Environmental: Water

Every drop of water and every unit of energy counts
Instrumentation that puts you in control

Water is at the heart of life and economic activity. Measurement of critical process parameters is key for process management and sustainability throughout all phases of the plant life cycle.

Siemens instrumentation offers you the technology to put you in control. We not only give you accuracy and reliability of measurement but also the reassurance of seamless integration from the planning and engineering phase to operation and modernization. Siemens Totally Integrated Automation (TIA) ensures that the data and alerts from your instrumentation and process analytics devices are translated into early and effective action.

**Faster and more efficient processes and operations in the water industry**

To save time and money, processes need to be simplified and run efficiently. Integrated engineering with COMOS and SIMATIC PCS 7, the Consultant DVD and the Industry Library from Siemens offer outstanding solutions.

**A complete portfolio**

We offer a complete portfolio of field instruments for flow, level, pressure and temperature measurement. Our technology is designed to fit your individual needs. We feel responsible for sustainable resource management and for efficient use of energy.

Besides inline flow measurement, clamp-on technology, ideal for retrofit installations, extends the standard offering. Custody transfer-approved instruments guarantee accurate billing of water or heating/cooling energy. Battery-operated meters and wireless technology enable you to control stand-alone devices in remote or inaccessible locations, giving you reliable information from the field as well as reduced cabling or other infrastructure costs.

**Siemens Process Instrumentation is part of the Siemens Environmental Portfolio**

This covers all Siemens products that are of extraordinary benefit for the environment and for our customers. Siemens flowmeters for water applications and valve positioners for compressed air applications are certified products.

With Siemens you have the reassurance of best-in-class products and a partner who understands your industry. Discover more in this brochure and at: [www.usa.siemens.com/pi](http://www.usa.siemens.com/pi)
PIA Life Cycle Portal

The PIA Life Cycle Portal is a web-based application for easy and convenient product selection and configuration.

How to get access
You can access the PIA Life Cycle Portal around-the-clock at usa.siemens.com/pia-portal. It offers you active support to find the best solution from the extensive Siemens portfolio of sensors and process analytical products. The portal can be used to see how different solutions can be put to use in process and factory automation.

You can choose between several selection access options to find the appropriate product solution for your specific requirements:

• Direct access sends you straight to a specific configuration if you know the product you are seeking.
• “Guided selection” lets you to select the appropriate application, technology or industry and specify the measurement task based on the various relevant parameters for your particular application.

Advantages at a glance:
• Convenient product selection support with answers to typical questions
• A variety of selection possibilities: see the sample processes and simply select from the recommended process instrumentation and analytics products
• Project lists for an order enquiry can be quickly created
• Different possibilities for processing data and information
• No separate installation needed
• Product selection for spare parts
• The latest product data and information for Siemens process instrumentation and analytics

