At APG, we are dedicated to designing and manufacturing innovative level and pressure sensors to match the application needs of our customers. As part of our dedication to meet your application needs, in 2019 we are releasing two new product lines, Vertical Stainless Steel Float Switches and Side Mount Stainless Steel Float Switches, and intrinsically safe models of two longtime products, the MND IS and MPX IS.

APG has specialized in matching application needs with the right sensing technologies since the early 70’s. 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

Our primary goal at APG is to provide reliable products and solutions to our customers that are backed by exceptional customer service. As part of our customer service efforts, we added an online store at store.apgsensors.com. Now you can quickly check prices, place orders, and view stock all while connected to your current customer account.

Automation Products Group, Inc. (APG) is an ISO 9001:2015 certified manufacturer. With very few exceptions, APG manufactures its sensors from start to finish at our facilities in Logan, UT.
LEVEL SWITCHES

APG's level switches are contact level sensors used for point level measurement of liquids and fluidized solids. Point level sensors are used simply for level indication and are generally used to control pumps and alarms when a specific level must be maintained.

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
**FLOAT SWITCHES**

**HOW THEY WORK**

Float switches work much like a standard light switch, they open and close contacts to control whether or not signal current can pass through to tell level.

**COMING SOON**

**Side Mount Float Switches**

FS-500 Series

**Stainless Steel Float Switches**

**FS-400**

Vertical Stainless Steel Float Switch

All stainless steel wetted materials, operating temperatures up to 500°F, and a switch for VDC and VAC operation.

**FS-410**

Miniature Vertical Float Switch

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

<table>
<thead>
<tr>
<th>Material</th>
<th>FS-400</th>
<th>FS-410</th>
</tr>
</thead>
<tbody>
<tr>
<td>316L SS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max Power</td>
<td>100 W</td>
<td></td>
</tr>
<tr>
<td>Temp. Range</td>
<td>up to 500°F</td>
<td></td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>0.6</td>
<td>0.7</td>
</tr>
</tbody>
</table>
Cable Suspended Float Switches

**KA**
Single Float Switch with up to 4 Levels
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 built-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 built in hysteresis to provide high and low level control that won't wear out your pumps with frequent on/off cycles.

<table>
<thead>
<tr>
<th></th>
<th>FL</th>
<th>FLX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Stem Length</td>
<td>24” or 153”</td>
<td>153”</td>
</tr>
<tr>
<td>Switch Point</td>
<td>up to 7 NO/NC, custom configuration</td>
<td></td>
</tr>
<tr>
<td>Wetted Material</td>
<td>304 SS, 316L SS, Buna</td>
<td></td>
</tr>
<tr>
<td>Certification</td>
<td>General Purpose, Explosion Proof CSA C1D1</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>KA Series</th>
<th>FT-100</th>
<th>FT-300</th>
<th>TLS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cable Length</td>
<td>5 m, 15 m, custom</td>
<td>6 m, custom 5 ft increments</td>
<td>6 m, 12 m, 18 m</td>
<td></td>
</tr>
<tr>
<td>Switch Point</td>
<td>up to 4 NO/NC</td>
<td>1 NO/NC, 1 SPTD</td>
<td>1 NO/NC</td>
<td>NO/NC</td>
</tr>
<tr>
<td>Control Range</td>
<td>—</td>
<td>±1.5”</td>
<td>± 4”</td>
<td>6”-8”</td>
</tr>
<tr>
<td>Certification</td>
<td>CE; CSA General Purpose</td>
<td>General Purpose</td>
<td>—</td>
<td></td>
</tr>
</tbody>
</table>
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.

**LF**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</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 175 to 392° F</td>
</tr>
</tbody>
</table>

**MLS**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<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 and sticky liquids can stop a float switch in its tracks. With few moving parts, only a flexing diaphragm, the NLS pneumatic point level sensor lasts long and is very reliable.

**PWS**

Mini Level Paddle Wheel Switch
The PWS rotating paddle wheel level switch is appropriate for small bins and hoppers with a compact size that fits in tight corners.

