



MPXI-F



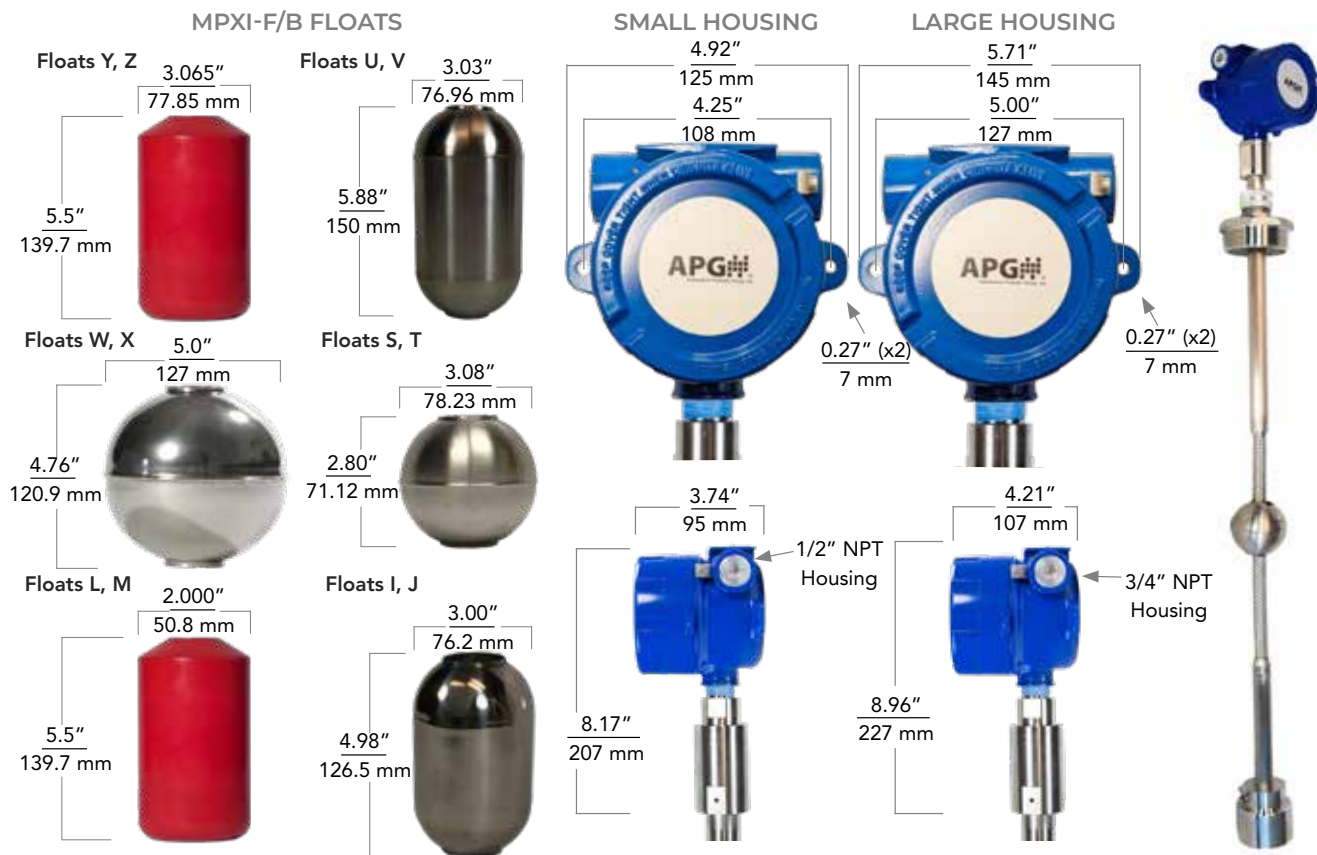
EXPLOSION PROOF FLEXIBLE STAINLESS STEEL AND PVDF STEM MAGNETOSTRICTIVE PROBE LEVEL SENSORS SERIES

MPXI-F Series Explosion Proof Flexible Stainless Steel and PVDF Stem Magnetostrictive Probe Level Sensors provide highly accurate and repeatable level and temperature readings in a wide variety of liquid level measurement applications. The MPXI-F's flexible stem allows for installation in tanks up to 50 feet tall, without needing a crane or an extra-long truck and trailer for delivery. APG's proprietary-PVDF-formulation stem provides increased flexibility and impact resistance during cold-weather installation. The stem also comes with compatibility in a wider range of corrosive media—including H₂S—in larger tanks. The unique Class I, Zone 0/1 rating allows for an Explosion Proof connection to a Zone 1-installed housing on top of a Zone 0-installed probe stem.

