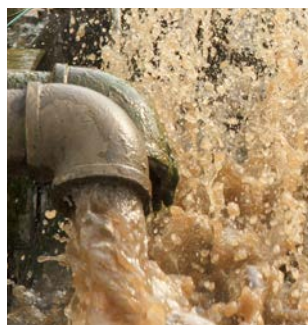




APG[®]

2018 Product Catalog

Spring



Dear Friends,

Thanks for picking up our Spring 2018 Product Catalog. 2018 is shaping up to be a great year for APG, and you are a big part of that. So, we want to share our excitement with you.

First, we are pleased to introduce to you two new product lines and two new additions to familiar product families. APG now has a new line of True Echo™ Pulse Radar Level Transmitters. These radar sensors bring the accuracy and dependability you rely on APG for, to new situations including: solids, foamy or vaporous liquids, rising flood waters, and oil water interface level detection.

Additionally, we are expanding our Displays and Controllers lineup to include new Digital Displays, available in three specific styles—the Din Mounted Digital Display, the Large Digital Display, and the Explosion Proof Digital Display—with input and output options across all three series. We have also expanded our Modbus-capable, hazardous location-rated sensors with two new products: The Explosion Proof, Heavy Duty Pressure Transducer, PT-405 and the Intrinsically Safe, Modbus Network Ultrasonic Level Sensor, MNU-IS.

Second, many of you are already familiar with our Tank Cloud services. APG is now offering Tank Minder, a Remote Vendor Managed Inventory System (VIMS) for just-in-time delivery or pickup of bulk materials. Rather than guess at usage schedules, or try to anticipate future needs, you can set alert levels based on up to the minute level measurements to automatically trigger deliveries or pickups, taking the guesswork out of bulk inventory management.

At APG, we know that we won't be successful if you aren't successful. Our Measurement Experts are always ready to help you find the right measurement technology solution. We continue to look for new ways to help you get your job done more reliably.

Here's to on-going, mutual success. And thank you for doing business with APG!

Sincerely,

Stan Ronna
President





About APG

Automation Products Group, Inc. (APG) is a supplier of innovative and differentiated products, solutions, and services for industrial process measurement and control. Technologies include pressure, flow, level control, analytics, and dedicated flexible control, using state of the art methodologies. Our customers include OEM's, integrators, distributors, and end users. APG's goal is to provide reliable products and solutions supported with exceptional customer service.

We specialize in matching application needs with the right sensing technologies for end-users and OEMs. We provide a wide range of technologies, field-configurable sensors, exceptional customer service, and custom product modifications.

Our sensors have been used in many industries, and in many applications. Most notably, our liquid level and pressure sensors have had huge success for OEM market leaders in Oil and Gas, Automatic Car Wash, Water and Wastewater, and medical industries, and have been staples for end-user manufacturers everywhere.

Today, Automation Products Group, Inc. is privately held. We are a growing company dedicated to providing high quality, highly functional sensors to our customers with exceptional service and knowledgeable engineering.

You can reach us by calling 435-753-7300, starting a live chat on our website, or by emailing us at sales@apgsensors.com.

Visit us online at www.apgsensors.com.



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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.

The True Echo™ Pulse Radar Level Transmitters automatically adjust signal power for optimal accuracy and clarity. With echo masking and damping factors programmable via software, getting dependable level readings from difficult materials is simple.

PRS

For Solids

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

PRL

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.

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.



	PRS	PRL	PRSW	PRX
Range	1'-50' or 1'-100'			
Output	Isolated 4-20 mA			
Enclosure Protection	IP68, NEMA 6		IP65, NEMA 4x	

Ultrasonic Level Sensors



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.

LOE

Web Enabled Sensor & Controller

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



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.



MNU-IS Series

Intrinsically Safe Modbus Sensor

With all of the mounting and range flexibility of the MNU, the MNU-IS brings worry-free level monitoring and remote Modbus controls to hazardous locations.



IRU-2000 Series

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.



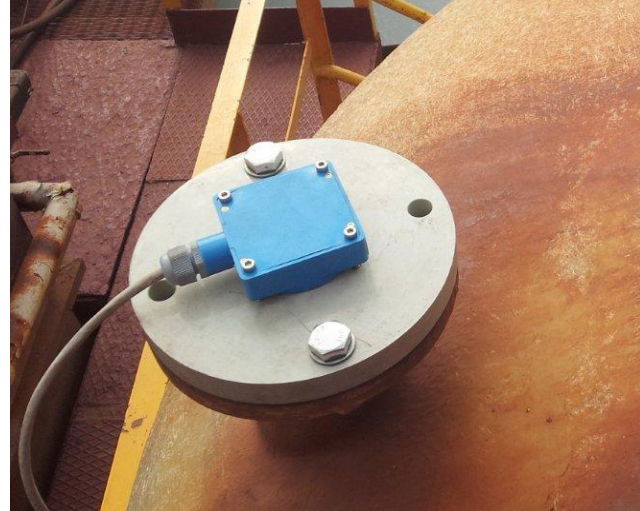
MNU Series

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.



