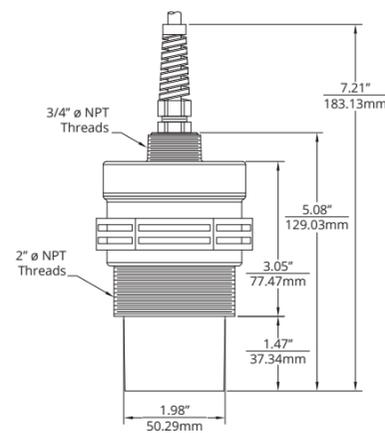
MNU Ultrasonic Modbus Sensor Installation Guide



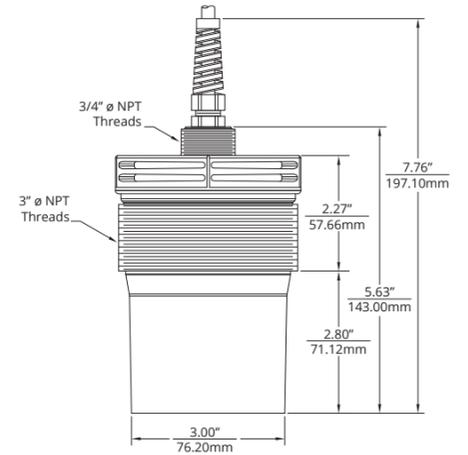
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Part # 122950-0010
Doc #9004244 Rev B

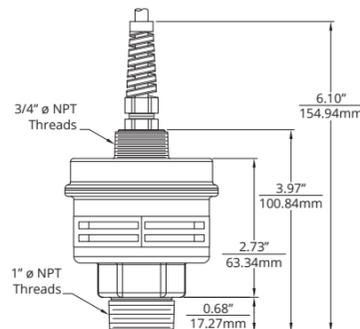
5 Dimensions



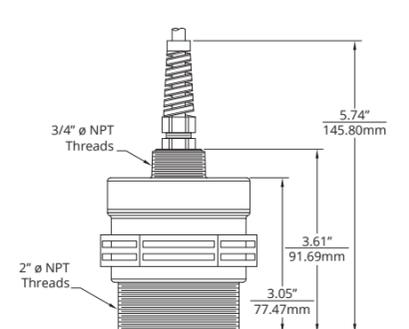
MNU-2424 & MNU-6424



MNU-3434



MNU-5414



MNU-5424

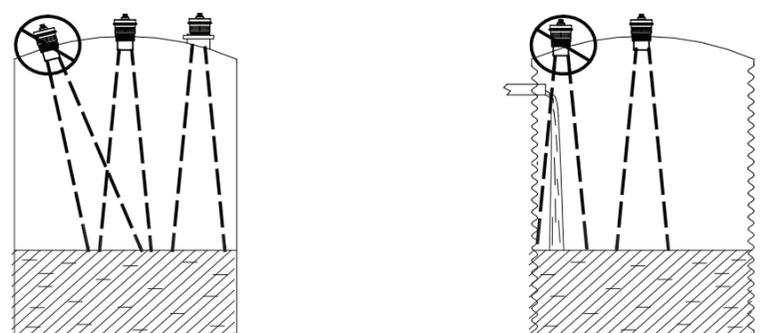
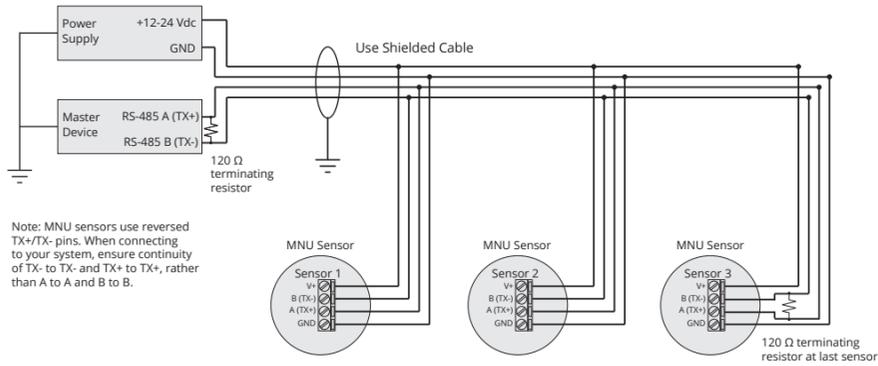