FEATURES

- Class I, Division 1, and Class I, Zone 0/1 Hazardous Location Ratings (cCSAus, ATEX, IECEx)
- Explosion Proof housing for easy conduit connections
- Zone 0-rated stem electronics
- 4-20 mA (single or dual) or RS-485 (Modbus RTU) output
- Stainless steel probe lengths up to 32 feet (9.75 m)
- PVDF probe lengths up to 50 feet (15.2 m)
- Optional electrically-redundant high-level switch (PVDF only)
- Up to seven temperature sensors
- Highly accurate and reliable readings
- Dual level (interface) measurement
- Tank volume or level output, strapping table

MPXI-F STAINLESS STEEL SPECIFICATIONS



PERFORMANCE

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

PROGRAMMING

- **RS-485:**
APG Modbus Scout (SCT-1)* — Modbus to Bluetooth adapter
APG Settler & Explorer* — Online control and datalogging
- **4-20 mA:**
RST-4100 programming module*
APG Settler & Explorer* — Online Datalogging

*Optional accessory

ELECTRICAL

- **Supply Voltage:** 12-24 VDC (Modbus), 24 VDC (4-20 mA)
- **Current Draw:**
4-20mA, Single / Dual float: 22 / 44 mA (max)
Modbus (single or dual float): 15 mA (typ.)
- Reverse polarity protection
- CE compliant to EN 61326

ENVIRONMENTAL

- **Operating Temperature:** $-40^\circ - 185^\circ\text{F}$ ($-40^\circ - 85^\circ\text{C}$)
- NEMA 4X, IP66

PHYSICAL

- **Housing:** Cast aluminium, epoxy coated
- **Stem:** $7/8"$ \varnothing flexible tubing with braid, 316L SS
- **Stem Length:** 4 - 32 ft. (1.22 - 9.75 m)

CONNECTIVITY

- **Resolution:**
Single or dual loop-powered 4-20 mA
Modbus RTU (RS-485), optional temperature sensors

CERTIFICATION

- NEMA 4X, IP66
- **cCSAus Certificate CSA19CA70219727:**
Rated 12-24 VDC, Um 250 V, 4-20 mA, or 80 mA
Class I, Division 1, Groups C, D T4; IP66
Class I, Zone 0/1
AEx ia/db IIB T4 Ga/Gb
Ex ia/db IIB T4 Ga/Gb, IP66
Ta = -40° to 85°C
- **ATEX Certificate Sira 19ATEX2072X:**
II 1/2G
Ex ia/db IIB T4 Ga/Gb
Ta = -40° to 85°C
- **IECEX Certificate IECEX SIR 19.0026X:**
Ex ia/db IIB T4 Ga/Gb
Ta = -40° to 85°C

STAINLESS STEEL STEM MODEL CONFIGURATION OPTIONS

MODEL NUMBER: MPXI – $\frac{F}{A}$ $\frac{B}{B}$ $\frac{C}{C}$ – $\frac{D}{D}$ $\frac{E}{E}$ – $\frac{F}{F}$ $\frac{G}{G}$ $\frac{H}{H}$ $\frac{B}{I}$ – $\frac{J}{J}$ – $\frac{K}{K}$ – $\frac{N}{L}$ $\frac{2}{M}$ $\frac{N}{N}$ $\frac{O}{O}$

A. Stem Type

- F** Flexible Tubing

B. Performance

- 6** Single float, loop-powered 4-20 mA (2-wire)
- 7** 7 Dual float, loop-powered 4-20 mA (4-wire)
- 8*** Modbus RTU, Optional digital temperature sensors

C. Housing Type

All Housing Die-cast Aluminum, NEMA 4X, IP66

- D*** Large Housing
- E** Small Housing

D. Float 1 (Top Float)

- Z/Y** 5.5h x 3d in. Red Polyurethane (0.65 SG / 0.94 SG)
- X/W** 5 in. Round 316L SS (0.52 SG / 0.92 SG)
- V/U** 6h x 3d in. Oval 316L SS (0.58 SG / 0.94 SG)
- T/S** 3 in. Round 316L SS (0.60 SG / 0.94 SG)
- M/L** 5.5h x 2d in. Red Polyurethane (0.57 SG / 0.94 SG)
- J/I** 5h x 3d in. Oval Titanium (0.60 SG / 0.94 SG)
- N** None

E. Float 2 (Optional)

- N*** None
- Y** 5.5h x 3d in. Blue Polyurethane (0.94 SG)
- W** 5 in. Round 316L SS (0.92 SG)
- U** 6h x 3d in. Oval 316L SS (0.94 SG)
- S** 3 in. Round 316L SS (0.94 SG)
- L** 5.5h x 2d in. Blue Polyurethane (0.94 SG)
- I** 5h x 3d in. Oval Titanium (0.94 SG)

F. Mounting Type

- P*** NPT Plug 150#
- N** None

G. Mounting Size

- 2*** 2 in. (welded or slide connection)
- 3** 3 in. (slide connection only)
- N** None

H. Mounting Connection

- W** Welded (fixed)
- S*** Slide with Compression Fitting (adjustable)

I. Stem Finish Material

- B** 316L SS

J. Total Stem Length in Inches

- Min. 48 in. - Max. 384 in.