usa.siemens.com/pia-portal
## Product range

### Radar

<table>
<thead>
<tr>
<th>Product</th>
<th>Brief Description</th>
<th>Features and Benefits</th>
<th>Typical Applications</th>
<th>More Information</th>
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</thead>
</table>
| SITRANS Probe LR | Compact 2-wire loop-powered, 6 GHz pulse radar transmitter with polypropylene rod antenna for level measurement up to a range of 20 m (65 ft).                                                                                                                                                                                                                     | • Uni-Construction polypropylene rod antenna standard  
• Easy installation and simple start-up  
• Patented Sonic Intelligence® signal processing  
• Extremely high signal-to-noise ratio  
• Auto False-Echo Suppression of false echoes  
• Measuring frequency: 5.8 GHz (6.3 GHz for North America)  
• Programming using infrared Intrinsically Safe handheld programmer, SIMATIC PDM or HART® handheld communicator  
• Communication: HART®  
• Approvals: CSA, FM, C-Tick, ATEX | Level and volume measurement of aggressive liquids such as acids, lime and other slurries, alum, polymers, sodium hypochlorite <20 % etc. in chemical storage tanks in water and wastewater treatment plants.                                                                                                                                                                                                                                  | usa.siemens.com/level                                                                                                                                                                                                                                                                                                                                                         |
<table>
<thead>
<tr>
<th>Guided Wave Radar</th>
<th>Ultrasonic</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SITRANS LG</strong></td>
<td><strong>SITRANS LU150</strong></td>
</tr>
<tr>
<td>Guided wave radar series for liquids, solids, slurries, inventory, process control, aggressive materials and more.</td>
<td>2 wire, 4 to 20 mA loop powered transmitter is ideal for liquids, slurries, and bulk materials in open or closed vessels to 5 m (16.4 ft). The transducer is available in PVDF copolymer, making the device suitable for use in a wide variety of applications.</td>
</tr>
<tr>
<td><strong>Features and benefits</strong></td>
<td><strong>Features and benefits</strong></td>
</tr>
<tr>
<td>• Versatile and reliable level measurement even with aggressive vapors, high temperatures and pressure, dust, steam, or material buildup</td>
<td>• Sonic Intelligence provided highly reliable measurement</td>
</tr>
<tr>
<td>• Measures level, level interface and volume in a wide range of applications from material storage to bypass pipes</td>
<td>• Easy to install and maintain</td>
</tr>
<tr>
<td>• Rod and cable lengths can be field adjusted to fit your application</td>
<td>• Easy two-button programming</td>
</tr>
<tr>
<td>• Quick Start Wizard for easy configuration and operation in a few minutes</td>
<td>• PVDF transducer</td>
</tr>
<tr>
<td>Continuous level and volume monitoring of liquids such as ammonia. Measurement in storage and process vessels in water and wastewater treatment plants.</td>
<td>• Patented Sonic Intelligence echo processing</td>
</tr>
<tr>
<td>Level in chemical small storage vessels, filter beds, liquid storage vessels, in water and wastewater treatment plants.</td>
<td>• Integral temperature compensation</td>
</tr>
<tr>
<td>Level, volume and flow monitoring in open channels, non-foaming chemical storage vessels, simple process vessels, filter beds, chlorine contact chambers, clarifiers, sumps, etc. in water and wastewater treatment plants.</td>
<td>• 4 to 20 mA output</td>
</tr>
<tr>
<td>Level monitoring and control of wet wells, open-channel flow monitoring of flumes/weirs. Bar screen control, level monitoring and control of screenings/sludge storage hoppers, non-aggressive chemical storage, liquid storage, and dry solids storage tanks in water and wastewater treatment plants.</td>
<td>• General Purpose</td>
</tr>
</tbody>
</table>

**More information:** [usa.siemens.com/level](usa.siemens.com/level)
<table>
<thead>
<tr>
<th>Level measurement</th>
<th></th>
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</thead>
<tbody>
<tr>
<td><strong>Ultrasonic</strong></td>
<td><strong>Hydrostatic Pressure</strong></td>
<td><strong>Point Level</strong></td>
<td></td>
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<tr>
<td><img src="image1" alt="SITRANS LUT400" /></td>
<td><img src="image2" alt="Echomax Transducers" /></td>
<td><img src="image3" alt="SITRANS LH100" /></td>
<td></td>
</tr>
<tr>
<td><strong>Brief description</strong></td>
<td><strong>Features and benefits</strong></td>
<td><strong>Typical applications</strong></td>
<td></td>
</tr>
<tr>
<td>SITRANS LUT400</td>
<td>SITRANS LH100</td>
<td>SITRANS LVL100/200</td>
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</tr>
<tr>
<td>Compact, single-point, long-range ultrasonic controllers for continuous level, or volume measurement of liquids, slurries, and solids, and high-accuracy monitoring of open channel flow. ±1 mm high accuracy in standard operation. Measuring range up to 60 m.</td>
<td>Range of ultrasonic transducers provides reliable continuous level measurement. Various models for a wide range of applications.</td>
<td>2-wire submersible pressure transmitter to measure hydrostatic pressure, compact version.</td>
<td></td>
</tr>
<tr>
<td><strong>Typical applications</strong></td>
<td>• Separated transceiver/transducer (Echomax) protects the electronics from extreme vibration • High-frequency, non-contacting ultrasonic transducer is free of electronic components and fully potted to provide long-term reliability • Energy-saving algorithms for minimizing pump operation during high-cost energy periods • Sonic Intelligence is standard and is proven to provide superior performance in difficult conditions • Communication: HART® • Approvals: MCERTs, CSA, FM, UL, C-Tick</td>
<td>• High and low point level detection for clean &amp; contaminated liquids and slurries holding tanks and sumps in water and wastewater treatment plants.</td>
<td></td>
</tr>
<tr>
<td>More information: usa.siemens.com/level</td>
<td>• Narrow beam angle from 6 to 12° • Chemically resistant PVDF copolymer enclosure and CMS rubber face • Fully submersible • Integral temperature compensation • Max. cable length of 365 m (1200 ft) • Choice of mounting brackets available for ease of installation • Approvals: ATEX, FM, CSA</td>
<td>• Approvals: CSA, FM, ATEX, C-Tick, WHG, Pattern approval china</td>
<td></td>
</tr>
<tr>
<td>More information: usa.siemens.com/level</td>
<td>• IP68 stainless steel housing (23.4 mm diameter) with a piezoresistive sensor and ceramic diaphragm • Converts the level-proportional hydrostatic pressure into a standardized signal 4 – 20 mA • Accuracy 0.3 % • Measuring range: Standard 4, 5, 6, 10 and 20 m (60 ft H2O), on request from 4 to 30 m (98 ft H2O) • Communication: 4 – 20 mA • Approvals: ATEX, ICEEx</td>
<td>• Approvals: FM CL1 Div. 2, ATEX 2G D sensor</td>
<td></td>
</tr>
<tr>
<td>More information: usa.siemens.com/level</td>
<td>• Compact insertion length of 40 mm for tight spaces • Test function standard to confirm correct operation • Fault monitoring for corrosion, loss of vibration, or line break to the piezo drive Independent of dielectric and other material conditions such as vapors, gases, bubbles, foam • Robust design with threaded piezo drive system to prevent failure in aggressive applications • Approvals: EHEDG, 3A, FDA, WHG, ATEX, FM, CSA, SIL2, IECEx</td>
<td>• IP67 / NEMA 4X / 6 enclosure rating • Fully submersible • Insensitive to product buildup due to high-frequency oscillation • Level detection independent of tank or pipe grounding • Potted construction protects signal circuit from shock, vibration, and external influences • Top, side, angle mount</td>
<td></td>
</tr>
<tr>
<td>More information: usa.siemens.com/level</td>
<td>• High sensitivity allows installation in a wide range of liquids, solids, slurries or interface applications • Tip-sensitive switch, unaffected by conductive or non-conductive vapors, gases, bubbles, foam • Wide range of electrode and liner materials including conductive, non-conductive and zirconia • Integral LCD display allows for easy setup to configure detection</td>
<td>• Communication: 4 – 20 mA • Short fork option for short insertion lengths</td>
<td></td>
</tr>
</tbody>
</table>
Typical applications and benefits

