At APG, our primary goal is to enrich lives by providing reliable solutions and products to our customers. We are dedicated to designing and manufacturing innovative level and pressure sensors to match your application needs. As part of that dedication, we recently released the MPXI-F/B and the MPXI-F/K, two new products that add flexibility to our long-lasting and dependable MPX probe series.

APG has specialized in matching application needs with the right sensing technologies since the early ’70s. Our sensors are used in applications across a variety of industries including:

- Water / Wastewater
- Food / Beverage
- Chemical / Petrochemical
- Mining / Minerals
- Medical / Pharmacy
- Aerospace / Military
- Oil / Gas
- Car Wash
- Agriculture

As an ISO 9001:2015 certified manufacturer, quality is a commitment we make to our customers at APG. We firmly believe that we cannot succeed if our customers do not succeed. So, what pressure or level measurement and control problems can we help you solve?

Our Measurement Experts are available via phone, email, or web-chat Monday through Friday, from 7 AM to 5 PM Mountain Time, and our online store at store.apgsensors.com is available 24 hours a day. If you prefer, you can fill out the Contact Us form on our website, or find us on LinkedIn, Facebook, Twitter, YouTube, and Instagram.
APG’s level switches are contact level sensors used for point-level measurements of liquids and fluidized solids. They are also used for level indication, such as controlling pumps and alarms when a specific element must be maintained. APG’s level switches come in a variety of options, from singular float switches to multi-point level switches, and can be used in a variety of places, from small, tight corners to larger silo spaces. Their durability is unmatched, making them a reliable choice for your needs.

LIQUID LEVEL SOLUTIONS
- Float Switches
- Stem-Mounted Float Switches
- Cable Float Switches
- Pneumatic Level Switch

SOLID LEVEL SOLUTIONS
- Paddle Wheel Switch
- Vibrating Level Switch

COMMON APPLICATIONS
- Pump Control
- Alarm Configuration
- Tank Level
- Solids Processing/Handling
- Water and Wastewater
- Food and Beverage
- Agriculture
The FL series delivers linear level measurement in tight spaces, with a single mount holding up to three (FLE) or seven (FLR) switch points customized to your needs. The FLE’s 5/16-inch diameter stem makes it perfect for small tanks and totes, while the FLR’s 1/2-inch diameter stem operates well in larger tanks and barrels.

**FLE/R Custom Multi-Point Level Control**

The FL series delivers linear level measurement in tight spaces, with a single mount holding up to three (FLE) or seven (FLR) switch points customized to your needs. The FLE’s 5/16-inch diameter stem makes it perfect for small tanks and totes, while the FLR’s 1/2-inch diameter stem operates well in larger tanks and barrels.

**FLX Explosion-Proof Point-Level Control**

The FLX is THE float switch for use in Class I Division 1 or 2 hazardous locations in North America. Up to seven switch points can be placed along the stem, wherever you need them, making each FLX uniquely customized to its intended application.

---

**WHERE THEY WORK**

An APG float switch can be found for almost every situation because of the variety of materials, arrangements, and capabilities they have. Whether complicated or straightforward, small vessels or large reservoirs, common liquids or really aggressive chemicals, there is an APG float switch fit for the job.

**FS-500 Stainless Steel Horizontal Float Switch**

With reversible switch orientation, three mounting choices, and CSA & NSF 169 certifications, the FS-500 switch is the go-anywhere, use-everywhere horizontal float switch.

**FS-400 Vertical Stainless Steel Float Switch**

All stainless steel wetted materials, operating temperatures up to 500°F, and capable of VDC or VAC operation.

**FS-410 Miniature Vertical Float Switch**

Designed to measure small spaces, the FS-410 is less than 2.35” in total height and the float is just under 1.2” wide.

---

**Cable-Suspended Float Switches**

**KA Single Float Switch**

A single Kari float allows up to four switch points in a single float, saving you money by replacing four single-level float switches. The sensors are durable, highly chemical compatible, and come in 25 configurations, most with build-in hysteresis.

**FT-100/300 Single-Point Float Switch**

This inexpensive, traditional single-point switch is ideal for simple alarming applications. The sensors trigger immediately above or below horizontal, for a highly repeatable performance that you can count on.

**TLS Dual-Point Float Switch with Hysteresis**

The TLS series cable switches are dual-point switches with build-in hysteresis to provide high- and low-level control that won’t wear out your pumps with frequent on/off cycles.