**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></th>
<th>NLS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operation</strong></td>
<td>1 SPDT Switch</td>
</tr>
<tr>
<td><strong>Detection Range</strong></td>
<td>8 to 200 in.</td>
</tr>
<tr>
<td><strong>Operating Temperature</strong></td>
<td>-4 - 158°F</td>
</tr>
<tr>
<td><strong>Enclosure Protection</strong></td>
<td>IP42/NEMA 4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>PWS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operation</strong></td>
<td>1 SPDT Switch</td>
</tr>
<tr>
<td><strong>Detection Range</strong></td>
<td>8 to 200 in.</td>
</tr>
<tr>
<td><strong>Adjustable Torque Setting</strong></td>
<td>390 to 630 g/cm</td>
</tr>
<tr>
<td><strong>Enclosure Protection</strong></td>
<td>IP40</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>VBL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operation</strong></td>
<td>1 SPDT switch</td>
</tr>
<tr>
<td><strong>Power Consumption</strong></td>
<td>≤ 15 VA</td>
</tr>
<tr>
<td><strong>Sensitivity Adjustments</strong></td>
<td>High- small particles, Low- large particles</td>
</tr>
<tr>
<td><strong>Enclosure Protection</strong></td>
<td>IP65, NEMA 4</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**

- 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
- Car wash
- Oil and Gas
- Pharmaceutical
- Liquid Interface
- Leachate Tanks
- Lift Stations
- Mud Tanks
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.

### 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.

### MNU

Web 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.

### MNU 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.

### HOW THEY WORK

Ultrasonic sensors measure distance by sending sound waves above 20 Hz that echo off of a target and return to the transmitter. The time it takes the sound burst to return to the sensor is measured and translated into a distance measurement that can be converted into a level indication, volume measurement, or rate of flow by the sensor’s microprocessor.

<table>
<thead>
<tr>
<th></th>
<th>MNU</th>
<th>MNU IS</th>
<th>LOE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Range</strong></td>
<td>Modbus RS-485</td>
<td>Modbus TCP/IP</td>
<td>4 in to 40 ft</td>
</tr>
<tr>
<td><strong>Output</strong></td>
<td>1, 2 or 3 in NPT</td>
<td>2 in NPT</td>
<td></td>
</tr>
<tr>
<td><strong>Certification</strong></td>
<td>Intrinsically Safe CSA C1D1, IECEx, ATEX</td>
<td>CSA C1D2</td>
<td></td>
</tr>
</tbody>
</table>
LPU-2127
Built-in Keypad & Display
The LPU-2127 features a built in keypad and LCD display for easy programming that can be done entirely through the keypad.

IRU-2000
For Object Detection
The IRU-2000 mounts to a flat surface and is ideal for presence/absence detection, object profiling and a variety of other applications.

IRU-6429
Datalogger Compatible
The IRU-6429 features auto-sense software for quick and easy programming, and an excitation for datalogging.

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 and soft surfaces.

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, flow, and volume.

IRU-2420, -3400, -5000
Short, Mid, and Long Range Sensors
Designed with flexibility in mind, these series feature auto-sense software for quick, easy programming in a variety of applications.

<table>
<thead>
<tr>
<th>LPU-2127</th>
<th>LPU-2428</th>
<th>IRU-6429</th>
<th>IRU-2000</th>
<th>IRU-9400</th>
<th>IRU-2420</th>
<th>IRU-3400</th>
<th>IRU-5000</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 25 ft.</td>
<td>1 to 30 ft</td>
<td>1 to 25 ft</td>
<td>1.5 to 50 ft</td>
<td>4 to 79 in</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4-20 mA</td>
<td>0-2.5 V, 0-5V</td>
<td>4-20 mA, RS-485, 2 Trip Points, Solid State Relays</td>
<td>4-20 mA, 2 Trip Points</td>
<td>Isolated 4-20 mA, 4-20mA with 2 NPN Trip Points</td>
<td>0-2.5 V, 0-5 V, 4-20 mA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 in NPT</td>
<td>Surface (4 screws)</td>
<td>2 in NPT</td>
<td>3 in NPT</td>
<td>1 or 2 in NPT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSA C1D2</td>
<td>Intrinsically Safe CSA C1D1</td>
<td>CSA General Purpose</td>
<td></td>
<td>CSA C1D2, CSA General Purpose</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
CONTINUOUS FLOAT LEVEL PROBES

HOW THE MPX WORKS

The MPX Magnetostrictive Liquid Level Probes send electrical pulses that align the molecules to a magnetic field down a metal waveguide in the stem. The magnet in the floats create a competing magnetic field that sends a strain pulse back to the sensor when reached by the electrical pulse. The strain pulse is then used to determine the position of the floats to provide a level measurement.

