



Accurate and Reliable
Measurement

Honeywell's industry proven field instruments set the standard for performance and reliability, providing the safety, security and efficiency required by the most demanding applications. Honeywell has a track record of reducing risk, avoiding downtime and providing customers with long-term support and migration paths. Honeywell's field instrumentation portfolio consists of a wide offering of pressure, temperature, flow, level and wireless transmitters with a cost-efficient and flexible selection of models to fit all industrial applications.

Accurate, Reliable and

High-Performance Pressure Transmitters

Honeywell's SmartLine® smart pressure measurement system sets the standard for total performance in harsh process environments, featuring the industry's most modular and robust pressure transmitters. The SmartLine pressure transmitter delivers total value across the entire plant lifecycle, from construction and operations to maintenance. With better performance, unique features that reduce your total cost of ownership and the best integration features available when used with Experion® PKS, Honeywell helps our customers reduce project costs and startup time, avoid unplanned downtime, improve product quality, reduce spare parts inventory and shorten time to repair.

- The industry's best **total performance and stability** help you save process materials and improve product quality.
- An innovative **modular design** reduces complexity along the entire lifecycle, from avoiding initial purchasing costs, providing flexibility for post-start up modifications, reducing maintenance and inventory costs by eliminating the number of spare parts required and simplifying module replacements and upgrades.
- A rich **transmitter interface** with an advanced display, local 3-button configuration and Honeywell's Field Device Manager software provides capabilities for field operators to more efficiently perform tasks, solve problems and avoid errors with no need for a handheld device.
- Unique **Smart Connection Suite** control system integration delivers transmitter messaging, maintenance mode indication and tamper alerts to improve your field time to repair and control room communication, avoid unit trips and make your employees more efficient.

Honeywell's SmartLine series includes absolute, differential, gauge, remote seal, flanged (level) and multivariable transmitters as well as remote indicators. With two performance lines, regardless of the application, Honeywell has the right instrument to meet your performance and cost requirements.

Honeywell transmitters are recognized for their unsurpassed accuracy and performance. The SmartLine series features these industry-leading total performance metrics:

- Transmitter stability—up to 0.01% span per year for ten years
- Reference accuracy—up to 0.0375% span with optional 0.025% span
- Total probable error as good as 0.12%
- Response time—as fast as 80mS
- In-built/on-board static pressure and temperature compensation
- Rangeability/Turndown of up to 400:1



Accurate and Reliable Flow Measurements for the Most Demanding Applications

Honeywell's VersaFlow™ line of flow meters are suitable for liquid, gas or steam service over a wide range of process conditions. Innovative technologies and a range of sizes provide the best solutions to meet industrial requirements for safety and efficiency.

Electromagnetic Flow: Honeywell's VersaFlow electromagnetic flow meter is suitable for a wide range of liquid flow measuring tasks and applications, including rapidly changing media, pH jumps, large amounts of solids and/or pulsating flow. Product versatility enables VersaFlow to deliver significant cost savings during planning, procurement, installation and training. Our virtual reference grounding eliminates the need for traditional grounding electrodes or rings, reducing installation costs and potential leak points. The same electronics platform is completely interchangeable across all VersaFlow magmeter sensors.

- The Mag 4000 electromagnetic flow sensor is designed for the most demanding applications. It is proven to be robust and reliable with more than 250,000 units operating in the field. It is optionally available with custody transfer approvals.
- The Mag 1000 electromagnetic flow sensor is the optimum solution for water and wastewater applications.
- The Mag 100 flow sensor is an economical solution for a wide range of applications.
- The Mag 2000 ceramic lined electromagnetic flow sensor is resistant against abrasion, corrosion and vacuum conditions. Both flanged and wafer/sandwich versions are available.

- The Mag 3000 is the electromagnetic flow sensor for the food and beverage industry manufactured in conformance to FDA requirements. EHEDG approval is available and highlights the hygienic design and the cleanability of the device.

All magmeters are available with a choice of transmitters. With a low cost (TWM1000) and a fully featured (TWM9000) transmitter choice, customers only pay for the features they need. All Honeywell transmitters are available in integral to sensor mount, or with the ability to remotely mount the electronics away from the metering tube.



