

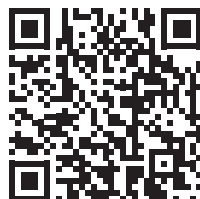
Intrinsically Safe Magnetostrictive Level Sensors Series: MPI



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-R's large, buoyant, and robust float allows for use in harsh applications where fouling or buildup might otherwise be of concern. The MPI-E's lighter weight design allows it to be used in applications where space is limited. The MPI-E Chemical has a chemical resistant coating, allowing for use in corrosive, acidic, or marine environments. The MPI-F's flexible stainless steel stem allows for installation in tall tanks without needing a crane, and the MPI-T's 1" titanium stem provides compatibility in a wider range of corrosive media--including H₂S--in larger tanks.

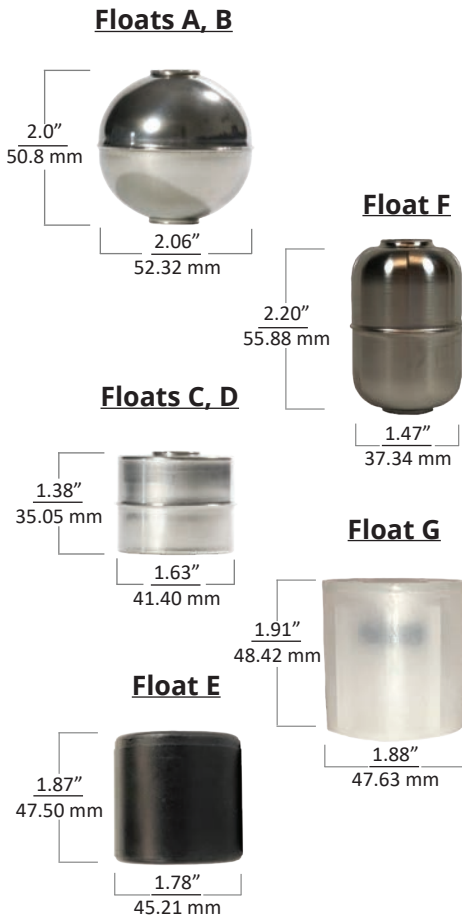
Features

- Class I, Division 1, and Class I, Zone 0 Hazardous Location Rating (cCSAus, ATEX, IECEx)
- Highly accurate and repeatable readings
- RS-485 (Modbus RTU) output
- Rugged and reliable, lengths up to 25 feet (7.62 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

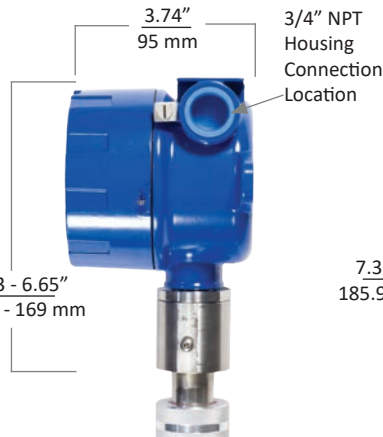
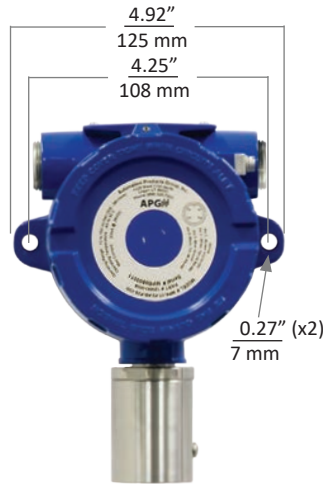