**MPX-E/R**
Explosion Proof
The MPX-E’s light weight design makes it ideal for applications where space is limited, while the MPX-R’s large, robust floats and stem make it ideal for harsh applications where fouling or build up might be a concern.

**MPX-E Chemical**
Chemical Resistant
With a chemical resistant coating and a Kynar® float, the MPX-E Chemical delivers precision measurements in corrosive, acidic and marine environments.

**MPX-F**
Flexible Stem
The MPX-F features a 316L SS flexible tubing braided stem that uncoils easily for simple installation in tall tanks.
HOW THE RP WORKS

The RPM Resistive Liquid Level Sensors have a magnetic float that travels up and down the sensor stem to close contained reed switches that change the resistance of the sensor. The change in resistance causes a voltage fluctuation that is directly proportional to the float position, providing a level reading.

RP-E/X

1/2" Stem - Liquid Level Probe for Hazardous Locations

Every bit as durable as it’s bigger brother, the RPM, the RP with 1/2" stem is designed for smaller tanks, up to 6 ft. in height.

RPM

1" 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.

<table>
<thead>
<tr>
<th></th>
<th>MPX-E/R</th>
<th>MPX-E Chemical</th>
<th>MPX-F</th>
<th>RP-E</th>
<th>RP-X</th>
<th>RPM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max Length</td>
<td>Custom</td>
<td>12.75 ft</td>
<td>32 ft</td>
<td>6 ft</td>
<td>20 ft</td>
<td></td>
</tr>
<tr>
<td>Stem</td>
<td>304 SS or 316L SS</td>
<td>1/2” 316L SS with coating</td>
<td>7/8” ø Flexible Tubing with Braid, 316L SS</td>
<td>304 SS, 316L SS</td>
<td>316L SS</td>
<td></td>
</tr>
<tr>
<td>Output</td>
<td>RS-485 Modbus, 4-20 mA Loop Powered</td>
<td>Resistive, 4-20 mA Loop-Powered</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mount</td>
<td>NPT, Flange, No Mount</td>
<td>NPT</td>
<td>NPT, Flange, No Mount</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Certification</td>
<td>Explosion Proof CSA C1D1, Intrinsic Safety Pending</td>
<td>C1D2</td>
<td>—</td>
<td>Explosion Proof or Intrinsically Safe CSA C1D1, ATEX</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
RADAR LEVEL TRANSMITTERS

HOW THEY WORK

Radar sensors calculate level based on the time difference between low-energy, high-frequency impulses sent by the sensor and returned to the sensor after reflecting off of the measured surface. They are ideal for measuring difficult materials where there is foam, vapor, or dust that interferes with other non-contact sensors.

**PRS**
Dual Frequency Radar for Solids
The True Echo™ PRS provides accurate level readings of difficult to measure solids - powders, pellets, grains, and granules.

**PRSW**
For Standing Water
The True Echo™ PRSW has dual frequencies to allow quick and accurate readings of the complex reflection off uncontrolled standing and rising water surfaces.

**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.

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

NEW!

apgsensors.com
HOW THEY WORK

APG’s submersible pressure transducers read in feet or inches of liquid that are converted to PSI. They use piezoresistive principles to monitor pressure, just like our other pressure transducers.

APG’s PT-500 Series Submersible Pressure Transducers are the only transducers on the market with built-in lightning 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
For Mixed Fluids
The PT-500-P38 has a choice of patented removable, reusable or fixed, welded cage, and is designed for use in caustic, turbulent, and dirty liquid.

<table>
<thead>
<tr>
<th></th>
<th>PT-500-P1</th>
<th>PT-500-P38</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 450 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 C1D1/C1D2 (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. APG pressure transducers are used throughout industry in both process and storage environments and are popular in the oil and gas industry.