---

**FLOAT SWITCHES**

**FS-400 FS-410 FS-500**

<table>
<thead>
<tr>
<th>Material</th>
<th>316L SS</th>
<th>316L SS</th>
<th>316L SS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max Power</td>
<td>100 W</td>
<td>100 W</td>
<td>100 W</td>
</tr>
<tr>
<td>Temp. Range</td>
<td>-40°F up to 500°F</td>
<td>-40°F up to 500°F</td>
<td>-40°F up to 500°F</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>0.6</td>
<td>0.6</td>
<td>0.6</td>
</tr>
<tr>
<td>Certifications</td>
<td>CSA Explosion-proof to 368°F, General Use to 550°F, All Models NSF 169</td>
<td>CSA Explosion-proof to 368°F, General Use to 550°F, All Models NSF 169</td>
<td>CSA Explosion-proof to 368°F, General Use to 550°F, All Models NSF 169</td>
</tr>
</tbody>
</table>

**FLE FLR FLX**

<table>
<thead>
<tr>
<th>Max. Stem Length</th>
<th>Up to 48 in</th>
<th>153 in</th>
<th>Up to 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Switch Points</td>
<td>Up to 3</td>
<td>Up to 7</td>
<td></td>
</tr>
<tr>
<td>Wetted Material</td>
<td>316L SS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Certification</td>
<td>NEMA 4K, IP65, IP6S</td>
<td>Flameproof/Explosion-proof - CSA</td>
<td>Flameproof/Explosion-proof - CSA</td>
</tr>
<tr>
<td>Control Range</td>
<td>Variable</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Certifications</td>
<td>General Purpose - CSA</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
LF
Miniature Float Switches
These small float switches offer multiple form factors and functionalities to fit wherever needed inside a system. Their compact size is perfect for a variety of OEM applications.

<table>
<thead>
<tr>
<th>LF</th>
<th>MLS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Switch Point</td>
<td>1 NO/NC</td>
</tr>
<tr>
<td>Wiring</td>
<td>2 conductor lead wire</td>
</tr>
<tr>
<td>Materials</td>
<td>Polypropylene, Buna, PVDF, 316L SS, 3014 SS, 6-Nylon</td>
</tr>
<tr>
<td>Max. Operating Temperature</td>
<td>Varies per model from 173° to 392° F</td>
</tr>
<tr>
<td>Switch Point</td>
<td>1 NO/NC Adjustable Switch Point, Adjustable Mechanical Hysteresis</td>
</tr>
<tr>
<td>Min. Specific Gravity</td>
<td>0.85</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>32° to 176° F</td>
</tr>
<tr>
<td>Enclosure Protection</td>
<td>IP42, NEMA 1</td>
</tr>
</tbody>
</table>

NLS
Pneumatic Level Switch
Viscous liquids can stop a float switch in its tracks. NLS pneumatic point-level sensors have no wetted moving parts—only a flexing diaphragm safely tucked inside the housing—so they provide long-lasting and reliable performance in your stickiest situations.

<table>
<thead>
<tr>
<th>NLS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operation</td>
</tr>
<tr>
<td>Detection Range</td>
</tr>
<tr>
<td>Operating Temperature</td>
</tr>
<tr>
<td>Enclosure Protection</td>
</tr>
</tbody>
</table>

PWS
Mini Level Paddle Wheel Switch
With a paddle diameter of 3.15” and blade depths between 1.2 and 1.5”, the PWS Mini Level Paddle Wheel switch is perfect for providing level-based on-off signals in small bins, hoppers, and any other small-to-medium grain piling solids.

<table>
<thead>
<tr>
<th>PWS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operation</td>
</tr>
<tr>
<td>Detection Range</td>
</tr>
<tr>
<td>Adjustable Torque Setting</td>
</tr>
<tr>
<td>Enclosure Protection</td>
</tr>
</tbody>
</table>

VLS
Mechanical Float Switch
Tailor this float switch to your needs in the field with adjustable switch point and hysteresis.

<table>
<thead>
<tr>
<th>VLS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operation</td>
</tr>
<tr>
<td>Power Consumption</td>
</tr>
<tr>
<td>Sensitivity Adjustments</td>
</tr>
<tr>
<td>Enclosure Protection</td>
</tr>
</tbody>
</table>

VBL
Vibrating Rod Level Switch
The VBL allows you to adjust the sensitivity setting to accurately detect the presence of different types of solids, and for silos and bins of many shapes and sizes.