MPI-E Specifications

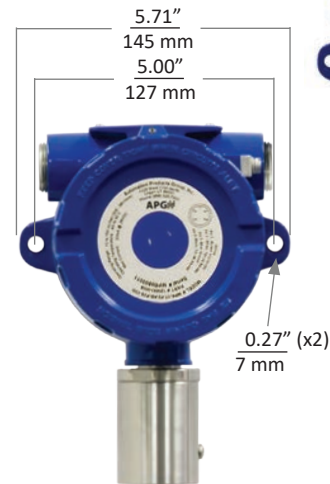
MPI-E Floats



Small Housing



Large Housing



Performance

- Resolution: 0.04 in. (1mm)
- Accuracy: $\pm 0.05\%$ of full scale

Programming

- Optional RST-6001 USB to RS-485 converter

Environmental

- Operating Temperature: -40° - 185° F (-40° - 85° C)
- NEMA 4X, IP65

Physical

- Housing: Cast aluminium, epoxy coated
- Stem: 0.5" \varnothing 316L SS
- Stem Length: 1 - 12.75 ft. (0.3 - 3.9 m)

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)

Connectivity

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

Certification

- NEMA 4X, IP65
- cCSAus Certificate CSA19CA70219727:
 Ambient: -40° to 85° C
 Class I, Division 1, Groups C, D, T4;
 Class I, Zone 0, AEx ia, IIB, T4, Ga
 Ex ia IIB, T4, Ga
- 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

Model Configuration Options

Model Number: MPI - E 5 - - - - - - - - - - - -

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

A. Stem Type

- E** 0.5 in. diameter 316L SS

B. Output

- 5** Modbus RTU, with surge protection, Intrinsically Safe

C. Housing Type

All Housing Die-cast Aluminum, NEMA 4X, IP68, Blue

- Large Housing
- A**[▲] Small Housing
- B** Large Housing with window
- C** Small Housing with window

D. Float 1 (Top Float)

- A** 316L SS Round (0.65 SG)
- B** 316L SS Round (0.92 SG)
- C** 316L SS Cylindrical (0.65 SG)
- D** 316L SS Cylindrical (0.92 SG)
- E** Buna-N (0.5 SG)
- F** 316 SS 3A Cylindrical (0.5 SG)
- G** Kynar Cylindrical (0.66 SG)

E. Float 2 (optional)

- N** None
- B** 316L SS Round (0.92 SG)†
- D** 316L SS Cylindrical (0.92 SG)††

F. Mounting Type

- F** Flat Face ANSI Flange 150#
(Sizes: 2, 2.5, 3, 4, 5, 6)
- R** Raised Face ANSI Flange 150#
(Sizes: 2, 2.5, 3, 4, 5, 6)
- S** Tri Clamp
(Sizes: 2, 2.5, 3)
- P** NPT Plug 150#
(Sizes: 1.5, 2, 2.5, 3, 4)
- N** None

Note: ▲ This option is standard.

Note: † Must be used with Top Float A.

Note: †† Must be used with Top Float C.

G. Mounting Size

- See Mounting Type for available sizes

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. 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, with a minimum of 2 in. required between temperature sensors.

L. Housing Connection

- N**[▲] None
- A** 3/4" to 1/2" NPT Reducing Threads (Large Housing Only)
- B** Cable Gland (Cable sold separately)
- M** 4-pin M12 Micro Connector Male
- F** 4-pin M12 Micro Connector Female

MPI Accessories

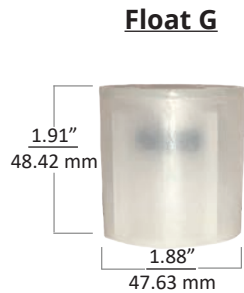
Please order separately, by part number.

Description	Part Number
Programming Module	
RST-6001 (Modbus)	125734
*sold with 6 ft USB cable	

