

MPX-E CHEM

Explosion Proof Magnetostrictive Level Sensor

The MPX Series Magnetostrictive Level Sensor provides highly accurate repeatable level readings in a wide variety of liquid level measurement applications. The MPX -E Chemical has a chemical resistant sleeve, allowing for use in corrosive, acidic, and even marine environments. The MPX-E Chem carries Class I, Division 1 & 2 and Class I, Zone 1 & 2 approvals for use throughout North America.

FEATURES

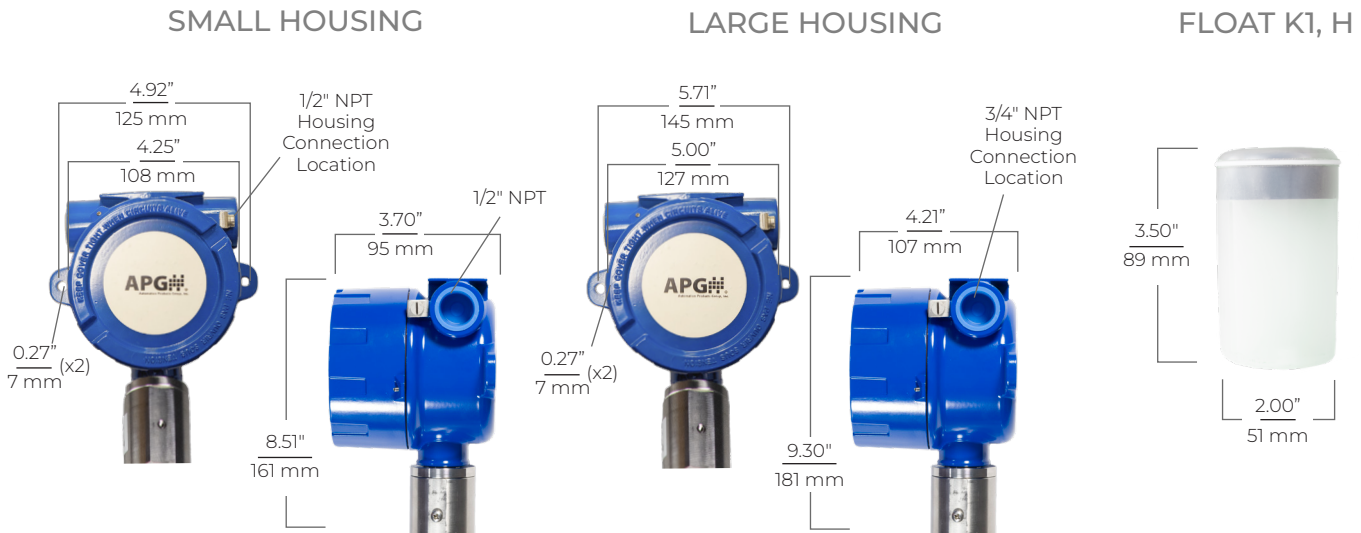
- Fuel-Water Interface Detection
- Chemical Resistant PVDF Sleeve
- Hazardous Area Certification
- RS485 Modbus RTU and 4-20 mA Outputs
- Remote Monitoring Compatibility
- Durability and Longevity
- Measures up to 12.75 ft.
- Low friction coefficient
- Withstands strong acids, bases, oxidizers, reducers, and various organic solvents

COMMON APPLICATIONS

- CI, D1 Hazardous Locations
- Corrosive Chemicals
- Marine (Salt Water) Environments
- Chemical Processing



MPX-E CHEM SPECIFICATIONS



PERFORMANCE

- **Resolution:**
4-20 mA: 14 bit DAC (1mm)
Modbus: 0.04 in. (1 mm)
- **Distance Accuracy:**
4-20 mA Modbus: Greater of $\pm 0.05\%$ of FS or 1 mm
- **Temperature Accuracy:**
RTD—1k Ohm: $\pm 1^{\circ}\text{C}$