**Ultrasonic Hydrostatic Pressure Point Level operation.**

In water and wastewater treatment plants. Sewer overflow. Wet well level and pump control, storm open-channel flow monitoring in sewers, combined.

- Communication: HART®
- Sonic Intelligence is standard and is proven to provide Energy-saving algorithms for minimizing pump operation during high-cost energy periods
- Compact, single-point, long-range ultrasonic controllers

**Features**

- High or low level alarm
- Compact design
- Top, side, angle mount
- Rotatable enclosure
- Replaceable electronics
- Interface model with detection of solids in liquids
- Best-in-industry lowest density measurement below 5 g/l
- Independent of dielectric and other material conditions such as vapors
- Unaffected by external vibrations
- Replaceable electronics
- Short fork option for short insertion lengths
- Remote electronics option
- Communication: 4 – 20 mA
- Approvals: FM, CSA, ATEX, C-Tick

**Vibrating fork for dry bulk solids point level detection up to 20 m (65 ft).**

- Tip-sensitive switch, unaffected by conductive or non-conductive buildup
- Potted construction protects signal circuit from shock, vibration, humidity and/or condensation
- High chemical resistance
- Level detection independent of tank or pipe grounding
- Insensitive to product buildup due to high-frequency oscillation
- High sensitivity allows installation in a wide range of liquids, solids, slurries or interface applications
- Integral LCD display allows for easy setup to configure detection threshold, even under the most demanding process conditions
- Extended rod, cable and sanitary versions available
- Standard version: 3 LED indicators for adjustment control, output status and power
- Digital version: integral LCD display
- Communication: PROFIBUS PA
- Approvals: CSA, FM, ATEX, C-Tick
- Approvals: CSA, FM, ATEX, C-Tick, WHG, Pattern approval china

**Vibrating fork for dry bulk solids point level detection up to 20 m (65 ft).**

- Compact wafer design meets ANSI, EN 1092 and DIN flange standards
- Corrosion-resistant AISI 316 L stainless steel sensor housing
- Highly resistant liner and electrodes for aggressive media
- Medium temperature rating up to +200 °C (+390 °F)
- IP67/NEMA 4X/6 enclosure rating
- Designed for patented in-situ verification of the whole flowmeter using the SENSORPROM fingerprint
- Easy commissioning, SENSORPROM unit automatically uploads calibration values and fingerprint
- Approvals: FM CL1 Div. 2, ATEX 2G D sensor
- Ex de ia IIB T3 - T6