<table>
<thead>
<tr>
<th>VBL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operation</td>
</tr>
<tr>
<td>Power Consumption</td>
</tr>
<tr>
<td>Sensitivity Adjustments</td>
</tr>
<tr>
<td>Enclosure Protection</td>
</tr>
</tbody>
</table>
APG offers both contact and non-contact level transmitters that provide continuous level measurements. APG manufactures level transmitters that can be used to determine the level of both liquids and bulk solids at any given time. Many of the level transmitters can additionally be used for point-level detection.

**LIQUID LEVEL SOLUTIONS**
- Ultrasonic Level Sensors
- Magnetostrictive Liquid Level Probes
- Resistive Liquid Level Sensors
- Radar Level Transmitters
- Submersible Pressure Transducers

**SOLID LEVEL SOLUTIONS**
- Ultrasonic Level Sensors
- Radar Level Transmitters

**OBJECT DETECTION**
- Ultrasonic Level Sensors

**COMMON APPLICATIONS**
- Tank Level
- Open Channel Flow
- Water and Wastewater
- Food and Beverage
- Agriculture
- Minerals and Mining
- Chemical / Petrochemical
- Solids Processing / Handling
ULTRASONIC LEVEL SENSORS

WHERE THEY WORK

Ultrasonic sensors are our workhorse level sensors because they perform well in so many places and environments. Ultrasonics are great for almost all tank-level measurement applications, open channel flow calculations, and monitoring reservoirs, retention ponds, or dam tail-waters. They do well for object detection/profiling in car wash systems, and can be programmed to provide distance, level, or volume output readings.

MNU IS

Intrinsically Safe Modbus Sensor

Our MNU IS brings worry-free level monitoring and remote Modbus controls to hazardous locations with its intrinsically safe design.

MNU-Enabled Modbus Sensor

Built for any situation that requires Modbus, the MNU is compatible with any Modbus controller, and can be monitored online via Tank Cloud.

<table>
<thead>
<tr>
<th>Range</th>
<th>Output</th>
<th>Mount</th>
<th>Certification</th>
<th>Certification</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 in to 40 ft</td>
<td>Modbus RS-485</td>
<td>1, 2, or 3 in NPT</td>
<td>Intrinsically Safe - CSA, IECEx, ATEX</td>
<td>C1D2 - CSA</td>
</tr>
</tbody>
</table>

LOE

Web-Enabled Sensor and Controller

Designed for remote measurement, the LOE series connects to the internet to provide online monitoring via Tank Cloud for up to 10 APG Modbus sensors.

LPU-2127

Built-In Keypad and Display

The LPU-2127 features an LCD display for easy programming performed entirely through the built-in keypad.

IRU-2420, -3400, -5000

For Reflective or Soft Target Surfaces

Designed with flexibility in mind, these series feature auto-sense software for quick, easy programming in a variety of applications.

LPU-2428

Intrinsically Safe, Loop-Powered

Made for highly configurable measurement in linear and non-linear tanks and channels, the LPU-2428 can internally calculate distance, level, open-channel flow, or volume.

IRU-9400

For Soft or Reflective Target Surfaces

The IRU-9400 is an indoor sensor with a more sensitive transducer to detect difficult targets such as reflective or soft surfaces.

Ultrasonic sensors are our workhorse level sensors because they perform well in so many places and environments. Ultrasonics are great for almost all tank-level measurement applications, open channel flow calculations, and monitoring reservoirs, retention ponds, or dam tail-waters. They do well for object detection/profiling in car wash systems, and can be programmed to provide distance, level, or volume output readings.

Table: MNU, MNU IS, LOE

- **Range**: 4 in to 40 ft
- **Output**: Modbus RS-485
- **Mount**: 1, 2 or 3 in NPT, Surface Mount w/ 4 screws
- **Certification**: Intrinsically Safe - CSA, IECEx, ATEX, C1D2 - CSA

LPU-2127, LPU-2428, IRU-2000, IRU-2420, IRU-3400, IRU-5000, IRU-6429, IRU-9400

ULTRASONIC LEVEL SENSORS
The MPX-F works because of the unique Class I, Zone 0/1 rating which allows for an Explosion Proof connection to a Zone 1-installed housing on top of a Zone 0-installed probe stem.

**WHY IT WORKS: MPX**

**MPXI-F/K**
- PVDF (Kynar) Flexible Stem
- The MPXI-F/K features a proprietary PVDF-blend flexible stem and optional high-level float switch for simple installation in the tallest of tall tanks.

