

Thank You

Thanks for purchasing a MPX series magnetostrictive level 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

The MPX series magnetostrictive level sensor provides highly accurate and repeatable level readings in a wide variety of liquid level measurement applications. It is certified for installation in hazardous areas in the US and Canada by CSA for Class I, Division 1 & 2 and Class I, Zones 1 and 2 environments.

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 MPX will look something like this:

▲ SAMPLE: MPX-R1-ZY-F2.5WB-L120

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.

You'll also find all hazardous certification information on the label.

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.

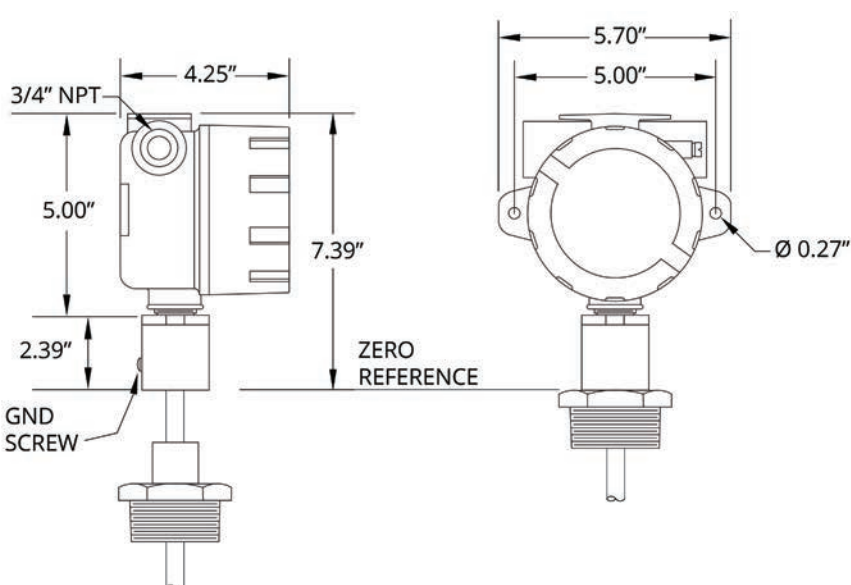
Warranty is specifically at the factory. Any on site service will be provided at the sole expense of the Purchaser at standard field service rates.

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 Dimensions

MPX-E Housing Dimensions



MPX Magnetostrictive Level Sensors

Installation Guide

For MPX-E and MPX-R



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1025 W 1700 N Logan, UT 84321
www.apgsensors.com | phone: 888-525-7300 | email: sales@apgsensors.com

Part # 122950-0003
Doc #9004081 Rev A2

5 Installation Guidelines

The MPX should be installed in an area--indoors or outdoors--which meets the following conditions:

- Ambient temperature between -40°C and 85°C (-40°F to +185°F)
- Relative humidity up to 100%
- Altitude up to 2000 meters (6560 feet)
- IEC-664-1 Conductive Pollution Degree 1 or 2
- IEC 61010-1 Measurement Category II
- No corrosive gases such as NH₃, SO₂, Cl₂, etc.
- Ample space for maintenance and inspection

Additional care must be taken to ensure:

- The probe is located away from strong magnetic fields, such as those produced by motors, transformers, solenoid valves, etc.
- The medium is free from metallic substances and other foreign matter.
- The probe is not exposed to excessive vibration.
- The float(s) fit through the mounting hole. If the float(s) does/do not fit, it/they must be mounted on the stem from inside the vessel being monitored.
- The float(s) is/are oriented properly on the stem (See Figure 5.1 below). MPX-E floats will be installed by the factory. MPX-R floats are typically installed by customer.

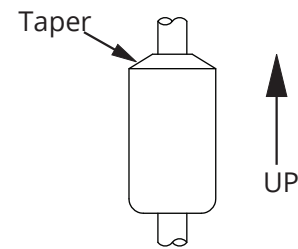


Figure 5.1

6 General Care

Your level sensor is very low maintenance and will need little care as long as it was installed correctly. However, in general, you should periodically inspect your MPX unit to ensure the stem is free of any heavy buildup that might impede the movement of the float(s). If sediment or other foreign matter becomes trapped between the stem and float(s), detection errors can occur.