	LPU-2127	LPU-2428	LOE
Range	1 to 25 ft.		4 in to 40 ft
Output	4-20 mA		Modbus TCP/IP
Mount	2 in NPT		1, 2 or 3 in NPT
Certification	CSA C1D2	Intrinsically Safe CSA C1D1	CSA C1D2



IRU-9400 Series

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-6420

Datalogger Compatible

The IRU-6429 features autosense software for quick and easy programming, and an excitation for datalogging.



IRU-2420, -3400, -5000 Series

Short, Mid, and Long Range Sensors

Designed with flexibility in mind, this series features autosense software for quick, easy programming in a variety of applications.



MNU	MNU-IS	IRU-6429	IRU-2000	IRU-9400	IRU-2420	IRU-3400	IRU-5000
4 in to 40 ft		1 to 30 ft	1 to 25 ft		1 to 25 ft	1.5 to 50 ft	4 to 79 in
Modbus RS-485		0-2.5 V, 0-5V	4-20 mA, RS-485, 2 Trip Points, Solid State Relays	4-20 mA, 2 Trip Points	4-20 mA		0-2.5 V, 0-5 V, 4-20 mA
1, 2 or 3 in NPT		2 in NPT	Surface (4 screws)	2 in NPT	2 in NPT	3 in NPT	1 or 2 in NPT
C1D2 Pending	Intrinsically Safe CSA C1D1, IECEx ATEX	—	CSA General Purpose	CE; CSA C1D2	CE; CSA C1D2		

Continuous Float Level Probes

How The RPM Series 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.

There is little that can disrupt the operation or accuracy of the RPM liquid level probe. It is built for heavy-duty applications that require ATEX/IECEX, CSA intrinsic safety, or CSA explosion proof certifications. It's commonly referred to in the field as a mud probe, one of the most demanding applications around.

RPM

Simple Liquid Level Probe for Hazardous Locations

The RPM is made to work for you and is completely customizable for your needs including: probe length, float type, specific gravity and outputs.



	MPX-E/R	MPX-E Chemical	MPX-F	RPM
Max Length	Custom	12.75 ft	32 ft	20 ft
Stem	304 SS or 316L SS	1/2" 316L SS with coating	7/8" \varnothing Flexible Tubing with Braid, 316L SS	316L SS
Output	RS-485 Modbus, 4-20 mA Loop Powered			Resistive, 4-20 mA Loop-Powered
Mount	NPT, Flange, No Mount	NPT	NPT, Flange, No Mount	
Certification	Explosion Proof CSA C1D1			Explosion Proof or Intrinsically Safe CSA C1D1, ATEX

How The MPX Series 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 Magnetostrictive Liquid Level Probes provide highly accurate and repeatable liquid level readings - including dual level readings. They are ideal for both interface level measurement and total volume measurement, and are Tank Cloud compatible for remote 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.



MPX-E/R



MPX-E
Chemical



MPX-F

Float Level 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.



Cable Suspended Float Switches

KA Series

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.



	KA Series	FT-100	FT-300	TLS
Cable Length	5 m, 15 m, custom	6 m, custom 5 ft increments		6 m, 12 m, 18 m
Switch Point	up to 4 NO/NC	1 NO/NC, 1 SPTD	1 NO/NC	1 NO/NC
Control Range	—	±1.5"	± 4"	6"-8"
Certification	CE; CSA General Purpose	General Purpose		—

Stem Mounted Float Switches

FL Series

Custom Point Level Control

The FL series multi-point level switch has up to seven switch points custom configured along a single mount for linear level measurement in tight spaces. Everything on this sensor is made-to-order from switch configurations to float types and materials.



FLX Series

Explosion Proof Point Level Control

Every bit as customizable as the FL series, th FLX is the float switch for use in hazardous locations considered Class 1 Division 1 or 2 areas by CSA for North America. Place up to seven NO/NC switch points wherever needed along the stem customized to your application.

	FLX Series	FL Series
Max. Stem Length	24" or 153"	153"
Switch Point	up to 7 NO/NC, custom configuration	
Material	316L SS, PVC, and more	
Certification	General Purpose, Explosion Proof CSA C1D1	



Pressure 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.



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 an optional halo cage.

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.