**MPXI-F/B**
- Stainless Steel Flexible Stem
- The MPXI-F/B features a 316L SS flexible tubing braided stem that uncoils easily for simple installation in tall tanks.

<table>
<thead>
<tr>
<th>MPXI-F/K</th>
<th>MPXI-F/B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max Length</td>
<td>50 ft</td>
</tr>
<tr>
<td>Stem</td>
<td>5/8&quot; Flexible Tubing, PVDF</td>
</tr>
<tr>
<td>Output</td>
<td>RS-485 Modbus, 4-20 mA</td>
</tr>
<tr>
<td>Temperature Sensor</td>
<td>None; Up to 7 Digital, per API 18.2 Spec</td>
</tr>
<tr>
<td>Mount</td>
<td>NPT, No Mount</td>
</tr>
<tr>
<td>Certification</td>
<td>Flameproof/Explosion-proof - CSA, ATEX, IECEx</td>
</tr>
</tbody>
</table>

**WHY IT WORKS: MPX-E**

The MPX-E works because of the unique Class I, Zone 0/1 rating which allows for an Explosion Proof connection to a Zone 1-installed housing on top of a Zone 0-installed probe stem.

**MPX-E Chemical**
- An anti-corrosion stem coating, a chemically-resistant float, and Explosion-proof ratings allow the MPX-E Chemical to handle big-time nasty chemicals in small-scale containers and transport settings.

<table>
<thead>
<tr>
<th>MPX-E</th>
<th>MPX-E Chemical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max Length</td>
<td>12.75 ft</td>
</tr>
<tr>
<td>Stem</td>
<td>1/2&quot; a 316L SS</td>
</tr>
<tr>
<td>Output</td>
<td>RS-485 Modbus, 4-20 mA</td>
</tr>
<tr>
<td>Temperature Sensor</td>
<td>None; Stem RTD</td>
</tr>
<tr>
<td>Mount</td>
<td>NPT, No Mount</td>
</tr>
<tr>
<td>Certification</td>
<td>Flameproof/Explosion-proof - CSA</td>
</tr>
</tbody>
</table>

**WHY IT WORKS: MPX-R**

The MPX-R uses a 1"-diameter 316L SS stem and 31.5" max length allowing it to bring precision measurement to bigger tanks and thicker liquids.

**MPX-R**
- Explosion-Proof Float Level Transmitter

<table>
<thead>
<tr>
<th>MPX-R</th>
<th>MPX-R API 18.2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max Length</td>
<td>25 ft</td>
</tr>
<tr>
<td>Stem</td>
<td>1.0&quot; a Titanium 2</td>
</tr>
<tr>
<td>Output</td>
<td>RS-485 Modbus</td>
</tr>
<tr>
<td>Temperature Sensor</td>
<td>None</td>
</tr>
<tr>
<td>Mount</td>
<td>NPT</td>
</tr>
<tr>
<td>Certification</td>
<td>Flameproof/Explosion-proof - CSA</td>
</tr>
</tbody>
</table>

**WHY IT WORKS: MPX-T**

Our original magnetostrictive probes carry Class I Division 1 / Class I Zone 1 Flameproof (Explosion-proof) certifications for installation in hazardous areas throughout North America.

**MPX-T**
- Titanium Float Level Transmitter

**MPX-T API 18.2**
- The MPX-T API 18.2 uses a 1"-diameter stainless steel stem. Comes with required digital temperature sensors and feature large, robust floats that resist fouling.
HOW THEY WORK: RESISTIVE CHAIN PROBES

Our RP probes are designed around two technologies that excel in the ultra-tough environments of oil and gas exploration: resistive chains and large, buoyant floats. Inside each probe stem is a chain of resistors linked by reed switches, which are opened and closed by the magnet in the float traveling up and down the stem. No amount of physical shaking or bumping can change the state of a resistor, and the floats are designed to provide unimpeded movement in thick, viscous liquids.

**RPE**

1/2" Stem - Industrial Strength Level Probe
Designed with small spaces in mind, the RPE combines a 1/2"-diameter stainless steel stem with unsinkable floats for long-lasting, dependable continuous level readings.

**RPX**

1/2" Stem - Hazardous Location Level Probe
From mud tanks to meat-processing plant waste sumps, and any hazardous location in between, the RPX doesn’t flinch when called to action in challenging environments.

