Flow Sensors

CONTINUOUS FLOW SENSORS (Electronic)

RotorFlow®

These highly visible, paddle wheel designs offer accurate visual indication, flow rate sensing and switching. The visual indication is combined with a choice of either pulsed DC output 0-10V DC analog or adjustable 1 Amp switched output. Available with brass, stainless steel or hydrolytically-stable polypropylene housings. Line sizes: 1/4″ to 1″ (.64 to 2.5 cm). Adjustable settings: 0.1 to 60 GPM (.38 to 227 l/m).

TurboFlow®

Ultra-compact TurboFlow® low flow rate sensors provide continual measurement ranging from 0.1 to 8 GPM (0.5 to 30 lpm). Their Hall-effect sensor delivers accuracy to ±3 % of reading and 0.5 % repeatability. Lightweight, they mount in any position. Incorporate flow sensing into custom assemblies with the tiny TurboFlow® Insert.

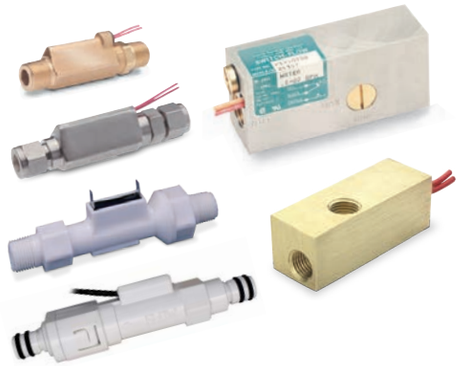
TurboFlow® sensors

Tiny TurboFlow® insert

POINT FLOW SWITCHES

Piston

Proven piston switch technology delivers high repeatability and precise calibration for liquids or gases. Fixed setpoints range from a low 50 cc/min to 1.5 GPM (5.7 l/m); adjustable version features setting of 0.5 to 20 GPM (2 to 76 l/m). Special capabilities include viscosity compensation, and high pressure handling to 1,500 PSIG (103 bar). Brass, plastic or stainless steel bodies.



Shuttle

For monitoring water and oil—in line sizes 3/4″ to 3″. They are accurate with 1% repeatability and low-pressure drop. Plastic, bronze, stainless steel and marine grade housings. Fixed settings from 0.5 to 100 GPM (1.9 to 378.5 l/m); adjustable settings from 0.75 to 15 GPM (2.8 to 56.8 l/m).

Paddle

Flow/No-Flow detection for pipes with 1-1/4″ (3 cm) diameter and up. Paddles are cut to length for desired actuation setting (from 1-1/4″ to 5-1/2″ (3 to 14 cm). Unique, patented cam design assures low pressure drop and does not require bellows, seals or mechanical linkages.

NO MOVING PARTS

FS-600 Series features solid-state thermal dispersion technology to provide reliable flow switch operation even without filtration. They are compatible with both conductive and non-conductive fluids. A straight-through design makes the FS-600 ideally suited for fluids with particulates or slurries, or alternating media viscosity.

Level Sensors

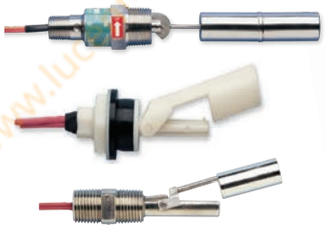
FLOAT

Gems Sensors offers the broadest selection of float-type level switches anywhere. Using a proven reed switch design, float type switches deliver long, trouble-free service with precise repeatability. Available in single point and multi-point configurations for monitoring up to six levels with a single unit.

top or bottom mounting

multi-point single point

side mounting single point



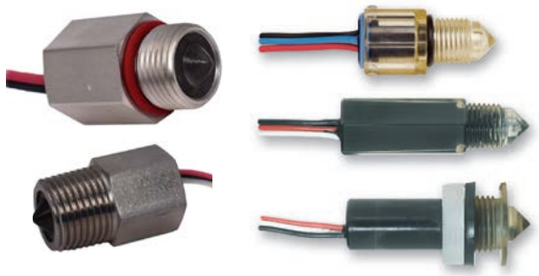
high purity – PTFE and PVDF resist build-up of foreign material for ultra-pure fluids

SPECIAL PURPOSE

Includes bent stems, slosh shields, temperature sensing, siphon tubes and many others.

ELECTRO-OPTIC

These compact electro-optic liquid level sensors feature a small footprint for anywhere space is at a premium. Solid-state switching delivers dependability over a long service life.



