

AUTOMATIONDIRECT.COM



Endress+Hauser  prosense®
People for Process Automation

Flow Sensors

Up-to-date price list:
www.automationdirect.com/pricelist

FREE Technical Support:
www.automationdirect.com/support

FREE Videos:
www.automationdirect.com/videos

FREE Documentation:
www.automationdirect.com/documentation

FREE CAD drawings:
www.automationdirect.com/cad



Mechatronic Flow Switches



Starting at
\$151.00
(FSD75-AP-6H)

proSense® FSD Series Flow Switches

ProSense FSD series mechatronic flow switches monitor liquid media and provide reliable flow detection for various flow applications. The sensors utilize a spring-supported piston which is lifted by the flowing medium. An inductive sensor detects the piston position and provides a discrete output signal. The spring forces the piston to its original position with decreasing flow, and the built-in check valve prevents backflow, allowing the sensor to be mounted in any position.

Mechatronic flow switches have a fast response time and a long lifespan. They are very reliable and ideal for applications requiring precise flow control.

Features

- Up to 26.4 GPM setpoint range
- N.O. PNP DC output
- Immune to rapid media temperature changes
- Easy setpoint adjustment via rotary dial
- 3/4" or 1" NPT process connections
- 4-pin M12 quick disconnect
- IP65/67 protection rating

Mechatronic Flow Transmitters



Starting at
\$170.00
(FSA75-42-6H)

proSense® FSA Series Flow Transmitters

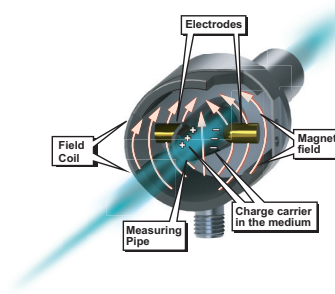
ProSense FSA series mechatronic flow transmitters monitor liquid media and provide an analog output proportional to the flow rate. Mechatronic flow transmitters work on the principle of a spring-supported piston that is lifted by the flowing medium against the spring resistance. The flow rate is determined by monitoring the piston position and converting it to an analog output signal. The spring resistance forces the piston to return to its original position with decreasing flow, preventing backflow.

Mechatronic flow transmitters are immune to rapid media temperature changes and are ideal for applications requiring fast response times, such as machining or cooling water applications.

Features

- Up to 27 GPM sensing range
- 4 to 20 mA analog output
- Immune to rapid media temperature changes
- 3/4" or 1" NPT process connections
- 4-pin M12 quick disconnect
- IP65/67 protection rating

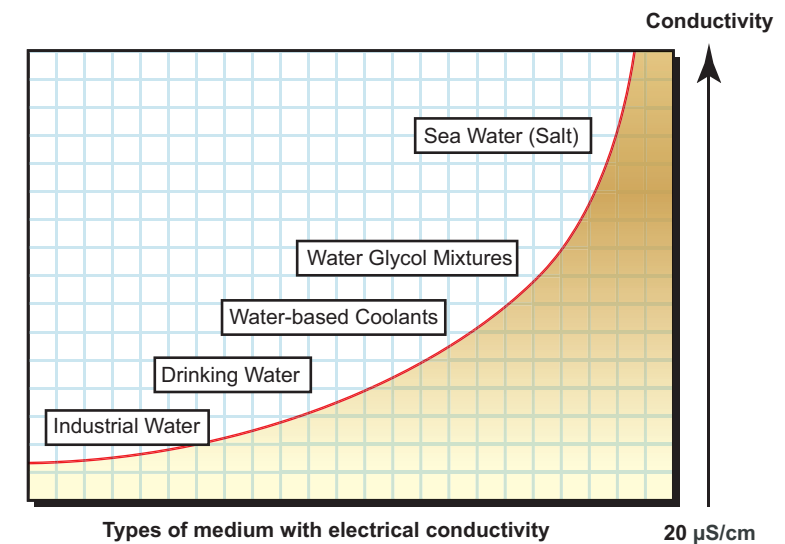
Magnetic-Inductive Flow Meters



Operating Principle

Magnetic-inductive flow meters, or magmeters, use Faraday's law of induction to measure flow rate. Current-carrying coils generate a magnetic field in a measuring pipe. When a conductive media flows through the pipe, its ions are diverted perpendicularly to the magnetic field. The positive and negative charge carriers flow in opposite directions, inducing a voltage that is measured by two electrodes immersed in the media. The induced voltage is directly proportional to the average flow velocity, and the volumetric flow rate is calculated using the flow velocity and cross-sectional area of the pipe.