**RPM**

1.25" Stem - Explosion-Proof Liquid Level Probe
The RPM is made to work for you and is completely customizable for your needs including: probe length, float type, specific gravity and outputs.

## WHY IT WORKS: MPI

Our MPI probes carry Class I Division 1 / Class I Zone 0 Intrinsically Safe certifications that are accepted for easy wiring and quick installation nearly worldwide.

**MPI-E**

IS Float Level Transmitter For Small Tanks
With a 0.5"-diameter 316L SS stem that comes in lengths up to 12.75 ft, the MPI-E is built to handle tough environments in small spaces.

**MPI-R**

IS Float Level Transmitter For Large Tanks
The MPI-R’s 1"-diameter 316L SS stem and 31.5 ft max length allow it to bring precision measurement to bigger tanks and thicker liquids.

**MPI-F/B**

IS Flexible Float Level Transmitter
The MPI-F features a 316L SS flexible tubing braided stem that uncoils easily for simple installation in tall tanks.

**MPI-T**

IS Titanium Float Level Transmitter
With a 1"-diameter titanium stem, Class I Div 1 and Class I Zone 0 approvals, and floats that just don’t get stuck, the MPI-T is built to conquer corrosive chemicals and hazardous locations.

**MPI-E Chemical**

IS Float Level Transmitter For Harsh Environments
With a coating to keep the probe safe in corrosive liquids, and Intrinsic Safety ratings, the MPI-E Chemical is perfect for small-scale measurements in big-time nasty environments.

**MPI-F/K**

IS Flexible Float For Very Tall Tanks
The MPI-F/K features a proprietary PVDF-blend flexible stem for easy installation and wiring in the tallest of tall tanks.
**Radar Level Transmitters**

**WHY THEY WORK**

Instead of the physical sound waves used by ultrasonic sensors, radar sensors use electromagnetic waves to measure the distance between the transmitter and the surface of a substance. Thus, they are ideal for measuring difficult materials where there is foam, vapor, or dust that interferes with other noncontact-technology sensors. True Echo™ Radar Level Transmitters have a further advantage in their ability to ignore echoes from identified physical interferences, allowing them to generate a much clearer reading at a much lower power setting.

**PRS**

Dual-Frequency Radar for Solids

The True Echo™ PRS provides accurate level readings of difficult to measure solids: powders, pellets, grains, and granules.

**PRX**

Explosion-Proof

True Echo™ PRX makes getting dependable level readings in Class I, Division 1, and Class II/III, Division 1 hazardous locations simple.

**PRL**

Pulse Radar for Liquids

The True Echo™ PRL provides accurate level readings from all types of liquid level measurement, including oil-water interface measurement via additional firmware.

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**Submersible Pressure Transducers**

**WHERE THEY WORK**

APG’s submersible pressure transducers are incredibly versatile, often used in waste liquids. Their low current draw makes them popular for battery-powered applications. With our pressure transducers, you can get a pressure level reading inside a tank, well, containment vessel, or outside in areas prone to running or standing liquids.

APG’s PT-500 Series Submersible Pressure Transducers are the only transducers on the market with built-in lightning transience protection, Class 1, Division 1 certification, and field-adjustable zero. The PT-500 Series is Tank Cloud compatible for remote monitoring via the internet.

**PT-500-P1**

For Clean Liquids

The PT-500-P1 has a nose cone fitting and is designed for use in clean liquids.

**PT-500-P38/39**

For Mixed Fluids

The patented, welded cage on the PT-500-P38 and P39 is designed to protect the sensitive diaphragm in turbulent and dirty liquids. The cage is either removable and reusable, or permanently welded to the PT-500.

---

**Table: PRS, PRL, PRX Specifications**

<table>
<thead>
<tr>
<th></th>
<th>PRS</th>
<th>PRL</th>
<th>PRX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range</td>
<td>1-17 ft, 1-50 ft, 1-100 ft</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Output</td>
<td>2- and 3-wire 4-20 mA and Hart</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enclosure Protection</td>
<td>IP68, NEMA 6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Table: PT-500-P1 and PT-500-P38/39 Specifications**