Figure 4.1

6 Wiring Information

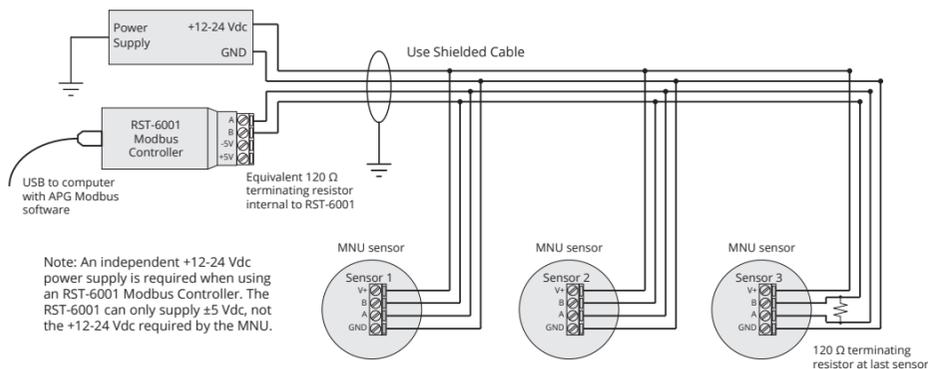
		Modbus		Power Supply		Modbus	
Pigtail (2 Twisted Pairs)	Red	+ 24 VDC		Power Supply		12-24 VDC	
	Black	DC Ground					
	Green	A (TX-)					
	White	B (TX+)					
	Shield	Case Gnd					
Micro Connector	1 Brown	+24 VDC					
	2 White	A (TX-)					
	3 Blue	DC Ground					
	4 Black	B (TX+)					

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



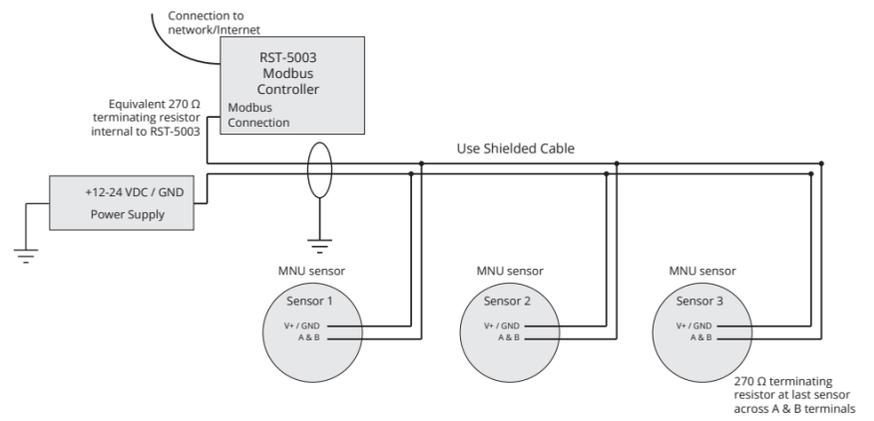
Note: MNU sensors use reversed TX+/TX- pins. When connecting to your system, ensure continuity of TX- to TX- and TX+ to TX+, rather than A to A and B to B.

MNU Modbus System Wiring

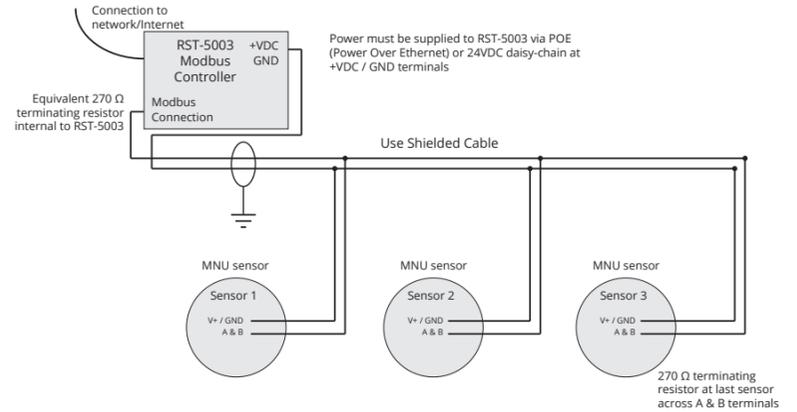


Note: An independent +12-24 Vdc power supply is required when using an RST-6001 Modbus Controller. The RST-6001 can only supply ± 5 Vdc, not the +12-24 Vdc required by the MNU.

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 on-line chat on our website. We will issue you an RMA number with instructions.

- Phone: 888-525-7300
- Email: sales@apgsensors.com
- Online chat at www.apgsensors.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.