Magmeters are suitable for use with a variety of conductive liquids in industrial process applications such as those in the following graph:



Starting at
\$556.00
(FMM50-1002)

proSense® FMM Series Flow Meters

ProSense FMM series magmeters are designed to reliably detect the flow rate of conductive media up to 160 gallons per minute. The stainless steel, mechanically-robust design mounts directly in-line, providing a compact, low-profile installation for process control.

A 4-digit numeric display with pushbutton setup simultaneously indicates flow rate, fluid temperature, and total volume. Simple to set up and easy to install, the ProSense FMM is a reliable alternative to traditional flow meters and mechanical flow switches. These flow meters are the new benchmark for price and performance for your flow sensing applications.

Features

- For water and water based media
- Flow rates up to 160 gpm
- Pipe sizes up to 2 inches
- DC switching, pulse, frequency, and analog outputs
- Monitor flow rate, total volume, and temperature in one sensor

Magnetic-Inductive Flow Meters (Con't)

Endress+Hauser Picomag Series Flow Meters

People for Process Automation

Endress+Hauser Picomag series magnetic-inductive flow meters provide a reliable and versatile solution for measuring and monitoring conductive liquids such as drinking and industrial water. They allow simultaneous measurement of flow, temperature, and volume, and provide two configurable output points.

Picomag's large, user-friendly TFT color display allows for quick reading of flow, temperature, conductivity, totalizer values, and warning and alarm messages. For optimal readability, the screen rotates automatically depending on the orientation. Configuration parameters can be called up and monitored by simply knocking on the device.

Picomag flow meters are configured and monitored with a Bluetooth® wireless interface on Android and iOS devices via the free SmartBlue Mobile App. With a wireless connection distance of up to 32 feet, Picomag is ideal for space-limited applications and difficult-to-reach locations.



Features

- Flow rates up to 198 GPM
- Large user-friendly TFT color display
- Configuration and monitoring via the Bluetooth SmartBlue Mobile App
- Measures process medium temperature and conductivity in addition to flow and total volume
- IO-Link v1.1 compatible
- 20 to 30,000 µS/cm media conductivity range
- 1/2 to 2in NPT process connections
- Two configurable outputs
- No minimum inlet or output pipe run requirements
- NSF/ANSI 61 certified for drinking water applications
- IP65/67 protection rating

I/O options

- Volumetric pulse output
- Switch output
- 4 to 20 mA current output
- 2 to 10 VDC voltage output
- Discrete input for totalizer reset
- IO-Link connection

FREE SmartBlue Mobile App

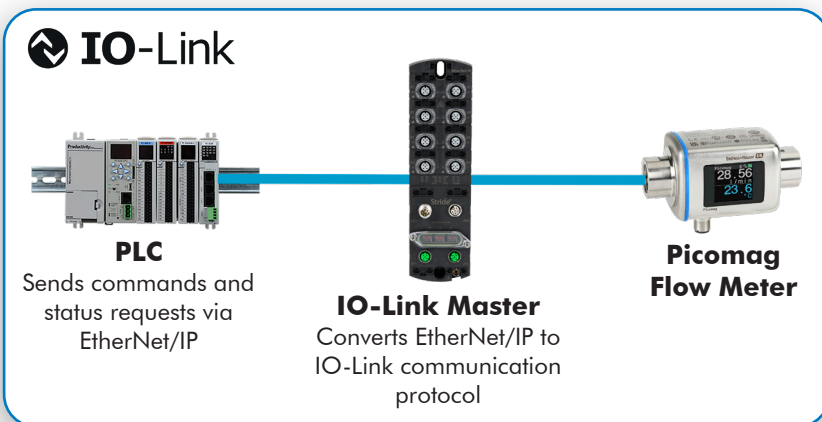
The SmartBlue Mobile App allows configuration as well as comprehensive access to device data.



- Simple and fast navigation through device and diagnostic functions
- Configuration of display, outputs, flow direction, and units
- Requesting diagnostics and status messages
- Available for Android and iOS
- Range up to 32 feet

IO-Link Features

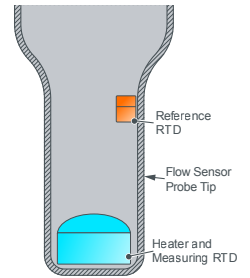
- Seamless integration into established fieldbus systems
- Direct access to process and diagnostics data
- Simple parameterization without additional tools
- Enables "on the fly" device configuration
- Automatic configuration after device replacement



Thermal Flow Sensors

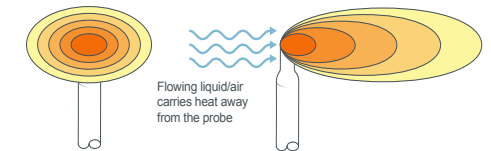
proense® FTS Series Thermal Flow Sensors

ProSense FTS series liquid/air thermal flow sensors use an RTD temperature sensor to measure the temperature of the fluid or air as it passes through the probe and this reading as a reference. A heating element, also located in the probe, heats up the fluid or air and raises its temperature as it passes through. This rise in temperature is measured by a second RTD temperature sensor in the probe, which then is used to calculate the flow based on the temperature difference. A faster flow transfers less heat resulting in a smaller temperature difference between the RTD sensors. Slower flow will transfer more heat resulting in a greater temperature difference between the RTD sensors.