If you need to remove the float(s) from the stem of your MPX, be sure to note the orientation of the float(s) prior to removal. This will help ensure proper re-installation of the float(s).

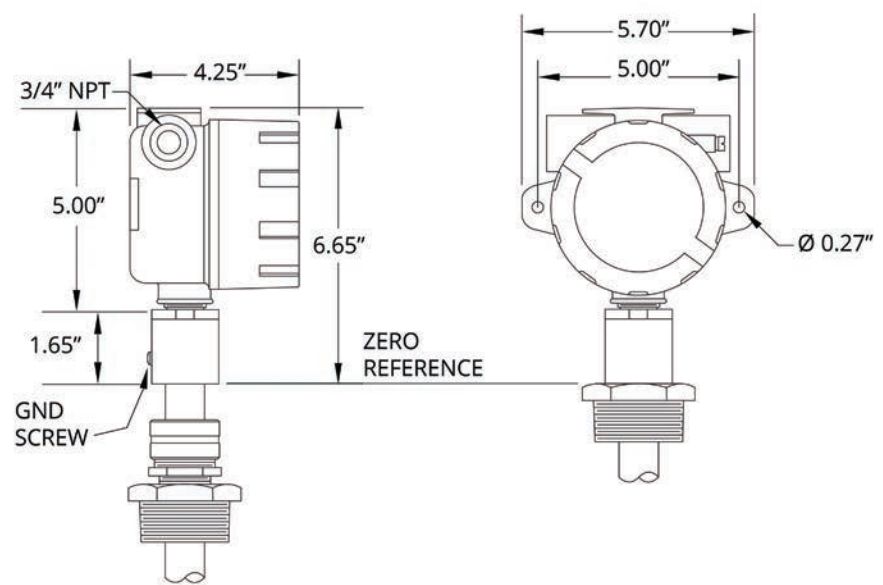
Also, ensure that the housing cover is snugly secured. If the cover becomes damaged or is misplaced, order a replacement immediately.

7 Repair Information

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

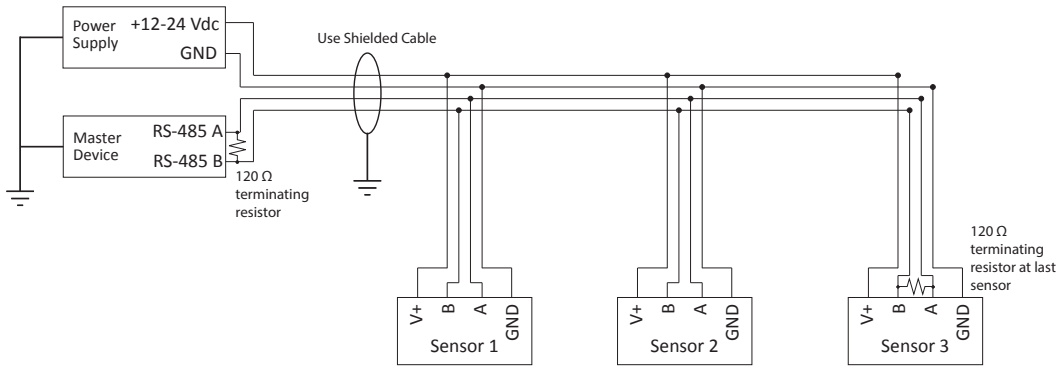
- Phone: 888-525-7300
- Email: sales@apgsensors.com
- Online chat at www.apgsensors.com