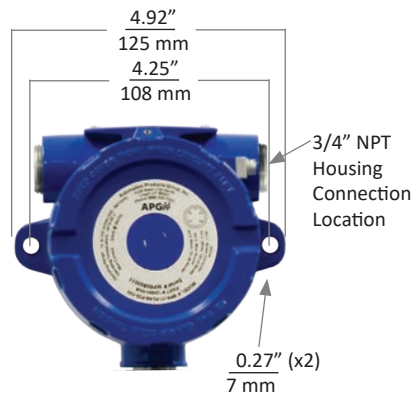


MPI-E Chemical Specifications

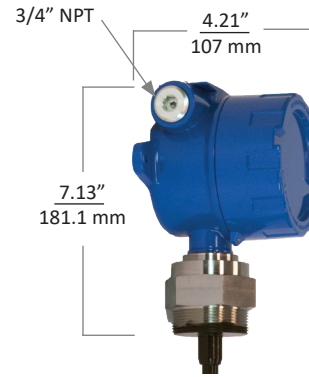
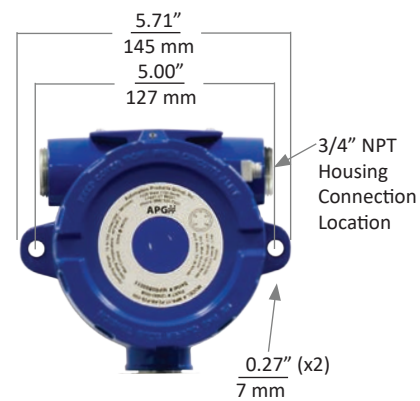
MPI-E Chemical Float



Small Housing



Large Housing



Performance

- Resolution: 0.04 in. (1mm)
- Accuracy: $\pm 0.05\%$ of full scale

Programming

- Optional RST-6001 USB to RS-485 converter

Environmental

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

Physical

- Housing: Cast aluminium, epoxy coated
- Stem: 0.5" \varnothing 316L SS with chemical resistant coating
- Stem Length: 1 - 12.75 ft. (0.3 - 3.9 m)
- Float: 1-7/8" \varnothing Kynar, 0.66 SG

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)

Connectivity

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

Certification

- NEMA 4X, IP65
- cCSAus Certificate CSA19CA70219727:
Ambient: -40° to 85° C
Class I, Division 1, Groups C, D, T4;
Class I, Zone 0, AEx ia, IIB, T4, Ga
Ex ia IIB, T4, Ga
- 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

Model Configuration Options

Model Number: MPI - E 5 - G N - P 2 W - - 4 -
 A B C D E F G H I J K L

A. Stem Type

- E** 0.5 in. diameter 316L SS

B. Output

- 5** Modbus RTU, with surge protection, Intrinsically Safe

C. Housing Type

All Housing Die-cast Aluminum, NEMA 4X, IP68, Blue

- Large Housing
- A**[▲] Small Housing
- B** Large Housing with window
- C** Small Housing with window

D. Float 1

- G** Kynar Cylindrical (0.66 SG)

E. Float 2

- N** None

F. Mounting Type

- P** NPT Plug 150#

G. Mounting Size

- 2** Size 2

Note: ▲ This option is standard.

H. Mounting Connection

- W** Welded (fixed)

I. Stem Finish Material

- F** Kynar Coating
- G** Abcite Coating

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, with a minimum of 2 in. required between temperature sensors.

L. Housing Connection

- N**[▲] None
- A** 3/4" to 1/2" NPT Reducing Threads (Large Housing Only)
- B** Cable Gland (Cable sold separately)
- M** 4-pin M12 Micro Connector Male
- F** 4-pin M12 Micro Connector Female