CONNECTIVITY

- **Output:**
 - Single or dual loop-powered 4-20 mA
 - Set points:
 - 4 mA, probe bottom
 - 20 mA, 6 in. below probe zero point or at customer specified point
 - Modbus RTU (RS-485), optional temperature output

ENVIRONMENTAL

- **Probe Operating Temperature:** -40°C–85°C (-40°F–185°F)
- **Float Maximum Operating Pressure:** 30 PSIA @ 70°F / 21°C
- IP65

PHYSICAL

- **Housing:** Cast aluminum, epoxy coated, blue
- **Stem:** 0.67" Ø PVDF sleeve over 316L SS 0.5" stem
- **Stem Length:** 1-12.75 ft. (0.3-3.9m)
- **Float:** 2" Ø PVDF, 0.65 SG or 0.94 SG

ELECTRICAL

- **Electrical Connection:** Terminal Block, 12-24 VDC
- **Typical Current Draw:**
 - 4-20 mA: 4-22 mA
 - Modbus (RS-485): 25 mA
- **Reverse Polarity Protection**
- **Surge Protection (Output 4 only)**

PROGRAMMING

- **RS-485:** optional RST-6001 USB to RS-485 converter
- **4-20 mA:** factory set or optional RST-4100 programming module

CERTIFICATION

- CSA:
 - Rated 12-24 VDC; 4-20 mA or 80 mA: Ta 85°C
 - Class I, Division 1 & 2, Groups C & D T4
 - Ex d IIB T4
 - Ex nA IIB T4
 - Class I, Zone 1: AEx d IIB T4
 - Class I, Zone 2; AEx nA IIB T4

RELIABLE SENSING IN CHEMICAL ENVIRONMENTS

Not all level sensing is clean and easy. Corrosive chemicals, explosive vapors, and punishing environments push sensors to their limit. The MPX-E Chem doesn't flinch. Built for harsh conditions, it thrives where others fail—delivering the accuracy, safety, and reliability your operation demands.

PRECISION & CONSISTENCY

Delivers highly accurate and repeatable readings, crucial for precise tank level monitoring and interface detection between liquids.

DURABILITY & LONGEVITY

Rugged design measures up to 12.75 feet (3.9 m), ensuring reliable performance in diverse industrial environments with minimal maintenance.

COMPREHENSIVE MEASUREMENT

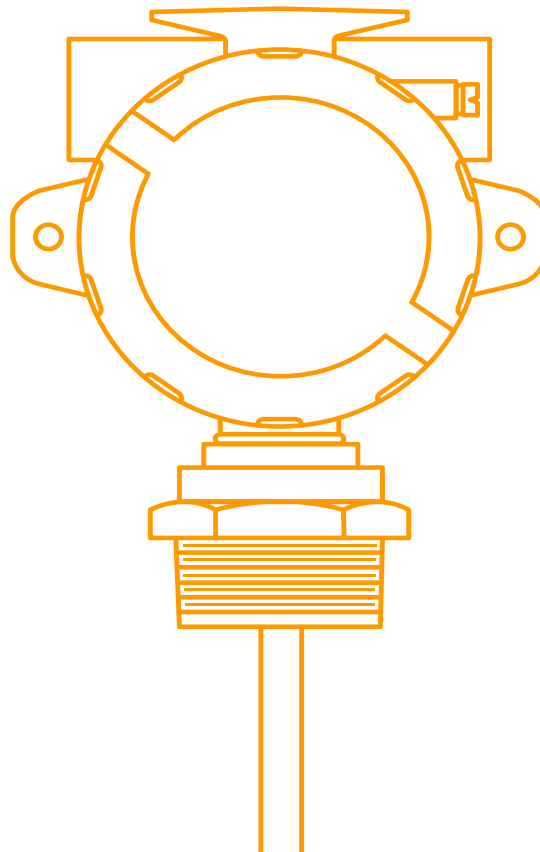
Enables dual level (interface) measurement and calculates tank volumes using strapping tables, supporting accurate inventory management and operational planning.

VERSATILE OUTPUT INTEGRATION

Offers 4-20 mA and RS-485 (Modbus RTU) outputs for seamless integration into PLCs, SCADA systems, and industrial automation platforms.