**Compact 2-wire inverse frequency shift capacitance switch for level detection in constricted spaces for interfaces, solids, liquids, slurries and foam.**

- High sensitivity allows installation in a wide range of liquids, solids, slurries or interface applications
- Integral battery, cable and sanitary versions available
- Standard version: 3 LED indicators for adjustment control, output status and power
- Digital version: integral LCD display
- Communication: PROFIBUS PA
- Approvals: CSA, FM, ATEX, C-Tick
- Approvals: CSA, FM, ATEX, C-Tick, WHG, Pattern approval china

**Features**

- High and low point level detection for liquid or slurries
- High and low point level detection for bulk solids storage tanks such as lime, activated carbon, dry chlorine powder, etc. in water and wastewater treatment plants. Overspill and pump protection in wet wells.
- High and low point level detection for clean & contaminated liquids and slurries holding tanks and sumps in water and wastewater treatment plants. Overspill and pump protection in wet wells.
- Volume flow measurement for chemical dosing in water treatment processes, with a minimum electrical conductivity of 5 μS/cm.
- Volume flow measurement for water, salt water and all liquids and chemicals with a minimum electrical conductivity of 5 μS/cm.

**More information:**

[usa.siemens.com/level](usa.siemens.com/level)
[usa.siemens.com/level](usa.siemens.com/level)
[usa.siemens.com/mag](usa.siemens.com/mag)
[usa.siemens.com/mag](usa.siemens.com/mag)
<table>
<thead>
<tr>
<th>Flow measurement</th>
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</thead>
<tbody>
<tr>
<td>Electromagnetics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SITRANS F M MAG 5100 W</th>
<th>SITRANS F M MAG 5000/6000/6000 I</th>
<th>SITRANS F M Verificator</th>
<th>SITRANS F M MAG 8000/CT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electromagnetic flow sensor in a rugged, fully-welded design, can be upgraded to IP68 on site to be buried and flooded. Designed for the water and wastewater industry.</td>
<td>Electromagnetic flow transmitter for flow and volume measurement in combination with any electromagnetic flow sensor. Can be used with sensors including MAG1100, MAG3100 and MAG5100W.</td>
<td>The Verificator provides the ability to confirm accurate performance of your Siemens Magnetic Flow Meter. The Verificator works with the MAG5000/6000 transmitters and MAG 1100 &amp; 1100F, MAG3100 &amp; 3100P, and MAG5100W sensors.</td>
<td>Battery-operated electromagnetic water meter for stand-alone water applications, optional built-in wireless communication module. IP68 designs allow the sensor to be buried and flooded.</td>
</tr>
<tr>
<td><strong>Brief description</strong></td>
<td><strong>Features and benefits</strong></td>
<td><strong>Typical applications</strong></td>
<td><strong>More information:</strong></td>
</tr>
<tr>
<td>- Hard rubber lining guarantees consistent accuracy throughout the entire pressure and temperature range</td>
<td>- Superior signal resolution for optimum turndown ratio</td>
<td>- For all water applications such as groundwater, drinking water, cooling water, wastewater, sewage and sludge applications. Installation in water networks for leak detection and billing.</td>
<td>usa.siemens.com/mag</td>
</tr>
<tr>
<td>- Integrated Hastelloy C grounding and measuring electrodes</td>
<td>- Automatic reading of SENSORPROM data for easy commissioning</td>
<td>- Transmitter for all electrically conductive liquids and slurries. The MAG5000 and MAG6000 are compatible with the Siemens Verificator. The rugged die-cast aluminum housing of the SITRANS F M MAG 6000 I provides exceptional protection, even in the most rugged environment, including versions suitable for FM CL1 Div 1 installations.</td>
<td>usa.siemens.com/mag</td>
</tr>
<tr>
<td>- Increased low flow accuracy for water leak detection</td>
<td>- User-configurable operation menu with password protection</td>
<td>- The Verificator is routinely used to confirm the performance of the Siemens Magmender and Transmitter without the need to remove the Magnemeter from the process line. The Verification process can extend or eliminate the need to have the flow meter calibrated by either the manufacturer or a third party agency.</td>
<td>usa.siemens.com/mag</td>
</tr>
<tr>
<td>- Designed for patented in-situ verification of the whole flowmeter using the SENSORPROM fingerprint</td>
<td>- Totalizer for forward, reverse and net flow plus additional information</td>
<td></td>