<table>
<thead>
<tr>
<th></th>
<th>PT-500-P1</th>
<th>PT-500-P38/39</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output</td>
<td>4-20 mA, Modbus RS-485</td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td>up to 575 ft</td>
<td></td>
</tr>
<tr>
<td>Lightning Protection</td>
<td>Built-in, IEC 61000-4-5</td>
<td></td>
</tr>
<tr>
<td>Body</td>
<td>316L SS</td>
<td></td>
</tr>
<tr>
<td>Nose Cone</td>
<td>Delrin</td>
<td>—</td>
</tr>
<tr>
<td>Cage</td>
<td>—</td>
<td>316L SS</td>
</tr>
<tr>
<td>Certification</td>
<td>Intrinsically Safe - CSA (4-20 mA only)</td>
<td></td>
</tr>
</tbody>
</table>
APG’s pressure sensors use piezoresistive technology to accurately measure the pressure of both liquids and gases. Popular throughout the oil and gas industry, APG’s pressure transducers are used in both process and storage environments. APG’s digital pressure gauges serve as a vital safety tool to control pressure in any process that uses pressurized vessels or lines. With their accurate, easy-to-read design, they are one of the most valuable instruments you can have. Our hammer union pressure transducers are used across the globe for monitoring mud pressure during the drilling process, along with our PT-400 and PT-405 pressure transducers.

**PRESSURE SENSORS**

- Pressure Transducers
- Hammer Union Pressure Transducers
- Submersible Pressure Transducers
- Digital Pressure Gauges

**COMMON APPLICATIONS**

- Oil and Gas
- Tank Level
- Pump Control / Monitoring
- Filter and Control Valve Monitoring
- Hydraulic Weight / Force
- Chemical / Petrochemical
- Pharmacy
- Minerals and Mining
- Water and Wastewater
- Food and Beverage
- Agriculture
- Medical
APG’s Pressure Transducers are engineered and manufactured to provide accurate and reliable pressure measurements everywhere you need them. From protected pump houses to remote tank farms to exposed oil rigs, in commercial, industrial, or hazardous environments, you can depend on APG’s high-precision pressure transducers.

**WHERE THEY WORK**

**PT-400**
For Harsh Conditions & Hazardous Locations
The PT-400 is built for harsh environments, high vibration, high-pressure spikes, and even extended temperature compensation.

**PT-L1/L3/L10**
Amplified Output for General Use
These compact, inexpensive pressure transducers have an amplified output and are great for a wide variety of uses, including OEM applications.

**PT-L9/L13/L14**
Millivolt Output for General Use
These inexpensive, super compact pressure transducers have a millivolt output and fit just about anywhere.

**PT-405**
Explosion-Proof
The PT-405 pressure transducer offers high accuracy and reliability over a wide range of pressures with cCSAus approvals.

**PT-L9/L13/L14**
Explosion-Proof
The PT-405 pressure transducer offers high accuracy and reliability over a wide range of pressures with cCSAus approvals.

**WHERE THEY WORK**

APG’s Hammer Union Pressure Transducers are built for extreme pressure, intense vibration, and rough handling. Designed with a wider top for easy connector access, these sensors also feature large drain holes to keep water from collecting around the electronics.

**HU-1502I**
Intrinsically Safe, Sour Gas Compatible
Combining the toughness you need with a recalibration port, the HU-1502I is field-proven and features corrosion-resistant material alongside welded construction built from the ground up.

**WHERE THEY WORK**

CAGED MODEL AVAILABLE

**PT-400**

<table>
<thead>
<tr>
<th>Range</th>
<th>up to 30,000 psi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output</td>
<td>4-20 mA, 0-5 V</td>
</tr>
<tr>
<td>Accuracy</td>
<td>0.1 % of f.s.</td>
</tr>
<tr>
<td>Enclosure Protection</td>
<td>IP65</td>
</tr>
<tr>
<td>Temperature Range</td>
<td>-40 to 180 °F</td>
</tr>
<tr>
<td>Certification</td>
<td>Intrinsically Safe - CSA, ATEX, IECEx (4-20 mA only)</td>
</tr>
</tbody>
</table>

**PT-405**

<table>
<thead>
<tr>
<th>Range</th>
<th>up to 10,000 psi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output</td>
<td>4-20 mA, 0-5 V</td>
</tr>
<tr>
<td>Accuracy</td>
<td>0.25 % of f.s.</td>
</tr>
<tr>
<td>Enclosure Protection</td>
<td>IP65</td>
</tr>
<tr>
<td>Temperature Range</td>
<td>-40 to 180 °F</td>
</tr>
<tr>
<td>Certification</td>
<td>Explosion-proof - CSA</td>
</tr>
</tbody>
</table>