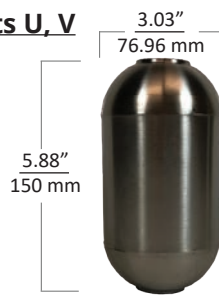
MPI-R Specifications

MPI-R Floats

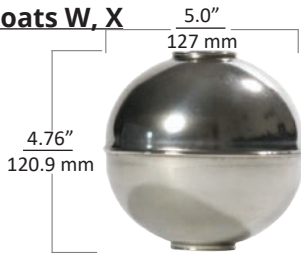
Floats Y, Z



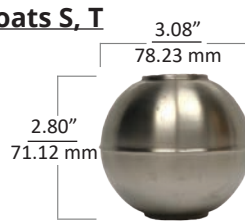
Floats U, V



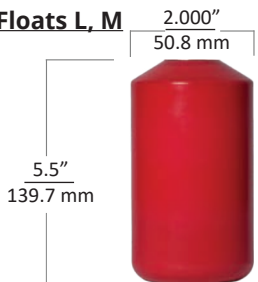
Floats W, X



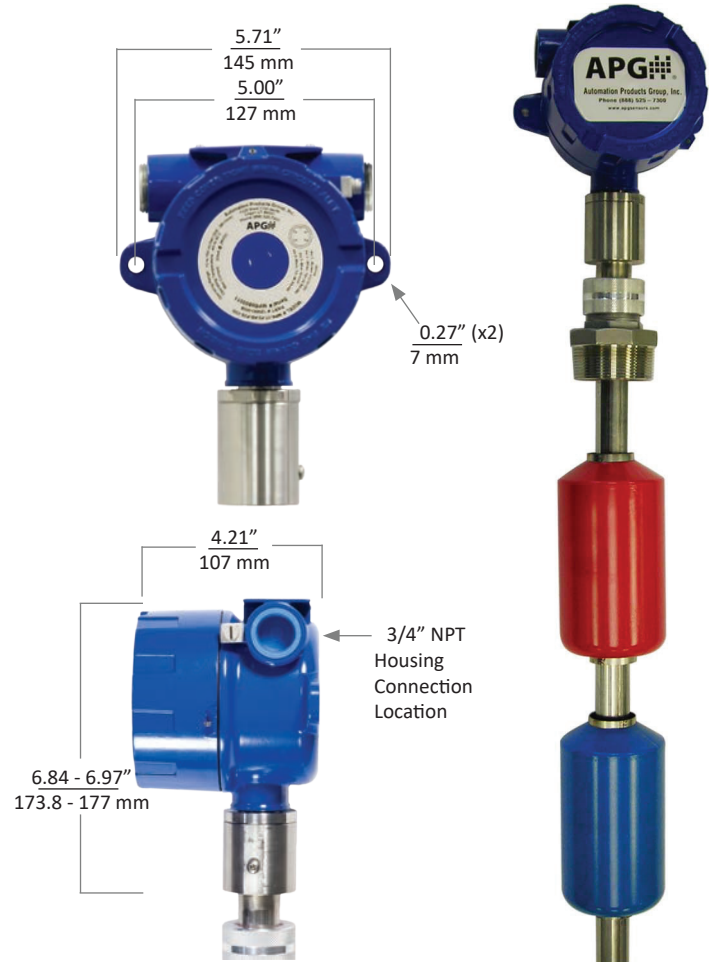
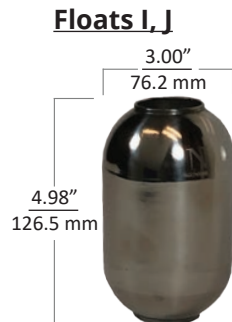
Floats S, T



Floats L, M



Floats I, J



Performance

- Resolution: 0.04 in. (1mm)
- Accuracy: $\pm 0.05\%$ of full scale

Programming

- Optional RST-6001 USB to RS-485 converter

Environmental

- Operating Temperature: -40° - 185° F (-40° - 85° C)
- NEMA 4X, IP65

Physical

- Housing: Cast aluminium, epoxy coated
- Stem: 1.0" \varnothing 316L SS
- Stem Length: 4 - 25 ft. (1.22 - 7.62 m)

Electrical

- Electrical Connection: Terminal Block, 8-24 VDC
- Typical current draw: 25 mA
- Reverse polarity protection
- Surge protection (IEC 61000-4-5, 4-6, 4-7)