MPX-R Housing Dimensions



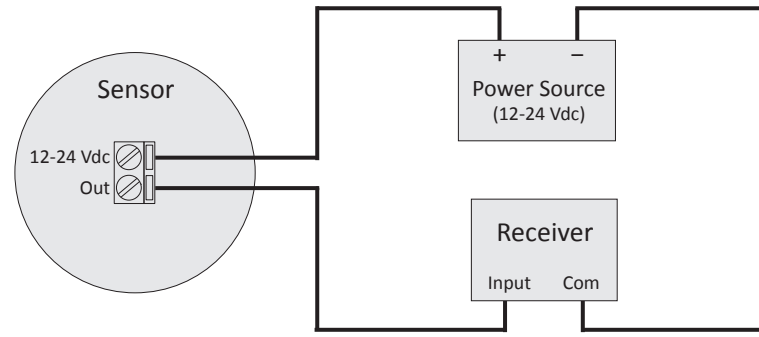
8 Sensor and System Wiring Diagrams

MPX-E1 / MPX-R1 Modbus System Wiring



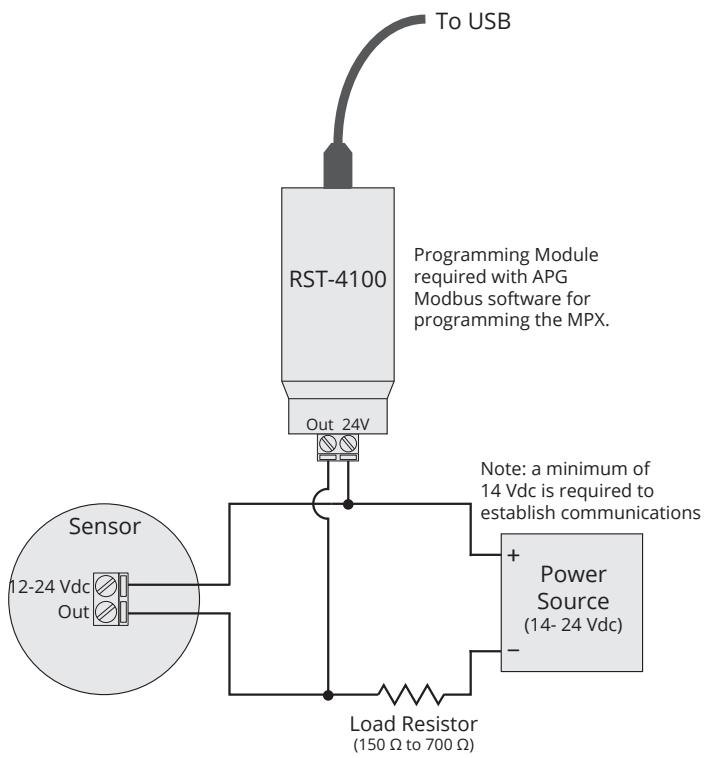
MPX-E2,3 / MPX-R2,3 System Wiring

4-20 mA Loop Wiring (MPX-E2 and MPX-R2 Series)