**PT-L1/L3/L10**

<table>
<thead>
<tr>
<th>Range</th>
<th>up to 10,000 psi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output</td>
<td>4-20 mA, 0-5 V, 0-10 V, RS-485</td>
</tr>
<tr>
<td>Accuracy</td>
<td>0.1 % of f.s.</td>
</tr>
<tr>
<td>Enclosure Protection</td>
<td>IP65</td>
</tr>
<tr>
<td>Temperature Range</td>
<td>-40 to 180 °F</td>
</tr>
<tr>
<td>Certification</td>
<td>Intrinsically Safe - CSA, ATEX, IECEx (4-20 mA only)</td>
</tr>
</tbody>
</table>

**PT-L9/L13/L14**

<table>
<thead>
<tr>
<th>Range</th>
<th>up to 10,000 psi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output</td>
<td>4-20 mA, 0-5 V</td>
</tr>
<tr>
<td>Accuracy</td>
<td>0.1 % of f.s.</td>
</tr>
<tr>
<td>Enclosure Protection</td>
<td>IP65</td>
</tr>
<tr>
<td>Temperature Range</td>
<td>-40 to 180 °F</td>
</tr>
<tr>
<td>Certification</td>
<td>Intrinsically Safe - CSA, ATEX, IECEx (4-20 mA only)</td>
</tr>
</tbody>
</table>

**HU-1502I**

<table>
<thead>
<tr>
<th>Range</th>
<th>up to 20,000 psi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output</td>
<td>4-20 mA, 0-5 V</td>
</tr>
<tr>
<td>Accuracy</td>
<td>0.25 % of f.s.</td>
</tr>
<tr>
<td>Enclosure Protection</td>
<td>IP67/IP65, NACE</td>
</tr>
<tr>
<td>Temperature Range</td>
<td>-40 to 185 °F</td>
</tr>
<tr>
<td>Certification</td>
<td>Intrinsically Safe - CSA, ATEX, IECEx (4-20 mA only)</td>
</tr>
</tbody>
</table>
**DIGITAL PRESSURE GAUGES**

**WHERE THEY WORK**

Monitoring pumps is critical, and gauges installed on or near pumps must be able to handle the associated vibrations. Dial pressure gauges are full of moving parts and small gears easily damaged by over-pressure and vibration, not to mention the reading errors inherent to a dial display. In contrast, each of APG’s digital pressure gauges contain a flexible diaphragm as the sole moving part, so constant vibration hurts neither the gauge, nor the digital readout. Designed to withstand over-pressure, vibration, and even water hammer, our digital pressure gauges are accurate and readable in demanding conditions.

**PG2**
Low-Cost, Indoor/Outdoor Gauge
The PG2 digital gauge comes with auto-off and re-zeroing functions, user-selectable units of measure, and an easy-to-read display.

**PG5**
Full-Feature Indoor Gauge
Serving as the foundation to our PG series of gauges, this full-feature, general purpose gauge is designed for accurate indoor pressure measurements.

**PG7**
Rugged Full-Feature Gauge
The PG7 is a rugged full-feature gauge perfect for indoor and outdoor use.

**PG10**
Large Display Gauge
The PG10 is our feature gauge with a large, 5-digit display, 270° radial bar, and datalogging.

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**DISPLAYS AND CONTROLLERS**

**MDI**
Intrinsically Safe Modbus Display
Cl, Z1 display that can power and control a Cl, Z0 or Cl, Z1 sensor, with optional passive connection to external monitoring network.

**MND**
Modbus Digital Display
Local display that works with up to 10 sensors as a server, client, or power source on any Modbus network.

**DDL**
Large Digital Display
The DDL features 1.8" digits readable from 100 ft with high intensity LEDs for direct sunlight visibility, and a NEMA 4X/IP65 rated enclosure.

**LPD**
Loop-Powered Display
Local display designed to be inserted into a 4-20 mA sensor current loop.

**RST-5003**
Web-Enabled Controller
Connects up to 10 daisy-chained Modbus sensors and one 4-20 mA sensor to Tank Cloud for remote viewing and control.

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**DIGITAL PRESSURE GAUGES**

<table>
<thead>
<tr>
<th>PG2</th>
<th>PG5</th>
<th>PG7</th>
<th>PG10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range</td>
<td>up to 5,000 psi</td>
<td>up to 10,000 psi</td>
<td>up to 30,000 psi</td>
</tr>
<tr>
<td>Output</td>
<td>—</td>
<td>4-20 mA, 0-2 V, 0-5 V</td>
<td>4-20 mA, 0-2 V, 0-5 V</td>
</tr>
<tr>
<td>Accuracy</td>
<td>available 0.3 % of f.s.</td>
<td>available 0.1 % of f.s.</td>
<td>—</td>
</tr>
<tr>
<td>Enclosure Protection</td>
<td>IP65</td>
<td>—</td>
<td>IP65</td>
</tr>
</tbody>
</table>
REMOTE TANK MONITORING

Tank Cloud
Allows you to view measurements from your sensors anywhere you have an internet connection.