Connectivity

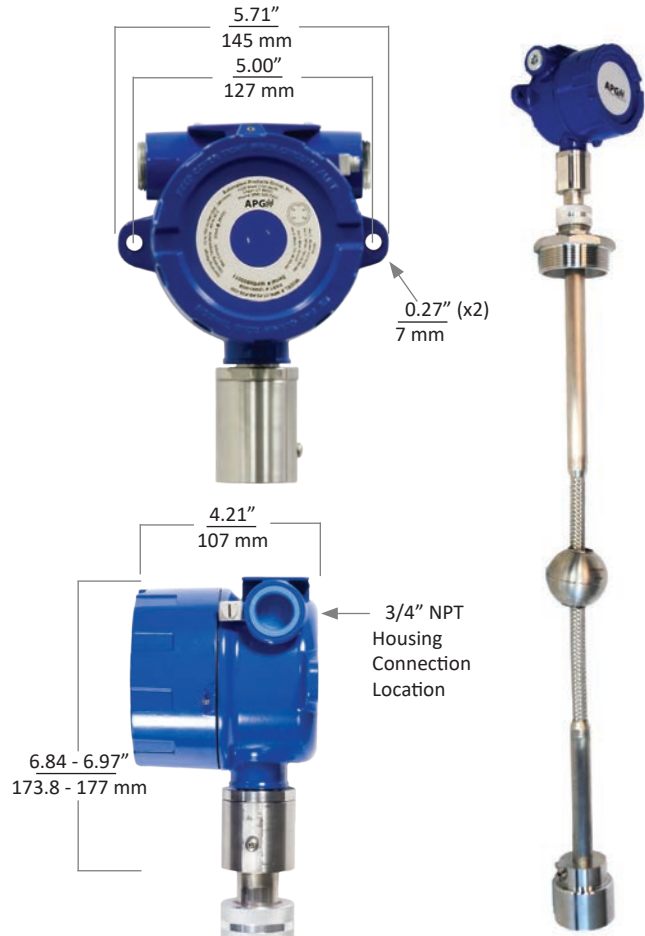
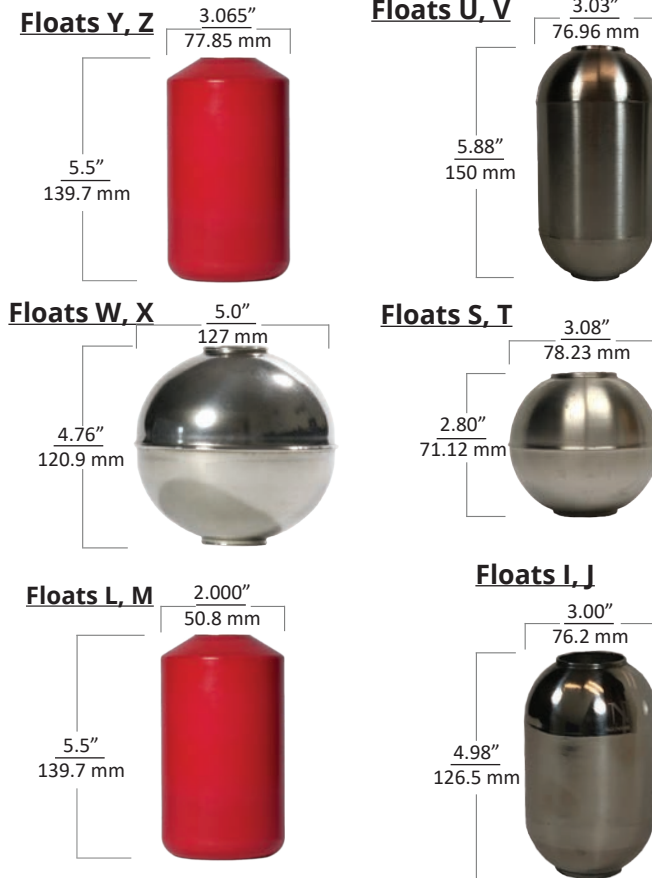
- Output: Modbus RTU (RS-485) with Surge Protection

Certification

- NEMA 4X, IP65
- cCSAus Certificate CSA19CA70219727:
Ambient: -40° to 85° C
Class I, Division 1, Groups C, D, T4;
Class I, Zone 0, AEx ia, IIB, T4, Ga
Ex ia IIB, T4, Ga
- 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

MPI-F Specifications

MPI-F Floats



Performance

- Resolution: Modbus: 0.04 in. (1mm)
- Accuracy: ±0.05% of full scale

Programming

- Optional RST-6001 USB to RS-485 converter

Environmental

- Operating Temperature: -40° - 185°F (-40° - 85°C)
- NEMA 4X, IP65

Physical

- Housing: Cast aluminium, epoxy coated
- Stem: 7/8" Ø Flexible Tubing with Braid, 316L SS
- Stem Length: 10 - 25 ft. (3.05 - 7.62 m)