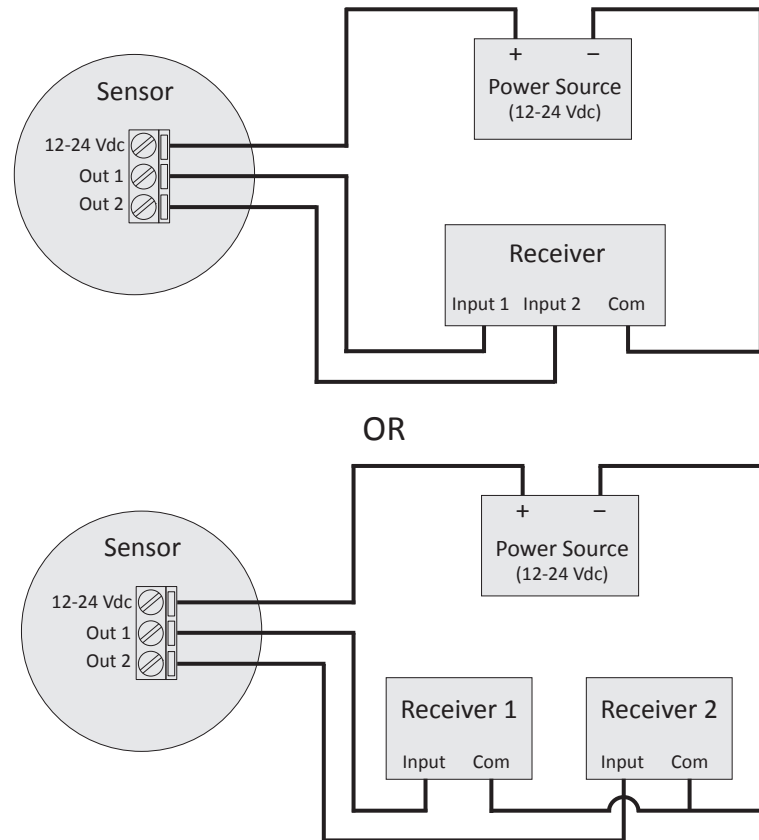


IMPORTANT: Refer to section 9 for Hazardous Location Wiring.

MPX-E2,3 / MPX-R2,3 Communication Wiring



Dual 4-20 mA Loop Wiring (MPX-E3 and MPX-R3 Series)

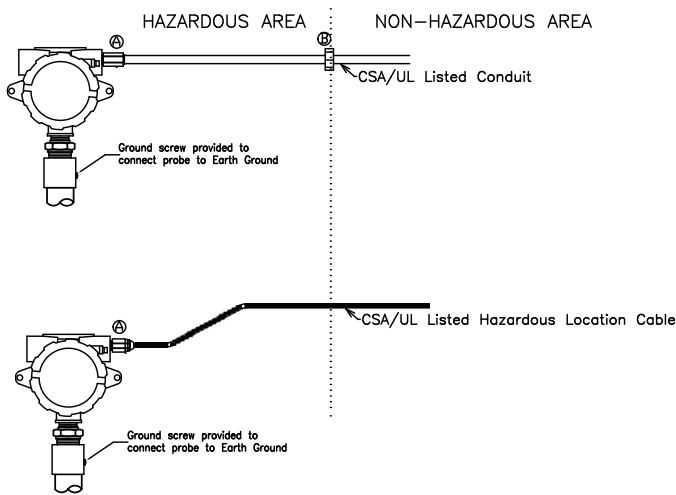


NOTE: For APG Modbus programming instructions, please see MPX user manual. APG Modbus software can be downloaded from www.apgsensors.com/support.

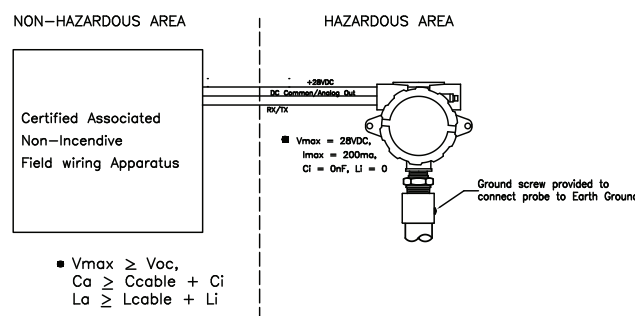
9 Hazardous Location Wiring

REVISIONS					
ZONE	REV	DESCRIPTION	CHANGE ORDER	DATE	APPROVED
-	C2	Remove IS Pages	CO-	1783	5/06/11 K. REID

Installation in: Class I Division 1 & 2 Groups C and D, Max. Temp. 85°C
Ex d IIB : Ex nA IIB
Class I, Zone 1; Aex d IIB : Class I, Zone 2; AEx nA IIB



Non-Incendive Wiring for Installation in
Class I Division 2 Groups C and D, Max. Temp. 85°C



$V_{max} \geq V_{oc}$
 $C_a \geq C_{cable} + C_i$
 $L_a \geq L_{cable} + L_i$

- Install in accordance with Section 18 of the CEC or Article 500 of the NEC.
- CSA listed or NRTL/UL listed conduit seal at location A & B.
- DO NOT DISCONNECT WHILE CIRCUIT IS ALIVE UNLESS AREA IS KNOWN TO BE NON-HAZARDOUS
- Tampering or replacement with non-factory components may adversely affect the safe use of the system.

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		CONTRACT MTL TFR	MAGNETOSTRICTIVE PROBE, MPX HAZARDOUS INSTALLATION DRAWING EX WIRING, CSA		SIZE C OZ450