K. Temperature Sensor Options

MPXI-F8

- 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. Custom Housing/Electrical Connection

- N*** None

M. End Plug

- 2*** Keyhole for cotter pin

N. Float Stop

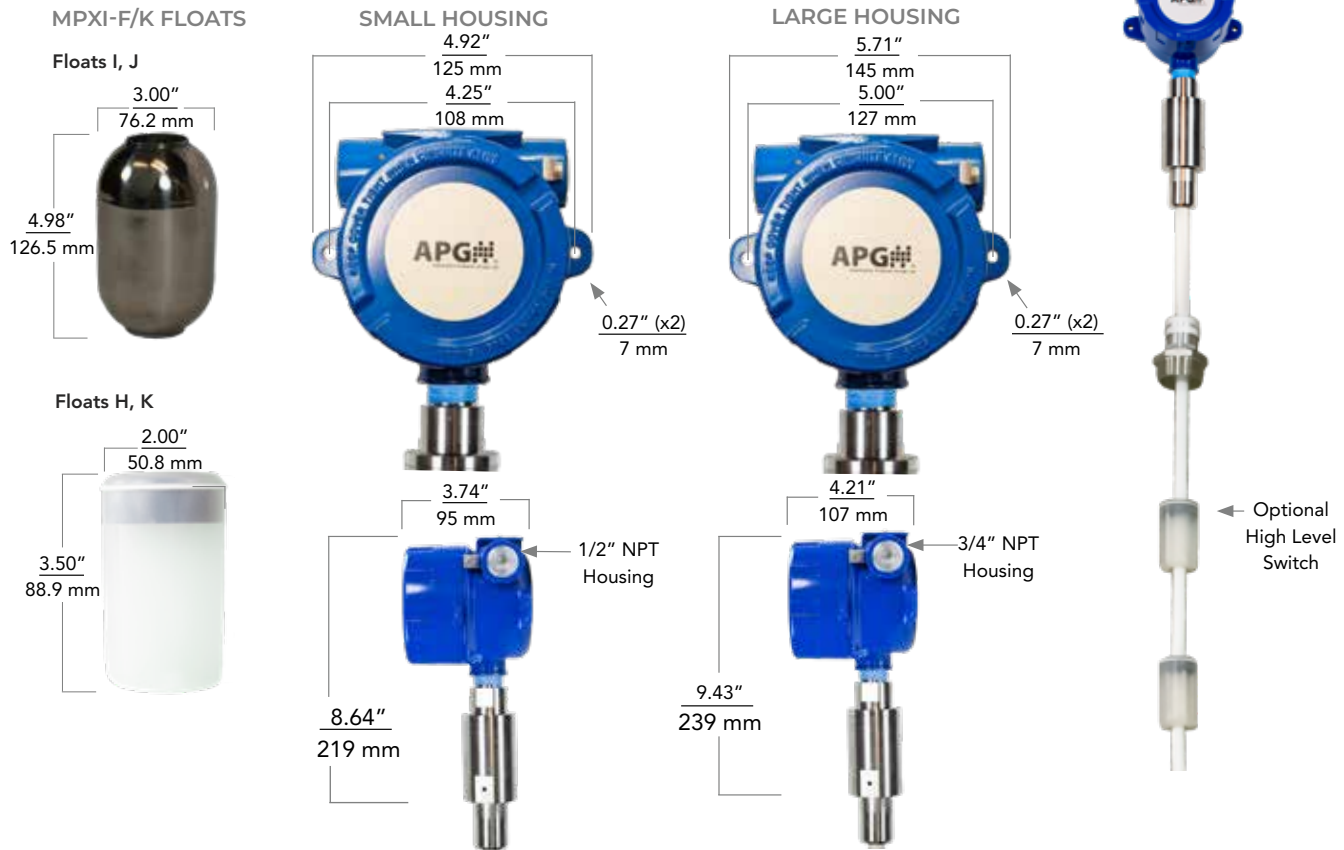
- A3*** 1-piece top float stop, held with set screw
- F3** 2-piece clamp top float stop
- N** None

O. Stem Weights

- W7** 316L SS, 3lb, 2Ø x 4.75"H; modular
- W8** 316L SS, 5lb, 3"Ø x 3"H; modular

*Note: This option is standard.