VersaFlow™ Magnetic Flow Meters	Mag 4000	Mag 1000	Wafer Mag 100	Ceramic Lined Mag 2000	Hygienic Mag 3000
Temperatures (up to 180°C / 356°F) and low conductivity (from 1 µS/cm)	•				
Custody transfer for transfer of billable materials	•				
Quick to install and easy to operate	•	•	•	•	•
Maintenance free	•	•	•	•	•
Fully vacuum-resistant	•	•	•	•	•
Hazardous (Ex) approvals available	•	•		•	•
Chemically resistant to a wide range of processes	•		•	•	•
Insensitive against temperature shocks	•		•	•	•
Excellent long-term stability and accuracy	•	•	•	•	•
Permanently submersible, buried underground (option)	•	•			
Excellent price-performance ratio		•	•		
Drinking water approvals including KTW, WRc, KIWA, ACS		•			
Compliance with OIML R-49 and ISO 4064		•			
Fully functional wafer design flow sensor			•		
Suitable for abrasive fluids				•	
High-tech ceramics liner				•	
Developed in cooperation with customers from the food industry					•
Stainless steel design for hygienic and aseptic operation					•
Unique gasket concept meets EHEDG					•
Suitable for all CIP and SIP processes					•
All industry-specific connectors and lengths					•



VersaFlow™ Coriolis Mass Flow Meters	100	1000	200
Excellent zero stability	•	•	•
Low operating and installation costs	•	•	•
Insensitive of installation and external factors	•	•	•
Low pressure loss	•	•	•
Modular/plug and play electronics	•	•	•
Easily drained and easy to clean	•	•	•
Secondary pressure containment	•	•	•
Optional heating jacket	•	•	•
Sanitary/Hygienic designs	•	•	•
Innovative twin measuring tube	•		•
Optimized flow divider for minimum pressure loss	•		•
High accuracy with best price-performance ratio		•	•
Single straight measuring tube		•	
Sizes ¼" (DN 6) to 3" (DN 80)		•	
Sizes ½" (DN 15) to 2" (DN 50)	•		
Large tube size, 4" (DN100) to 10" (DN250) for bulk measurement			•
Choice of four different tube materials		•	
Custody transfer ideal for oil refining and transport		•	•

Coriolis Mass Flow: The VersaFlow Coriolis Mass flow meter measures mass flow, density, volume, temperature, mass or volume concentration and solids content with a single device. It is the only Coriolis sensor for mass flow applications with a straight measuring tube that is available in stainless steel, titanium, Hastelloy® or tantalum. It offers a high degree of accuracy, even for problematic applications.

- The **Coriolis 100** is the only Coriolis mass flow sensor in its class with secondary pressure containment as standard.
- The **Coriolis 1000** Coriolis mass flow sensor reliably measures mass flow, density, volume, temperature, mass or volume concentration and solids content. It is also available in with custody transfer approvals.
- The **Coriolis 200** Coriolis mass flow sensor has been developed to meet the demanding transfer requirements of the oil and gas industry as well as products like syrup, molasses and raw chemicals. It is also available in with custody transfer approvals.



The VersaFlow Coriolis transmitter platform, **TWC9000**, is available in compact (integral to the sensor), wall, field and rack mount versions with the basic HART/analog output or Honeywell's unique modular I/O capability with up to 4 discreet outputs. Full Modbus communication capability is available at the lowest possible cost with the **TWC010** that allows direct digital communication through the Modbus RTU protocol with full functionality.

Vortex Shedding Flow Meter:

Honeywell's VersaFlow Vortex 100 flow meter is the only design available with integrated pressure and temperature compensation in two-wire technology, providing maximum performance at the lowest installed cost. The Vortex flow meter provides reliable measurement of operating, standard volumetric and mass flow of conductive and non-conductive liquids, gases and vapors, even with fluctuating pressures and temperatures. It is available with integrally-mounted or remote-mounted electronics for ease of access.



Clamp-on Ultrasonic Flow Meter:

With the VersaFlow Clamp-on Sonic 1000 flow meter, flow measurement can be done anywhere and startup is immediate. Its robust industrial construction and re-greasing concept provides a revolutionary solution for easy handling and reduced maintenance costs. The Sonic 1000 offers optimized reliability, minimal maintenance, easy sensor mounting and an installation wizard. The VersaFlow Clamp-on Sonic 2000 offers the features of Sonic 1000 clamp-on ultrasonic in a portable design that allows easy installation and movement from one location to another. The portable electronics act as a data logger for up to 50 different installation points and offers easy downloading of data into customer friendly formats such as Excel.



