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.

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Description

The MPX series magnetostrictive level sensor provides highly accurate and repeatable level and temperature readings in a wide variety of liquid level measurement applications, including API 18.2 Custody Transfer. It is certified for installation in hazardous areas in the US and Canada for Class I, Division 1 & 2 and Class I, Zones 1 and 2 environments.

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-TS-P257180-AP

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 use this model, the part, or the serial number and we can help you.

You will also find all hazard/certification information on the label.

Warranty

This product is covered by APG’s warranty to be free from defects in material and workmanship under normal use and service of the product for 24 months. For a full explanation of our Warranty, please visit https://www.apgsensors.com/about-us/terms-conditions. Contact Technical Support to receive a Return Material Authorization before shipping your product back.

Scan the QR code below to read the full explanation of our Warranty on your tablet or smartphone.

Dimensions

MPX-R & MPX-T Housing Dimensions

3/4" NPT
1/2" NPT
1.90"
5.71"
4.21"
5.00"
4.92"
4.25"
0.27"
7.52" - 7.44"
6.58" - 6.65"
1.35" Taper
GND SCREW
Note: For dual dimensions, large housing dimensions are above small housing dimensions.

MPX Magnetostrictive Level Sensors

Installation Guide

For Custody Transfer API 18.2 Compliant Probes

Installation Guidelines & Instructions

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 (6650 feet)
- IEC-664-1 Conductive Pollution Degree 1 or 2
- IEC 61010-1 Measurement Category II
- No chemical corrosive to stainless steel (such as NH₃, SO₂, Cl₂ etc.) for MPX-R
- No chemicals incompatible with Titanium Grade 2 for MPX-T
- 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.
- No ignition hazards exist due to impact or friction with the titanium stem.
- The probe is not exposed to excessive vibration.
- The floats fit through the mounting hole. If the float(s) does/do not fit, 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-R and MPX-T floats are typically installed by customer.

Scan the QR code below to see the full installation instructions:

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.

Screw

Thank You

You can also call us with the model, part, or the serial number and we can help you.

WARNING -- EXPLOSION HAZARD -- DO NOT DISCONNECT EQUIPMENT UNLESS POWER HAS BEEN SWITCHED OFF OR THE AREA IS KNOWN TO BE NON-HAZARDOUS.

WARNING -- EXPLOSION HAZARD -- SUBSTITUTION OF COMPONENTS MAY INVALIDATE ALL SAFETY APPROVALS AND RATINGS.

WARNING -- EXPLOSION HAZARD -- ALL WORK MUST BE COMPLETED IN ACCORDANCE WITH A FDA REGISTRATION.

WARNING -- EXPLOSION HAZARD -- NON-CONDUCTIVE PLASTICS USE A NON-CONDUCTIVE PROBE.

WARNING -- EXPLOSION HAZARD -- USE OF COMBUSTIBLE MATERIALS IN THE AREA MAY NOT BE NON-HAZARDOUS.

WARNING -- EXPLOSION HAZARD -- INSTALLATION IN EXCESS OF 7.5% FOR GROUP II AND CARE NEEDS TO BE TAKEN TO AVOID AN IGNITION HAZARDS DUE TO IMPACT OR FRICTION.

WARNING -- EXPLOSION HAZARD -- ALL WORK MUST BE COMPLETED IN ACCORDANCE WITH A CANADIAN楊 REGISTRATION.

WARNING -- EXPLOSION HAZARD -- NON-CONDUCTIVE PLASTICS USE A NON-CONDUCTIVE PROBE.

WARNING -- EXPLOSION HAZARD -- INSTALLATION IN EXCESS OF 7.5% FOR GROUP II AND CARE NEEDS TO BE TAKEN TO AVOID AN IGNITION HAZARDS DUE TO IMPACT OR FRICTION.
Sensor and System Wiring Diagrams

Modbus System Wiring

- Power Supply: +12-24 Vdc
- GND
- Use Shielded Cable
- 120 Ω terminating resistor


Note: Earth Ground terminal is factory connected to internal housing ground lug.

Modbus System Wiring with RST-6001

- Master Device<br>1. RS-485 A<br>2. RS-485 B
- MPX Modbus series sensor<br>3. EARTH<br>4. GND


Note: Earth Ground terminal is factory connected to internal housing ground lug.

Important: For EMI protection, either connect the grounding screw (see section 4) to an earth ground, or ensure that tank mounting of the MPX is grounded.

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.

DANGER: WARNING – POTENTIAL ELECTROSTATIC CHARGING HAZARD - CLEAN ONLY WITH A DAMP CLOTH;
AVERTISSEMENT – DANGER DE CHARGE ELECTROSTATIQUE POTENTIEL - NETTOYER SEULEMENT AVEC UN CHIFFON HUMIDE.

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

Important: All repairs and adjustments of the MPX level sensor must be made by the factory. Modifying, disassembling, or altering the MPX is strictly prohibited.

Hazardous Location Wiring

Important: Refer to section 9 for Hazardous Location Wiring.