CONDUCTIVITY

These single- or multi-point sensors have no moving parts. Stainless steel electrodes can be cut to desired length. Team with Gems Sensors conductivity controls to provide alarm, pump-up or pump-down control in electrically conductive liquids.

Water-in-Fuel

This solid-state sensor is an innovative, no-moving-parts solution specifically designed to detect the presence of water in fuel tanks and filters. An ideal solution for off-highway vehicles, locomotive and generator sets.

WIF-1250

Hazardous Environment

Warrick CP Control Panels are ideal for hazardous atmospheres and have NEMA-1, NEMA-4 and NEMA-4X ratings. The control panels interface with a variety of sensors including level and flow switches and Warrick® conductance probes.

Level Sensors

CAPACITANCE

An excellent choice for turbulent or coating liquids, Gems Sensors offers multiple solid-state capacitance point level switches, including non-contact versions.

ULTRASONIC XLS-1

XLS-1 level switches are compatible with water-and hydrocarbon-based liquids. Perfect for applications where condensation may affect other sensing technologies.

- Zero maintenance
- Ignores condensation on sensor
- Will not sense foam as liquid

GUIDED WAVE RADAR

Gems Sensors RLI-G Guided Wave Radar Level Sensor is a no-moving parts continuous level sensor with advanced radar level sensing technology.

- Installation flexibility: Self configures to media dielectric constant
- LCD display module: Comes with a plug-in module to assist in programming & displaying values
- Time Domain Reflectometry (TDR): Pulses are sent down the probe at the speed of light
- Multiple sensing & probe options: For a wide range of applications

FLOAT

Standard lengths offer measurement from a few inches (centimeters) to 18 feet (5.5 m). Choose from a variety of materials for mountings, stems and floats that includes PVC, polypropylene, PVDF, stainless steel, brass and Buna N. Signal conditioning provides outputs of 4-20 mA, 0-5 VDC and 0-12 VDC.

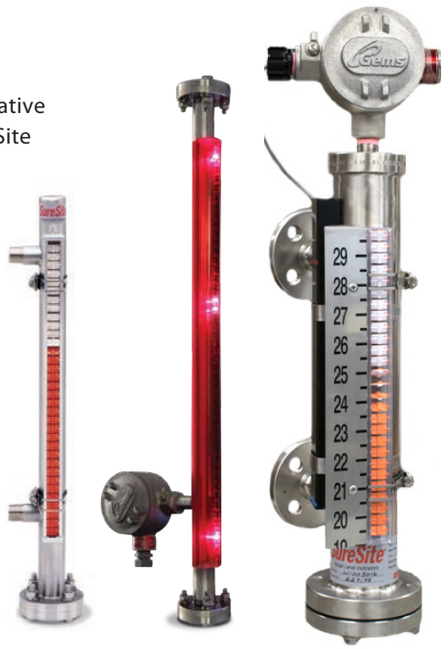
VISUAL INDICATORS

DipTape™ and DrumTape™

Pop the cap, pull the tab — and up comes the tape to tell you exactly how much liquid remains in the tank or drum. Ideal for hazardous areas, indicators are non-electric, plus liquids and vapors remain sealed from the atmosphere. DIPTAPE indicators: designed for tanks; DRUMTAPE indicators: fit 30 or 55 gallon storage drums. Available in alloy, all PVC and engineered plastic versions.

SureSite®

A more durable and safer alternative to breakable sight glasses. SureSite visual level indicators feature stainless steel, alloy or engineered plastic housings that mount externally to top or sides of tanks to provide easy-to-read, continuous level gauging. Magnetic flags flip to change color as an internal float moves with the liquid surface. Optional switches, transmitters and scales increase control capabilities. Available in alloy and engineered plastic. LED version available for low-light environments.



Pressure Sensors

PISTON/DIAPHRAGM & SEALED PISTON

SWITCHES

Gems Sensors offers a choice of pressure switches, from compact cylindrical models for OEM use, to larger enclosed units for rugged process applications. A piston/diaphragm design, incorporating the high proof pressure of piston technology allows these switches to operate with the sensitivity and accuracy of a diaphragm design. Repeatability ranges from 0.2 to 2% of the highest set point. Enclosures include aluminum, stainless steel, baked-on enamel coating, reinforced plastic and zinc-plated steel. All are NEMA4 or NEMA4X certified.