APG’s digital pressure gauges serve as a vital safety tool to control pressure in any process that uses pressurized vessels or lines, and when used right are one of the most valuable instruments you can have.

**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
**PRESSE TRANSDUCERS**

**HOW THEY WORK**

APG’s pressure transducers use piezoresistive principles to monitor pressure. The sensors contain a sensing element that is attached to a diaphragm. As the diaphragm flexes from pressure, the sensing element changes relative to pressure to provide a basis for measure.

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

<table>
<thead>
<tr>
<th></th>
<th>PT-400</th>
<th>PT-405</th>
<th>PT-L1/L3/L10</th>
<th>PT-L9/L13/L14</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Range</strong></td>
<td>up to 30,000 psi</td>
<td>up to 10,000 psi</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Output</strong></td>
<td>4-20 mA, Voltage, Modbus</td>
<td>4-20 mA, 0-5 V, 0-10 V, RS-485</td>
<td>4-20 mA, 0-5 V, 0-10 V</td>
<td>mV/V</td>
</tr>
<tr>
<td><strong>Accuracy</strong></td>
<td>0.1 % of f.s.</td>
<td>0.25 % of f.s.</td>
<td>0.1 % of f.s.</td>
<td></td>
</tr>
<tr>
<td><strong>Enclosure Protection</strong></td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td><strong>Temperature Range</strong></td>
<td>—40 to 180 F</td>
<td>—40 to 180 F</td>
<td>—40 to 180 F</td>
<td>—40 to 180 F</td>
</tr>
<tr>
<td><strong>Certification</strong></td>
<td>Intrinsically Safe CSA C1D1, ATEX, IECEx (4-20 mA only)</td>
<td>CSA C1D1; Explosion Proof</td>
<td>CSA C1D1; Explosion Proof</td>
<td>—</td>
</tr>
</tbody>
</table>
Hammer Union Pressure Transducers

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

**HU-1502I**
Intrinsically Safe, Sour Gas Compatible
The toughness you need in a Hammer Union now with a recalibration port!

**HU-1502**
Built Tough for Oil & Gas Applications
The HU-1502 has a 1502 fitting and is certified for global use in hazardous locations for pressures up to 15,000 psi.

**HU-2202**
Durability in a Smaller Package
The HU-2202 is available with a 2002 or 2202 fitting and is certified for global use in hazardous locations for pressures up to 20,000 psi.

<table>
<thead>
<tr>
<th></th>
<th>HU-1502I</th>
<th>HU-1502</th>
<th>HU-2202</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Range</strong></td>
<td>up to 20,000 psi</td>
<td>up to 15,000 psi</td>
<td>up to 20,000 psi</td>
</tr>
<tr>
<td><strong>Output</strong></td>
<td></td>
<td>4-20 mA, 0-5 V</td>
<td></td>
</tr>
<tr>
<td><strong>Accuracy</strong></td>
<td>≤ 0.25 % of f.s.</td>
<td>0.25 % of f.s.</td>
<td>0.25 % of f.s.</td>
</tr>
<tr>
<td><strong>Enclosure Protection</strong></td>
<td>IP67/IP65, NACE</td>
<td>IP68, NACE</td>
<td>IP68, NACE</td>
</tr>
<tr>
<td><strong>Temperature Range</strong></td>
<td></td>
<td>-40 to 185° F</td>
<td></td>
</tr>
<tr>
<td><strong>Certification</strong></td>
<td></td>
<td>Intrinsically Safe CSA C1D1, ATEX, IECEx (4-20 mA only)</td>
<td></td>
</tr>
</tbody>
</table>
**DIGITAL PRESSURE GAUGES**

**HOW THEY WORK**

APG’s digital pressure gauges contain a pressure transducer that provides readings to the attached digital display in the unit of measure of your choosing (psi, kPa, mmHg, cmHg, mbar, bar, inH_2O, ftH_2O, kg/cm²), while adjusting for additional activated features. The full-feature PG gauge platform includes tare, peak hold, and max/min functions standard (PG2 not included).