Electrical

- Electrical Connection: Terminal Block, 8-24 VDC
- Typical current draw: 25 mA
- Reverse polarity protection
- Surge protection (IEC 61000-4-5, 4-6, 4-7)

Connectivity

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

Certification

- NEMA 4X, IP65
- cCSAus Certificate CSA19CA70219727:
 Ambient: -40° to 85°C
 Class I, Division 1, Groups C, D, T4;
 Class I, Zone 0, AEx ia, IIB, T4, Ga
 Ex ia IIB, T4, Ga
- 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

Model Configuration Options

Model Number: MPI -
 A B C D E F G H I J K L

A. Stem Type

- F** 7/8 in. diameter Flexible Tubing with Braid, 316L SS

B. Output

- 5** Modbus RTU, with surge protection, Intrinsically Safe

C. Housing Type

All Housing Die-cast Aluminum, NEMA 4X, IP68, Blue

- [▲] Large Housing
- B** Large Housing with window

D. Float 1 (Top Float)

- Z** 5.5h x 3d in. Red Polyurethane (0.65 SG)
- Y** 5.5h x 3d in. Blue Polyurethane (0.94 SG)
- X** 5 in. Round 316L SS (0.52 SG)
- W** 5 in. Round 316L SS (0.92 SG)
- V** 6h x 3d in. Oval 316L SS (0.58 SG)
- U** 6h x 3d in. Oval 316L SS (0.94 SG)
- T** 3 in. Round 316L SS (0.60 SG)
- S** 3 in. Round 316L SS (0.94 SG)
- M** 5.5h x 2d in. Red Polyurethane (0.57 SG)
- L** 5.5h x 2d in. Blue Polyurethane (0.94 SG)
- J** 5h x 3d in. Oval Titanium (0.60 SG)
- I** 5h x 3d in. Oval Titanium (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)
- L** 5.5h x 2d in. Blue Polyurethane (0.94 SG)
- I** 5h x 3d in. Oval Titanium (0.94 SG)

F. Mounting Type

- F** Flat Face ANSI Flange 150#
(Sizes: 2, 2.5, 3, 4, 5, 6)
- R** Raised Face ANSI Flange 150#
(Sizes: 2, 2.5, 3, 4, 5, 6)
- S** Tri Clamp
(Sizes: 2, 2.5, 3)
- P** NPT Plug 150#
(Sizes: 2, 2.5, 3, 4)
- N** None

G. Mounting Size

- See Mounting Type for available sizes

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. 120 in. - Max. 300 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, with a minimum of 2 in. required between temperature sensors.

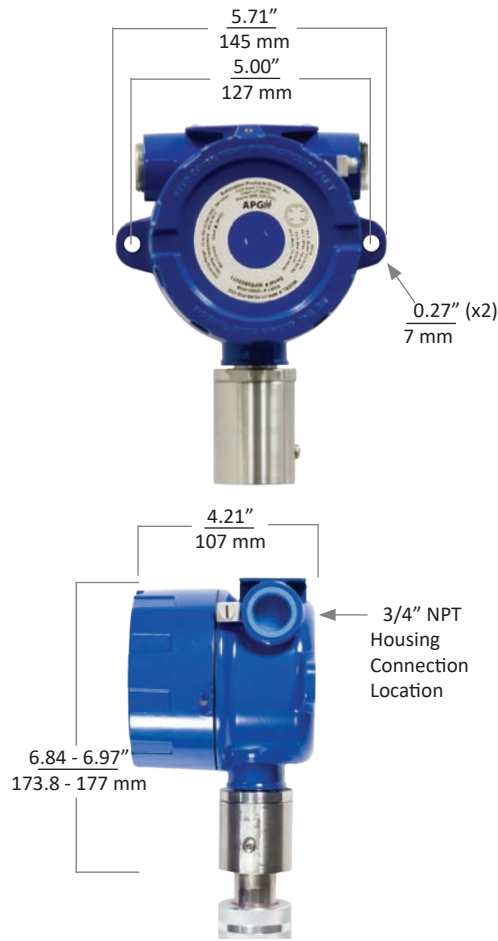
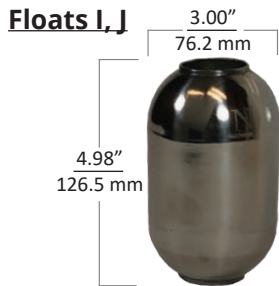
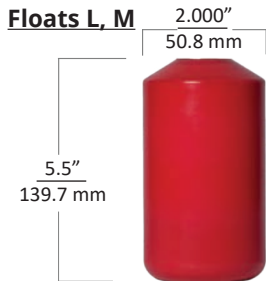
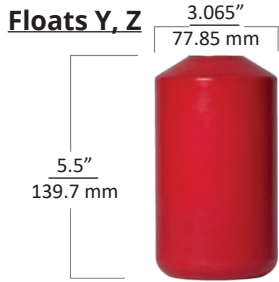
L. Housing Connection