Versatile Measurements for Process Level and Interface Applications

SmartLine Non-Contact and Guided Wave Radar Level Transmitters allow measurement of liquid level, solid/granular level or liquid interface. A common electronics platform makes installation, setup and user interface easy. The two wire design saves on wiring and reduces costs.

The Superior TDR Solution:

The SmartLine Guided Radar Level Transmitter is a Time Domain Reflectometry (TDR) level transmitter for measuring distance, level, interface, level and interface, volume and mass. The SmartLine Guided Wave Radar Level Transmitter has higher signal dynamics and a sharper pulse than conventional TDR devices and therefore better reproducibility and accuracy.

The Universal Radar Solution:

The SmartLine Non-Contact Radar Level Transmitter is for level measurement of liquids and solids/granulars without the need to order special design configurations. SmartLine Non-Contact Radar Level Transmitters use frequency modulated continuous wave technology to provide a more stable measurement than pulse radar and are well suited for agitated process conditions.



Honeywell radar level transmitters offer the following features:

- Easy navigation using a touch screen without opening the housing (including an installation wizard)
- Configuration software and DTMs included as standard. Easy programming via HART, PactWare or Foundation Fieldbus
- Optional fully independent second current output can be used for additional measurements without the need for a second instrument
- Higher signal dynamics and sharper pulses improve accuracy
- Display in nine languages including Chinese, Japanese and Russian
- Triple barrier gas-tight protection available for working with dangerous gases (using pre-stressed fused glass)

Wireless Field Transmitters

Honeywell offers a broad solution set for wireless applications. Wireless transmitters obtain measurement data from remote and hazardous locations without the need to run wires, saving 50 percent or more on cable installation costs. Wireless technology enables improved safety, reliability and efficiency by providing a low cost way to add measurement points to your facility. Honeywell offer three levels of wireless field instrumentation to fit specific market needs.

XYR 6000 Wireless Field Transmitters

The XYR™ 6000 wireless transmitters are ISA100.11a compliant and operate on the 2.4 GHz ISM band. They are fully interoperable with Honeywell's highly secure and reliable OneWireless™ network. The transmitter transmits data to a wireless access point, or a series of access points, creating a fault-tolerant mesh network that maximizes uptime and data security. Enjoy a low cost of ownership with battery life of up to 10 years and update frequencies as fast as once per second.

Measurement Parameter	XYR 3000	XYR 5000	XYR 6000
Acoustic		•	
Discrete Input	•	•	•
Analog Input	•		•
pH and Conductivity		•	
Pressure - Absolute		•	•
Pressure - Differential		•	•
Pressure - Gauge		•	•
Tank Level Gauge			•
Temperature		•	•
Universal Input (discrete output)			•
Position			•

XYR 3000 High Density Wireless I/O Systems

The XYR 3000 line is a series of wireless multiplexers enabling remotely located wired instruments to wirelessly communicate measurement data long distances. These devices provide a basic wireless solution where there is a high-density of input/output and external electrical power is available. XYR 3000 multiplexer products provide multiprotocol support with flexible input and output options. With I/O expansion options, a small system can be scaled to include more I/O as needs change.

XYR 5000 Wireless Field Transmitter System

XYR 5000 wireless transmitters are well-suited for wireless monitoring applications operating on 868 MHz or 900 MHz ISM bands. Cost-effective and easy to install, the XYR 5000 wireless system can be up and running in minutes as a standalone system or tied into your process via 4-20mA

output, Modbus or via OPC servers. These transmitters are battery powered with an expected battery life of 3-5 years and support up to 100 points per base radio at one second update rates. To expand your network, simply add more XYR 5000 transmitters and base radios.





Honeywell Expertise and Support

Wherever your operations are in the world, timely and knowledgeable Honeywell support is always close and convenient through our global Technical Assistance Center. Whatever level of support you choose, you're assured thorough documentation and knowledgeable assistance from experienced Honeywell personnel to:

- Assure quicker, smoother startup
- Ensure optimum hardware configuration – in standalone use or with other hardware
- Minimize troubleshooting delays during initial programming and implementation
- Maintain continuity despite any turnover in your organization's personnel
- Maximize payback from earlier investments in Honeywell equipment with new features

For more information

To learn more about Honeywell's Field Solutions, visit www.honeywell.com/ps/hfs or contact your Honeywell account manager in your country/region:

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