HAZARDOUS AREA CERTIFICATION

Certified for Class I Division 1 Groups C & D, Class I Zone 1, and Class I Zone 2, ensuring safe operation in hazardous environments with combustible gases or vapors.



MODEL CONFIGURATION OPTIONS

MODEL NUMBER: MPX – $\frac{E}{A}$ – $\frac{B}{B}$ – $\frac{C}{C}$ – $\frac{D}{D}$ – $\frac{E}{E}$ – $\frac{P}{F}$ $\frac{2}{G}$ $\frac{W}{H}$ $\frac{N}{I}$ – $\frac{J}{J}$ – $\frac{K}{K}$

A. Stem Type

- ☐ **E** 0.5 in. diameter 316L SS

B. Output

- ☐ **2** Single float, 4-20 mA (loop powered, 2 wire)
☐ **3** Dual float, 4-20 mA (loop powered, 3 wire)
☐ **4** RS485 Modbus RTU, surge protection

C. Housing Type

All Housing Die-cast Aluminum, IP65, Blue

- ☐ **—*** Large Housing
☐ **A**** Small Housing

D. Float 1

- ☐ **K1*** 3.5h x 2d in. PVDF (0.65 SG Max)
☐ **H** 3.5h x 2d in. PVDF (0.94 SG Max)

E. Float 2

- ☐ **N*** None
☐ **H** 3.5h x 2d in. PVDF (0.94 SG)

F. Mounting Type

- ☐ **P** NPT Plug

G. Mounting Size

- ☐ **2** Size 2

H. Mounting Connection

- ☐ **W** Welded (fixed)

I. Stem/Finish Material

- ☐ **N** 0.67" diameter PVDF Sleeve

J. Total Stem Length in Inches

- ☐ **—** Min. 12 in. – Max. 153 in.

K. Optional Temperature Sensor

MPX-E4

- ☐ **N*** None
☐ **T4** Stem RTD, 1 K Ω , 4 in. from the bottom of the probe
☐ **T6** Stem RTD, 1 K Ω , 6 in. from the bottom of the probe

*Note: This option is standard

** Note: Small housing only available with Modbus RTU (Output 4)

The Kynar stem is susceptible to thermal expansion when the process temperature exceeds 73°F / 23°C. This expansion can be calculated as follows: Expansion=(Max Process Temperature ((°F) – 73) * .000108 * Kynar Stem Length). This is the distance that must be left between the end of the Kynar stem and the tank bottom at the maximum process temperature. Please account for this expansion by reducing the stem length to allow for this gap when installed. The gap is zero if the process temperature is less than or equal to 73°F.

MPX ACCESSORIES

Please order separately, by part number.

Description	Part Number
Programming Module	
RST-6001 (Modbus: MPX-x4)	125734
RST-4100 (4-20 mA: MPX-x2, MPX-x3)	125759
Sold with 6 ft. USB cable	

Disclaimer: Please note that selecting certain options may limit or eliminate the availability of other options, as some floats and accessories are only compatible with a select number of configurations. For further configuration assistance, please contact our sales team at +1 (877) 373-5940.

SETTLER

Your Gateway to Smarter Monitoring

Settler, APG's next remote monitoring gateway, makes getting real-time level data easier than ever.

Settler seamlessly connects Modbus and 4-20 mA sensors—transmitting encrypted data securely to Explorer, APG's cloud-based interface. View tank and well levels anytime, anywhere, with reliable Ethernet connectivity and robust data security powered by MQTT with AES (Advanced Encryption Standard). Plus, with over-the-air (OTA) firmware updates, your system stays up to date without hassle.

Designed for general-purpose environments, Settler is not intended for use in hazardous areas.

Explorer makes monitoring simple. Access real-time readings, enable datalogging, and set up alarms so you're always informed of critical changes—right from your smartphone, tablet, or desktop.

Save time, reduce costs, and gain peace of mind with remote monitoring powered by Settler and Explorer. Contact us today to learn more or visit apgsensors.com.