- N**[▲] None
- A** 3/4" to 1/2" NPT Reducing Threads
- B** Cable Gland (Cable sold separately)
- M** 4-pin M12 Micro Connector Male
- F** 4-pin M12 Micro Connector Female

Note: [▲]This option is standard.

MPI-T Specifications

MPI-T Floats



Performance

- Resolution: 0.04 in. (1mm)
- Accuracy: $\pm 0.05\%$ of full scale

Programming

- Optional RST-6001 USB to RS-485 converter

Environmental

- Operating Temperature: -40° - 185° F (-40° - 85° C)
- NEMA 4X, IP65

Physical

- Housing: Cast aluminium, epoxy coated
- Stem: 1.0" \varnothing Titanium
- Stem Length: 4 - 25 ft. (1.22 - 7.62 m)
- Slide Mounting: 316L SS
- Compression Fitting: Aluminum

Electrical

- Electrical Connection: Terminal Block, 8-24 VDC
- Typical current draw: 25 mA
- Reverse polarity protection
- Surge protection (IEC 61000-4-5, 4-6, 4-7)

Connectivity

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

Certification

- NEMA 4X, IP65
- cCSAus Certificate CSA19CA70219727:
Ambient: -40° to 85° C
Class I, Division 1, Groups C, D, T4;
Class I, Zone 0, AEx ia, IIB, T4, Ga
Ex ia IIB, T4, Ga
- 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

Tank Cloud



Put Your Tanks In The Cloud

1 Remote Sensors

Connect to any 4-20mA signal or APG Modbus sensor for constant access to your data. Access up to 10 sensors on a single connection.

2 Use the Internet Backbone

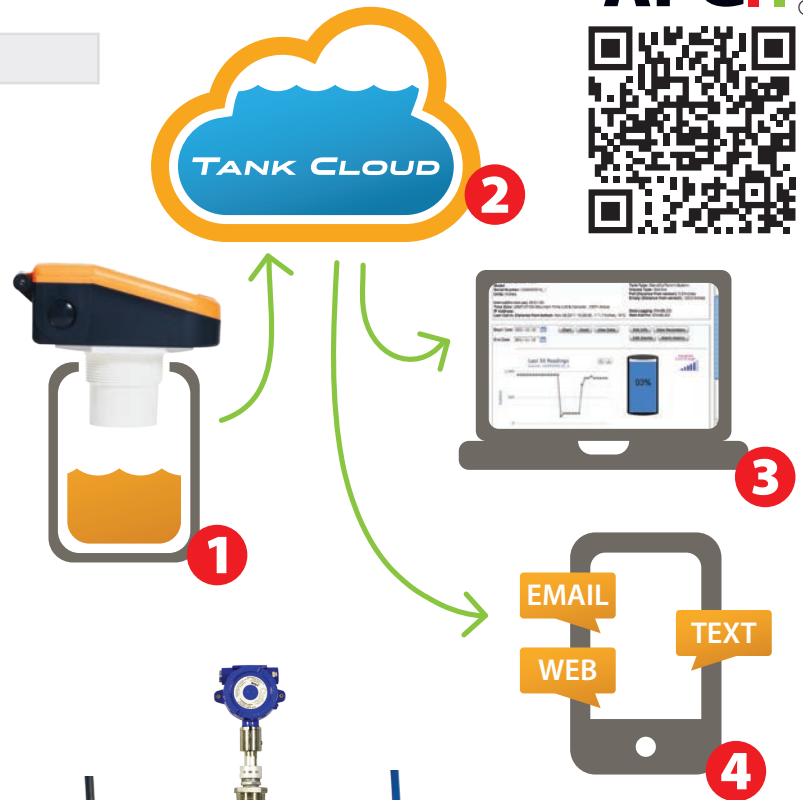
Connect the APG sensor or module to the Internet via landline, radio, cellular, or satellite.