**PG2**

Low-Cost, Indoor/Outdoor Gauge

The PG 2 is our base-line digital gauge 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 general purpose, full-feature 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, datalogging, and optional solid-state or SPDT mechanical relays.

<table>
<thead>
<tr>
<th></th>
<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>
<td>up to 10,000 psi</td>
</tr>
<tr>
<td>Output</td>
<td></td>
<td>4-20 mA, 0-2 V, 0-5 V</td>
<td>available 0.1 % of f.s.</td>
<td>—</td>
</tr>
<tr>
<td>Accuracy</td>
<td>available 0.5 % of f.s.</td>
<td>available 0.1 % of f.s.</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Enclosure Protection</td>
<td>IP65</td>
<td>—</td>
<td>—</td>
<td>IP65</td>
</tr>
</tbody>
</table>
**DISPLAYS & CONTROLLERS**

- **RST-5003**
  - Web Enabled Controller
  - Connects up to 10 Modbus sensors in a daisy-chain network or a single 4-20 mA sensor to Tank Cloud.

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

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

- **DDD/DBD**
  - Din Mounted Digital Display
  - Din Mounted Digital Bright Displays provide highly configurable, 2 line displays with NEMA 4X / IP65 front facing ratings.

- **DDL**
  - Large Digital Display
  - The DDL features 1.8” digits readable from 100 ft with standard high intensity LED’s for direct sun visibility, and a NEMA 4X / IP65 rated enclosure.

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

**IS MODELS COMING SOON**

<table>
<thead>
<tr>
<th></th>
<th>MND</th>
<th>LPD</th>
<th>RST-5003</th>
<th>DDD/DBD</th>
<th>DDL</th>
<th>DDX</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Input</strong></td>
<td>RS-485 Modbus</td>
<td>4-20 mA</td>
<td>Modbus, 4-20 mA, 0-2 Switches</td>
<td>4-20 mA, 0-10 V DC</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Output</strong></td>
<td>4-20 mA, 0-5 V, Trip Points</td>
<td>4-20 mA</td>
<td>Modbus, TCP/IP, 2 Relays, 0-2 Isolated SSR</td>
<td>up to 4 relays, Isolated 4-20 mA</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mount</strong></td>
<td>Handheld, Panel, Wall</td>
<td></td>
<td>Din Rail</td>
<td>Din Rail</td>
<td>Panel, Wall</td>
<td></td>
</tr>
<tr>
<td><strong>Enclosure Protection</strong></td>
<td>IP67</td>
<td>IP67/IP68</td>
<td>—</td>
<td>—</td>
<td>IP65</td>
<td></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 master.

2. Use the Internet Backbone
Connect the Tank Cloud master 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 can even program 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 data-logging for long-term decisions.
Tank Minder
Remote Vendor Managed Inventory System (VMIS)
Tank Minder remote tank vendor management system provides real-time tank inventory level 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 ultrasonic level sensors are installed on each tank to measure inventory level that is transmitted to an RST-5003 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 set an alert at the levels you need.

Tank Mesh Wireless
Scalable and Customizable Telemetry Solutions
Built on 900 MHz radios, Tank Mesh sentinels and stick transceivers can transmit signals from analog or digital sensors up to 0.5 and 3-4 miles, respectively. Additionally, Tank Mesh networks can be connected to the online Tank Cloud data portal by integrating a Tank Cloud master into the network.
HOW THEY WORK

Intrinsically Safe (IS) sensors are designed and wired to work on such a low current and voltage that it cannot possibly ignite flammable material. By limiting the energy available within the defined hazardous area, electrical equipment can operate safely even amid hazardous mixtures of gases, dust, and metals.

COMING SOON

MPX IS
Intrinsically Safe Level Probe
The MPX IS brings you everything you already love about our magnetostrictive liquid level probe line now with an intrinsically safe rating.

MND 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.

MNU 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.
EXPLOSION PROOF

**HOW THEY WORK**

Explosion Proof sensors are contained within a housing that is strong enough to contain a flame or an explosion. This method is used where it is impossible to reduce the electrical circuit energy.

**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.

**PT-405**
Explosion Proof

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.