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<tr>
<td>Coriolis</td>
<td>Ultrasonic</td>
<td>SITRANS FS230</td>
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<tr>
<td><strong>Applications</strong></td>
<td></td>
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</tr>
<tr>
<td>Water &amp; Waste Water for dosing of chemicals for water treatment.</td>
<td>Basic clamp-on ultrasonic flowmeter, performing basic measurement tasks. Non-intrusive metering, easy installation and maintenance.</td>
<td>Advanced and highly accurate clamp-on ultrasonic flowmeter allows non-intrusive flow measurement and bidirectional flow operation.</td>
<td></td>
</tr>
<tr>
<td><strong>Features and benefits</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advanced transmitter functionality</td>
<td>No process shutdown for installation</td>
<td>• Operation in Wide-Beam transit-time</td>
<td></td>
</tr>
<tr>
<td>Up to 4 I/Os</td>
<td>• Minimal maintenance: external sensors do not require periodic cleaning</td>
<td>Easy installation; external sensors, no need to cut pipe or stop flow</td>
<td></td>
</tr>
<tr>
<td>Hart, Profibus DPIA and Modbus</td>
<td>• 100 Hz update rate for all output on all primary process values</td>
<td>• No pressure drop or energy loss</td>
<td></td>
</tr>
<tr>
<td>Fully graphical display</td>
<td>• No moving parts to wear or foul</td>
<td>• Wide turndown ratio</td>
<td></td>
</tr>
<tr>
<td>Tube Sizes: 1/16th inch to 6 inches</td>
<td>• No pressure drop or energy loss</td>
<td>Choice of single channel or dual path.</td>
<td></td>
</tr>
<tr>
<td>Advanced diagnostic functionalities</td>
<td>Compact, integral design reduces installation cost</td>
<td>• Zeromatic Path eliminates zero drift</td>
<td></td>
</tr>
<tr>
<td>Advanced aerated flow filtering</td>
<td>Wide-Beam technology ensures high performance</td>
<td>• Zeromatic Path automatically sets zero without stop- ping flow and reduces zero drift, even at low flow</td>
<td></td>
</tr>
<tr>
<td>Customization of views</td>
<td>Zeromatic Path eliminates zero drift</td>
<td>4GB SD card for storage and data logging</td>
<td></td>
</tr>
<tr>
<td>Trend curves</td>
<td>Output</td>
<td>Combination Approval: ATEX, IECEx, FM, FM Canada</td>
<td></td>
</tr>
<tr>
<td>USB service interface</td>
<td>Current 4 ... 20 mA (Isolated)</td>
<td>- Transmitter with integrated DSL Zone 2 (Div 2)</td>
<td></td>
</tr>
<tr>
<td>Internal data logger</td>
<td>Relay Programmable Form C 250 mA</td>
<td>• Current output: 0 ... 20 mA or 4 ... 20 mA</td>
<td></td>
</tr>
<tr>
<td>Integrated fraction tables (e.g. Brix, % Alcohol, Plato)</td>
<td>Pulse: 41.6 µs ... 5 s pulse duration, Frequency: 0 ... 12.5 kHz (50% duty cycle)</td>
<td>Digital output: Pulse 41.6 µs ... 5 s pulse duration; Frequency 0 ... 10 kHz, 50% duty cycle, 120% overscale provision</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 4GB SD card for storage and data logging</td>
<td>Relay: Type SPOT dry contact relay</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Approvals: UL, cUL, CE</td>
<td>Digital input: Voltage 15 ... 30 V DC (2 ... 15 mA); Current 4 ... 20 mA - Functionality Reset totalizer 1, 2 and 3, force output, freeze process values, zero point adjustment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Communication: Modbus RTU</td>
<td>Communication: HART 7.5, Modbus RTU RS 485</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• SD card functions: Parameter change log, Configurable data logger, FW update log, Diagnostic log, Error and alarm log, Parameter backup</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 100 Hz update rate for all output on all primary process values</td>
<td></td>
</tr>
</tbody>
</table>

**More information:**
- [usa.siemens.com/flow](http://usa.siemens.com/flow)
- [usa.siemens.com/clamp](http://usa.siemens.com/clamp)
<table>
<thead>
<tr>
<th>Flow measurement</th>
<th>Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vortex</strong></td>
<td><strong>Pressure measurement</strong></td>
</tr>
</tbody>
</table>

- **SITRANS FX300**: Vortex flowmeters provide accurate volumetric and mass flow measurement of steam, gases and liquids, with integrated temperature and pressure compensation.
  - Brief description: Compact or remote design (max. 15 m)...
  - Features and benefits: Compact single-range transmitters for absolute and gauge pressure. Measurement of process pressure, absolute pressure and hydrostatic pressure.
  - Typical applications: Consumption measurement in compressed air systems and other industrial gases or steam installations.