3 View Secure Data 24/7

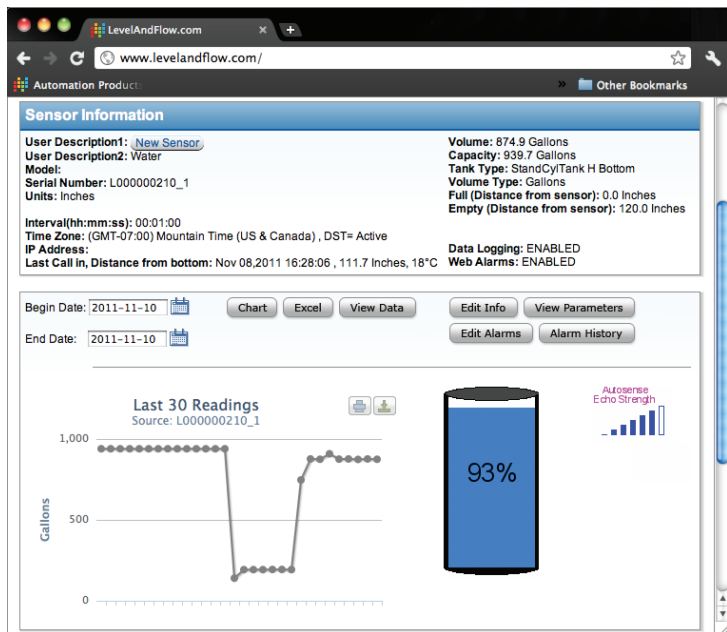
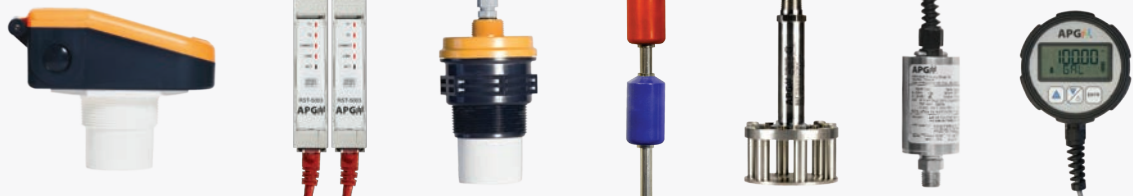
Access sensor data online through our secure portal at levelandflow.com. If the Internet is accessible, so is your information.

4 Stay Up-To-Date

Program custom alarms - receive email and text (sms) message alerts on your computer, mobile phone, or tablet.



The Line-Up:



Online Data Portal

The Tank Cloud data portal, located online at www.levelandflow.com, displays everything you need to know about your measurement.

Here you can:

- View your current and past readings,
- Manage alarms,
- Configure your sensors,
- and Setup user permissions for others in your organization.

Measurements are sorted by location and grouped into sites. Simply select the site you would like to view, and then choose the sensor. Current readings are prominent in the center of the screen.

Contact us today at 888-525-7300 to set-up a demonstration of our sensors and online software. We are excited to show you how it can impact your business.