MPXI-F PVDF SPECIFICATIONS



PERFORMANCE

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

PROGRAMMING

- **RS-485:**
APG Modbus Scout (SCT-1)* — Modbus to Bluetooth adapter
APG Settler & Explorer* — Online control and datalogging
- **4-20 mA:**
RST-4100 programming module*
APG Settler & Explorer* — Online Datalogging

*Optional accessory

ELECTRICAL

- **Supply Voltage:** 12-24 VDC (Modbus), 24 VDC (4-20 mA)
- **Current Draw:**
4-20mA, Single / Dual float: 22 / 44 mA (max)
Modbus (single or dual float): 15 mA (typ.)
High Level Switch, closed / open: 7-9 mA / 0-1 mA
- Reverse polarity protection
- CE compliant to EN 61326

ENVIRONMENTAL

- **Operating Temperature:** $-40^\circ - 185^\circ\text{F}$ ($-40^\circ - 85^\circ\text{C}$)
- NEMA 4X, IP66

PHYSICAL

- **Housing:** Cast aluminium, epoxy coated
- **Stem:** $5/8"$ \varnothing flexible tubing, proprietary PVDF formulation
- **Stem Length:** 10 - 50 ft. (3.05 - 15.2 m)

CONNECTIVITY

- **Resolution:**
Single or dual loop-powered 4-20 mA
Modbus RTU (RS-485), optional temperature sensors

CERTIFICATION

- NEMA 4X, IP66
- **cCSAus Certificate CSA19CA70219727:**
Rated 12-24 VDC, Um 250 V, 4-20 mA, or 80 mA
Class I, Division 1, Groups C, D T4; IP66
Class I, Zone 0/1
AEx ia/db IIB T4 Ga/Gb
Ex ia/db IIB T4 Ga/Gb, IP66
Ta = -40° to 85°C
- **ATEX Certificate Sira 19ATEX2072X:**
II 1/2G
Ex ia/db IIB T4 Ga/Gb
Ta = -40° to 85°C
- **IECEX Certificate IECEx SIR 19.0026X:**
Ex ia/db IIB T4 Ga/Gb
Ta = -40° to 85°C

PVDF STEM MODEL CONFIGURATION OPTIONS

MODEL NUMBER: MPXI - $\frac{F}{A}$ $\frac{B}{B}$ $\frac{C}{C}$ - $\frac{D}{D}$ $\frac{E}{E}$ - $\frac{F}{F}$ $\frac{G}{G}$ $\frac{H}{H}$ $\frac{K}{I}$ - $\frac{J}{J}$ - $\frac{K}{K}$ - $\frac{N}{L}$ $\frac{2}{M}$ $\frac{W6}{N}$ - $\frac{P}{O}$

A. Stem Type

- F** Flexible Tubing

B. Performance

- 6** Single float, loop-powered 4-20 mA (2-wire)
- 7** 7 Dual float, loop-powered 4-20 mA (4-wire)
- 8*** Modbus RTU, Optional digital temperature sensors

C. Housing Type

All Housing Die-cast Aluminum, NEMA 4X, IP66

- D*** Large Housing
- E** Small Housing

D. Float 1 (Top Float)

- K/H*** 3.5h x 2d in. PVDF (0.58 SG / 0.94 SG)
- J/I** 5h x 3d in. Oval Titanium (0.60 SG / 0.94 SG)
- N** None

E. Float 2 (Optional)

- N*** None
- H** 3.5h x 2d in. PVDF (0.94 SG)
- I** 5h x 3d in. Oval Titanium (0.94 SG)

F. Mounting Type

- P*** NPT Plug 150#
- N** None

G. Mounting Size

- 2*** 2 in. (welded or slide connection)
- N** None

H. Mounting Connection

- S*** Slide with Compression Fitting (adjustable)

I. Stem Finish Material

- K** Proprietary PVDF formulation

J. Total Stem Length in Inches

- Min. 120 in. - Max. 600 in.

K. Temperature Sensor Options

MPXI-F8

- 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. Custom Housing/Electrical Connection

- N*** None

M. End Plug

- 2*** Keyhole for cotter pin

N. Float Stop

- E3** 1-piece clamp, top float stop only
- N*** None

O. Stem Weights

- W6** 316L SS, 3.75lb, 2"Ø x 5" H; modular

P. High Level Switch

- N** None
- H** Normally Closed Switch, fixed distance from probe zero reference

*Note: This option is standard.

ACCESSORIES

Please order separately, by part number.

Description	Part Number
Programming Module	
RST-4100 (4-20 mA: MPXI-F6, MPXI-F7 only)	125759
Modbus Scout (SCT-1) (RS485 MPXI-F8 only)	125424-0001
Settler	125422-000x

Note: Each module is sold with a 6 ft USB cable.

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/.