	HU-1502	HU-2202	PT-400
Range	up to 15,000 psi	up to 20,000 psi	up to 30,000 psi
Output	4-20 mA, 0-5 V		4-20 mA, Voltage, Modbus
Accuracy	0.25 % of f.s.		0.1 % of f.s.
Enclosure Protection	IP68, NACE		—
Temperature Range	-40 to 185 F		-40 to 180 F
Certification	Intrinsically Safe CSA C1D1, ATEX, IECEx (4-20 mA only)		CSA C1D1

PT-400 Series

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



PT-L9/L13/L14 Series

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



PT-405 Series

Explosion Proof

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



PT-200 Series

High Performance at Low Cost
The PT-200 series are rugged, general purpose sensors that offer reliable and accurate measurements under harsh conditions.



PT-L1/L3/L10 Series

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	PT-L1/L3/L10	PT-L9/L13/L14	PT-200
up to 30,000 psi		up to 10,000 psi	
4-20 mA, 0-5 V, 0-10 V, RS-485	4-20 mA, 0-5 V, 0-10 V	mV/V	4-20 mA
0.25 % of f.s.		0.1 % of f.s.	0.5 % of f.s.
	—		IP65
	-40 to 180 F		14 to 212 F
CSA C1D1	—		CE; CSA C1D2

Submersible Pressure Transducers

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-510 Series Submersible Pressure Transducers offer reliability in harsh industrial conditions. The small size, and all welded, all stainless steel body make this durable instrument perfect for static and dynamic pressure measurement and OEM applications.

PT-510

For Clear Liquids

The PT-510 features a removable nose cone for measurement in clean liquids.

PT-510W

For Wastewater

The PT-510W features a welded steel cage that is suitable for wastewater measurements.



	PT-500-P1	PT-500-P30	PT-510	PT-510W
Output	4-20 mA, Modbus RS-485		4-20 mA	
Range	up to 450 ft		up to 46 ft	
Lightning Protection	Built-in, IEC 61000-4-5		—	
Mount	NPT, Flange, No Mount		NPT	NPT, Flange, No Mount
Body	316L SS		Welded 18-8 SS	
Nose Cone	Delrin		Removable PVC	
Cage	—	316L SS	—	Welded 18-8 SS
Certification	Intrinsically Safe CSA C1D1/C1D2 (4-20 mA only)		—	



APG's PT-500 Series Submersible Pressure Transducers are the only ones 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-P30

For Mixed Fluids

The PT-500-P30 has a choice of patented removable, reusable or fixed, welded cage, and is designed for use in caustic, turbulent, and dirty liquid.



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 inH₂O, ftH₂O, 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).

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 our most rugged full-feature gauge, with an IP67 rating it is perfect for indoor and outdoor use.



PG10

Large Display Gauge

The PG10 is our additional feature gauge with a large, 5-digit display, 270° radial bar, datalogging, and optional solid-state or SPDT mechanical relays.



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.



	PG2	PG5	PG7	PG10
Range	up to 5,000 psi	up to 10,000 psi	up to 30,000 psi	up to 10,000 psi
Output	—	—	4-20 mA, 0-2 V, 0-5 V	—
Accuracy	available 0.5 % of f.s.	—	available 0.1 % of f.s.	—
Enclosure Protection	IP65	—	IP67	IP65
Certification	—	—	CE	—

Displays and 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.



DDD/DBD

Din Mounted Digital Display

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



MND

Modbus Digital Display

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



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.



LPD

Loop-Powered Display

Local display designed to be inserted into a 4-20 mA sensor current loop.



DDX

Explosion Proof Digital Display

Loop- and line-powered explosion-proof display encased in a cast aluminum FM rated housing.



	MND	LPD	RST-5003	DDD/DBD	DDL	DDX
Input	RS-485 Modbus	4-20 mA	Modbus, 4-20 mA, 0-2 Switches	4-20 mA, 0-10 V DC		
Output	4-20 mA, 0-5 V, Trip Points	4-20 mA	Modbus, TCP/IP, 2 Relays, 0-2 Isolated SSR	up to 4 relays, 4-20 mA		
Mount	Handheld, Panel, Wall		Din Rail	Din Rail	Panel, Wall	
Enclosure Protection	IP67		—	IP65		

Remote Tank Monitoring

Tank Cloud Masters

- LOE p.5
- RST-5003 p. 16

Tank Cloud Slaves

- MNU p.5
- MNU-IS p. 5
- MPX p. 8
- PT-400 p.12
- PT-405 p.12
- PT-500 p.14

Tank Cloud

View measurements from your sensors anywhere you have an internet connection with Tank Cloud.

How it works:

1 Connect a Remote Sensor

Connect any 4-20 mA signal sensor or up to 10 daisy-chained APG's 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 24/7

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 monitors tank levels in real-time so you can get inventory 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. The system consists of MNU ultrasonic level sensors that take individual tank measurements, MND digital displays that show local readings, and a control box that contains everything needed to receive the sensor measurements and display them at levelandflow.com.

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.

View Remote Inventory

High performance ultrasonic level sensors installed on each tank to measure inventory level and transmit them to an RST-5003 controller level measurements can be viewed online.

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 .05 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.





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