Features

- Optimized for water and glycol solutions, or air
- Cost effective solution for flow switch or flow transmitter
- Volumetric flow rate and temperature measurement (up to 16 inches pipe ID)
- 4-digit, two color alphanumeric display with pushbutton setup
- Two outputs selectable for switch or frequency signals



Vortex Flow Sensors

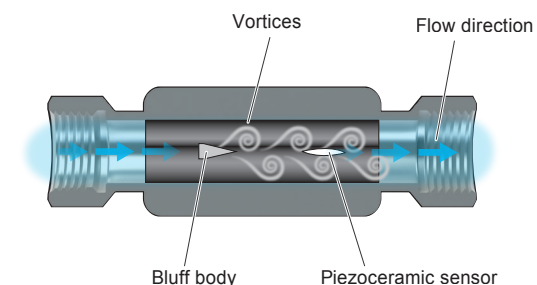
proense® VFS Series Vortex Flow Sensors

ProSense VFS series vortex flow sensors offer a very cost-effective solution to measure water based liquid flow. They are optimized to monitor water and deionized water flow in industrial applications. The pushbuttons and display allow easy sensor set up to measure flow rate and temperature, and the outputs can be used for continuous flow or temperature monitoring or as a flow or temperature limit switch.

The Vortex technology uses alternating vortices created by a bluff body as the liquid flow passes through. The vortices are detected by a piezoceramic sensor, which allows the electronics to determine the flow velocity based on the frequency of the vortices.

Features

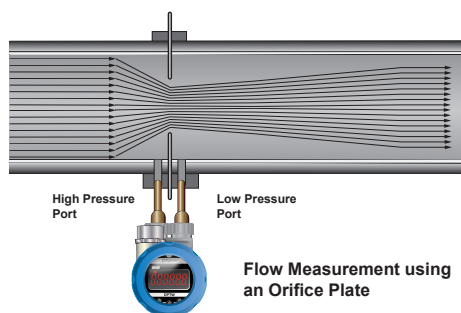
- Optimized for water/deionized water flow applications
- Cost effective solution for flow switch or continuous flow measurement
- Volumetric flow rate and temperature measurement
- TFT color display with pushbutton setup
- Two outputs selectable for switch or frequency signals



Differential Pressure Flow Transmitters



Starting at
\$875.00
(DPTW-4)



pro^{ense} DPTW Differential Flow Transmitters

ProSense DPTW series differential pressure transmitters are precision engineered for accurate differential or gauge pressure measurement of a wide variety of liquids, gases, and steam applied to both pressure sensing ports. This series is ideal for flow measurement using primary differential pressure flow elements such as an annular pitot tube, orifice plate, or venturi tube.

Features

- Integral pressure port manifold with 1/4in female NPT process connections and built-in equalizing valve
 - Digital filter function dampens pulsations and provides a more stable output and display
 - Key lock function prevents unauthorized changes to configuration settings
 - Bright backlit 6-digit LCD display
 - Scaling function allows user defined units of measure
 - Internal "pushbutton" for quick range changes
 - "Loop check" function allows unit to output 4-20 mA without applying pressure
 - Square root extraction function for display and output of linear flow rate or display of integrated flow volume
 - Up to 8X smaller than a conventional style DP transmitter
- Easily rotatable display
- Rugged NEMA 4X protection rating

Variable Area Mechanical Flow Meters



Starting at
\$75.00
(FG1W-100PP-2)

pro^{ense} FG1 Series Flow Meters

The ProSense FG1 series flow meter is a mechanical variable area instrument designed with a precision molded, sharp-edged orifice located within the piston assembly to form an annular opening with the metering cone. Flow passing through the meter creates a pressure differential across the orifice, which causes the piston to move precisely in direct proportion to the rate of flow against the spring. These flow meters can be used in horizontal or vertical positions. The flow rate is indicated by a red indicator relative to the numerical flow scale.

Features

- Optimized for water or petroleum based fluids
- Constructed of high impact polysulfone plastic
- Easy to read flow scales in both GPM and LPM
- Adjustable limit pointers
- Relatively insensitive to shock and vibration
- Can be installed at any angle allowing for system design flexibility