CAPACITIVE

TRANSDUCERS

Capacitive transducers are simple, durable and fundamentally stable. Variable capacitor technology, a rugged physical configuration, stainless steel wetted parts and a careful marriage of the mechanical assembly to the electronic circuitry combine to create highly repeatable transducers with low hysteresis and only .5% long-term-drift full scale per year, for low pressure applications. This large family of sensors includes models for positive pressures to 10,000 psi (700 bar), absolute vacuums, differential pressures, barometric pressure, low pressures (0-15 psi/ 0-1 bar), and clean-in-place 3A sanitary applications.

SOLID-STATE

SWITCHES

3600 Series

Communications Interface for field programming

Offering exceptional accuracy and stability, these solid-state switches employ sophisticated sputtered thin film sensors. They provide excellent repeatability in high shock and vibration environments, and are superior to mechanical switches in high frequency cycling applications. An optional Communications Interface enables Set Point, Reset Point, and Time Delay programming in the field.

SUBMERSIBLE

TRANSDUCERS

2600 Series **3700 Series** **9600 Series**

9600 Series pressure transducers meet the rigorous conditions for ground water monitoring with Hastelloy® and 318 SS wetted parts. The 3700 Series is optimized for low power consumption for battery-powered remote monitoring. They feature hermetic headers and a fully potted cable assembly to ensure long service life when immersed. Suitable for both clean and salt water applications. The 2600 series feature an all welded stainless steel back end for demanding submersible applications.

Pressure Sensors

SPUTTERED THIN FILM

Sputtered thin film technology provides years of worry-free measurements under demanding real-world conditions. Sputtered metallic strain gauge sensors have terrific thermal properties and superior stability specifications. Ideal for harsh applications demanding long-term service where precise laboratory-type measurements are required.

4000 Series — The King of Stability: just 0.06% drift per year (non-cumulative). A broad range of models include submersible, high temperature, and weather proof versions.

- **3100 Series** — Delivers an output signal for both temperature and pressure, providing full scale accuracy of 0.25% and long term drift to just 0.1% over the full scale per year. Unbeatable price to performance ratio in a compact package.
- **3200 Series** — Features thicker diaphragm and pressure snubber to withstand pressure spikes and cavitation.
- **31IS/32IS Series** — Intrinsically safe variants. ExII 1G; Ex ia IIBt4 Ga; ATEX Certified.
- **31CS/32CS Series** — CSA Certified intrinsically safe variants.
- **31EP/EA and 32EP/EA Series** — CSA and ATEX approved explosion-proof variants.

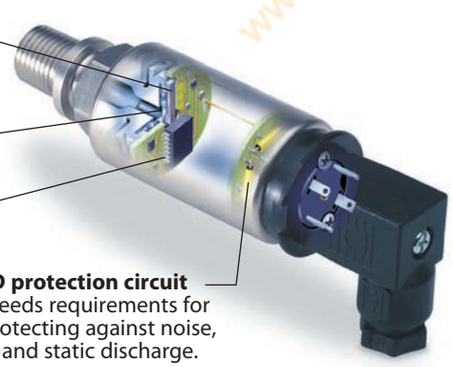
CHEMICAL VAPOR DEPOSITION

Gems Sensors Chemical Vapor Deposition (CVD) pressure transducers provide an effective method of overcoming the often severe limitations of other low-cost pressure measuring products. A state-of-the-art ASIC chip in each transducer provides greater linearity correction than traditional thermal compensation methods.

CVD Sensor
Stability and high sensitivity allow use of our thicker diaphragm. 17-4 PH SS sensor beam is laser welded for distortion-free construction.

Thicker Diaphragm
Handles pulsating pressures—all stainless steel wetted parts.

ASIC Chip
Programmability provides greater linearity correction than common thermal compensation methods.



RFI/EMI & ESD protection circuit
Meets and exceeds requirements for CE marking. Protecting against noise, voltage spikes and static discharge.

2600 Series

2200 Series

- **1200/1600 Series** — 4X full-scale proof pressure. Typical 0.5% full-scale accuracy.
- **2200/2600 Series** — 2X full-scale proof pressure. Typical 0.25% full-scale accuracy.
- **6000 Series** — 5 to 1 turndown. Typical 0.15% full-scale accuracy.

LOW PRESSURE - MEMS

- 5 to 600 psi (0.35 to 40 bar)

3500 Series transducers are compact with all-stainless steel wetted parts at an unbeatable price performance ratio. Available in a wide choice of electrical outputs, and electrical/pressure connections.

3500 Series