MPI-E CHEM

Intrinsically Safe, Chemical Resistant Magnetostrictive Level Sensor

The MPI Series Intrinsically Safe Magnetostrictive Level Sensor provides highly accurate and repeatable level readings in a wide variety of liquid level measurement applications. The MPI-E Chemical has a chemical resistant sleeve for use in corrosive, acidic, or marine environments.

FEATURES

- Class I, Division 1 and Class I, Zone 0 Hazardous Location Rating (cCSAus, ATEX, IECEx)
- Highly accurate and repeatable level and temperature readings
- RS-485 (Modbus RTU) outputs
- Low power
- Rugged and reliable, lengths up to 12.75 feet (3.89 m)
- Dual level (interface) measurement
- Tank volume or level output, strapping table
- Pairs with MDI display for self-contained, intrinsically safe, level measurement and display system

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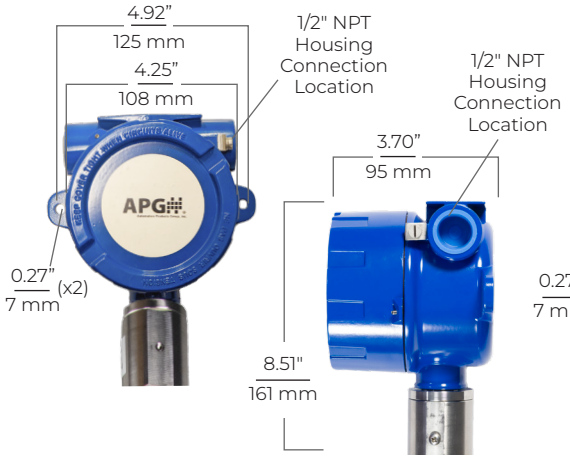
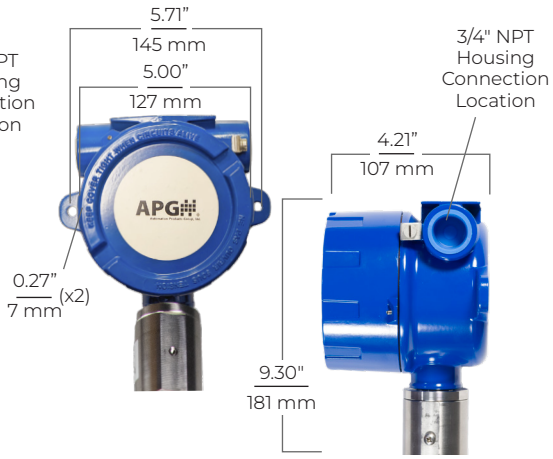
Automation Products Group, Inc. | (435) 753 7300 | sales@apgsensors.com | apgsensors.com

MPI-E CHEM SPECIFICATIONS

SMALL HOUSING



LARGE HOUSING



FLOAT K1, H

PERFORMANCE

- **Resolution:**
  Modbus: 0.04 in. (1 mm)
- **Distance Accuracy:** ± 0.04 in. (± 1 mm)
- **Temperature Accuracy:** ± 1°C

CONNECTIVITY

- **Output:**
  Modbus RTU (RS-485) with Surge Protection

ENVIRONMENTAL

- **Operating Temp.:** -40°–185°F (-40°–85°C)
- **Maximum Operating Pressure:** 30 PSIA @ 70°F/21°C
- **NEMA 4X, IP65**

PHYSICAL

- **Housing:** Cast aluminum, epoxy coated
- **Stem:** 0.67 in. ø PVDF (rigid)
- **Stem Length:** 1–12.75 ft. (0.3–3.9 m)
- **Float:** 2 in. ø PVDF, 0.94 SG or 0.65 Max SG

PROGRAMMING

- **Optional RST-6001 USB to RS-485 converter**

ELECTRICAL

- **Electrical Connection:** Terminal Block, 8–24 VDC
- **Typical Current Draw:** 24 mA
- **Reverse Polarity Protection**
- **Surge Protection (IEC 61000-4-5, 4-6, 4-7)**

CERTIFICATION

- **NEMA 4X, IP65**
- **cCSAus Certificate CSA19CA70219727:**
- 8–24 VDC, Imax=280 mA
- Class I, Division 1, Groups C, D T4;
- Class I, Zone 0; AEx ia IIB T4 Ga; Ex ia IIB T4 Ga, IP65
- Ta=-40° to 85°C
- **ATEX Certificate Sira 19ATEX2072X:**
- II 1G
- Ex ia IIB T4 Ga
- Ta=-40° to 85°C
- **IECEx Certificate IECEx SIR 19.0026X:**
- Ex ia IIB T4 Ga
- Ta=-40° to 85°C

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MODEL CONFIGURATION OPTIONS

MODEL NUMBER: MPI – E 5 ____ – ____ ____ – P 2 W N – ____ – ____ – ____ 1 E2

A B C D E F G H I J K L M N

A. Stem Type

☐ **E** 0.5 in. diameter, rigid

B. Output

☐ **5** Modbus RTU, w/ surge protection, Intrinsically Safe

C. Housing Type

All Housing Die-cast Aluminum, NEMA 4X, IP65, Blue

☐ **A*** Small Housing

☐ **___** Large Housing

D. Float 1 (Top Float)

☐ **K1*** 3.5h x 2d in. PVDF (0.65 SG)

☐ **H** 3.5h x 2d in. PVDF (0.94 SG)

☐ **N** None

E. Float 2 (optional)

☐ **N*** None

☐ **H** 3.5h x 2d in. PVDF (0.94 SG)

F. Mounting Type

☐ **P*** NPT Plug 150#

G. Mounting Size

☐ **2** Size 2

H. Mounting Connection

☐ **W** Welded (fixed)

I. Stem Finish Material

☐ **N** 0.67 in. diameter PVDF Sleeve

J. Total Stem Length in Inches

☐ **__** Min. 12 in.—Max. 153 in.**

K. Temperature Sensor Options

☐ **N*** None

☐ **1D** Digital Temperature Sensor A, 12 in. from bottom of probe

☐ **2D** Digital Temperature Sensors A, B

☐ **3D** Digital Temperature Sensors A, B, C

☐ **4D** Digital Temperature Sensors A, B, C, D

☐ **5D** Digital Temperature Sensors A, B, C, D, E

☐ **6D** Digital Temperature Sensors A, B, C, D, E, F

☐ **7D** Digital Temperature Sensors A, B, C, D, E, F, G

Note: Temperature sensors B–G are spaced evenly between A and the probe's zero reference.

L. Housing Connection

☐ **N*** None

☐ **B** Cable Gland (Cable sold separately)

☐ **F** 4-pin M12 Micro Connector Female-90°

☐ **C** 4-pin M12 Micro Connector Female

☐ **M** 4-pin M12 Micro Connector Male

M. End Plug

☐ **1** Flat End

N. Float Stop

☐ **E2** PVDF 1 Piece w/ Kynar Cap Screw, Top and Bottom

***Note:** This option is standard

**** Note:** 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.

DISCLAIMER: Please note that selecting certain options may limit or eliminate availability of other options, as some floats and accessories are only compatible with a select number of configurations.

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/ settler-remote-monitoring-gateway/.