1. Connect a Remote Sensor
Connect any 4-20 mA signal sensor or up to 10 daisy-chained APG Modbus sensors to a Tank Cloud controller.

2. Use the Internet Backbone
Connect the Tank Cloud controller to a pre-existing Internet connection via an Ethernet cable - landline, satellite, radio, or cellular.

3. View Measurements Online
Access sensor data online anytime through our secure Tank Cloud portal at levelandflow.com. Here you can see everything you need to know about your measurements and adjust the settings on your sensors.

4. Get Alerts and Long-Term Data
Become further connected to your measurements by programming custom alarms that can be received via email and text, and add datalogging for long-term decisions.

Remote Vendor Managed Inventory System (VMIS)
Tank Minder remote tank vendor management system provides real time tank inventory levels so you receive deliveries based on actual need. Tank Minder measures and transmits tank levels to a secure website, where you can view current and past level measurements, and set level-based delivery alerts.

View Remote Inventory
High performance level sensors are installed on each tank to measure inventory level that is monitored by a local Modbus RTU - Modbus TCP/IP controller so level measurements can be viewed online.

Define Delivery Alerts
With level-based alerts, you are guaranteed to receive inventory deliveries when you need them without having excess or running out. Simply log on to the secure website and use past readings to determine the alert levels you need to set for optimal business operations.
With the mounting and range flexibility of the MNU, the MNU IS brings worry-free level monitoring and remote Modbus controls to hazardous locations.

### MPI Series
Intrinsically Safe Level Probes
The MPI Series brings you everything you already love about our magnetostrictive liquid level probe line now with an intrinsically safe rating.

### MNU IS
Intrinsically Safe Modbus Digital Display
Now you can get APG’s MND local display with an intrinsically safe rating. The display works as a sensor’s power source and display for a complete IS system.

### MND IS
Intrinsically Safe Modbus Sensor
With the mounting and range flexibility of the MNU, the MNU IS brings worry-free level monitoring and remote Modbus controls to hazardous locations.

### PRX
Explosion-Proof Radar Level Transmitter
True Echo™ PRX makes getting dependable level readings in Class I, Division 1, and Class II/III, Division 1 hazardous locations simple.

### PT-405
Explosion-Proof Pressure Transducer
The PT-405 pressure transducer offers high accuracy and reliability over a wide range of pressures with cCSAus approvals.

### DDX
Explosion-Proof Digital Display
Loop- and line-powered explosion-proof display encased in a cast aluminum, FM-rated housing.

Our Intrinsically Safe (IS) sensors perform on such a low current and voltage level that flammable material cannot possibly be ignited. By limiting the energy available within the defined hazardous area, electrical equipment can operate safely even amid hazardous mixtures of gases, dust, and metals.

**HOW THEY WORK**

**IS**

**EXPLOSION-PROOF SENSORS**

- FS 400 p.5
- FS 410 p.5
- FS 500 p.5
- FLX p.6
- MPXI-F p.13
- MPX p.14
- RP p.16
- RPM p.16
- PRX p.17
- PT-405 p.21
- PT-500 p.18
- PT-400 p.21
- HU Series p.22

**EXPLOSION-PROOF SENSORS**

- FS 400 p.5
- FS 410 p.5
- FS 500 p.5
- FLX p.6
- MPXI-F p.13
- MPX p.14
- RP p.16
- RPM p.16
- PRX p.17
- PT-405 p.21

**HOW THEY WORK**

**XP**

The housing of our Explosion-Proof (XP) sensors is strong enough to contain an internal explosion without rupturing, preventing the explosion or flame inside the enclosure causing an explosion in the surrounding atmosphere outside the enclosure. This method is used where it’s impossible to reduce the electrical circuit energy.

**EXPLOSION-PROOF SENSORS**

- FS 400 p.5
- FS 410 p.5
- FS 500 p.5
- FLX p.6
- MPXI-F p.13
- MPX p.14
- RP p.16
- RPM p.16
- PRX p.17
- PT-405 p.21