- **SITRANS P 200/210/220**: Compact single-range transmitters for absolute and gauge pressure. Measurement of process pressure, absolute pressure and hydrostatic pressure.
  - Features and benefits: Piezoresistive measuring cell with ceramic diaphragm (P200) or SS diaphragm (P210/220)...
  - Typical applications: Compact and economical pressure measurement in clean water and waste water process.

- **SITRANS P300**: Digital pressure transmitter for gauge, absolute pressure and level measurement.
  - Features and benefits: Piezoresistive measuring cell, oil-filled...
  - Typical applications: Pressure measurement in raw water intake, sludge line, grit wash water, methane gas, chemical storage, industrial utility applications, desalination and irrigation.

- **SITRANS P320**: Advanced digital pressure transmitter for gauge, absolute and differential pressure, level and flow measurement. Integral square root extractor for venturi flow.
  - Features and benefits: Piezoresistive measuring cell, oil-filled...
  - Typical applications: Various pressure, level and flow measurement in water/wastewater plants, chemical storage and other utility installations. Desalination & irrigation installations.

**More information:**
- [usa.siemens.com/flow](http://usa.siemens.com/flow)
- [usa.siemens.com/pressure](http://usa.siemens.com/pressure)
- [usa.siemens.com/pressure](http://usa.siemens.com/pressure)
- [usa.siemens.com/pressure](http://usa.siemens.com/pressure)
## Process Instrumentation | Environment: Water

### Positioner

**SIPART PS2**
- Pneumatic, digital valve positioner with unique low air bleed design.
- For all pneumatic control valve and on/off valve applications.
- • Optional Remote Mount, Wear-Free Position Detection, Integral High Flow (Cv)
- • Almost zero air bleed at steady state ([HYPERLINK](http://www.usa.siemens.com/cost-of-air) Cost of Air Calculator)
- • Controls any style of pneumatic actuator
- • Advanced valve diagnostics included, just turn them on
- • Pushbuttons and display included, no additional setup equipment required
- • Over 300+ mounting kit solutions
- • Modular system of tubular or barstock thermowell, extension, connection to many different thermocouples, resistance thermometers, as well as mV and resistance sensors.
- • EMI-resistant transmission of the signal
- • Modular design

### Temperature

**Temperature measurement**

<table>
<thead>
<tr>
<th>Temperature transmitters</th>
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</thead>
<tbody>
<tr>
<td>SITRANS TS500</td>
</tr>
<tr>
<td>SITRANS TS550</td>
</tr>
<tr>
<td>SITRANS TH</td>
</tr>
<tr>
<td>SITRANS TR</td>
</tr>
</tbody>
</table>

- **SITRANS TS500**
  - Modular system of tubular or barstock thermowell, extension, connection to many different thermocouples, resistance thermometers, as well as mV and resistance sensors.

- **SITRANS TS550**
  - Modular system of tubular or barstock thermowell, extension, connection to many different thermocouples, resistance thermometers, as well as mV and resistance sensors.
  - Replaceable measuring insert makes it possible to conduct maintenance work even without shutting down operations.
  - Available in explosion-protected design according to ATEX and IECEx

- **SITRANS TH**
  - Installation in connection head Form B
  - Galvanic insulation and fault detection
  - EMI-resistant transmission of the signal

- **SITRANS TR**
  - 2-wire rail-mount

- **SITRANS TF**
  - Die-cast aluminum or stainless steel housing
  - LCD display
  - Available in explosion-protected design according to ATEX and IECEx
  - 4–20 mA, HART®, PROFIBUS PA, FOUNDATION Fieldbus, WirelessHART®

### More information:

- For all temperature applications. ([usa.siemens.com/temperature](http://usa.siemens.com/temperature))
- For all temperature applications. ([usa.siemens.com/temperature](http://usa.siemens.com/temperature))
- For all temperature applications. ([usa.siemens.com/temperature](http://usa.siemens.com/temperature))
### Weighing

#### Weighfeeders
- **SITRANS weighfeeders:** Provide continuous feed rate control of lime for slaking in water purification processes. With dust-tight enclosure options and high temperature belt, these proven weighfeeders ensure uninterrupted control for optimum process quality.

#### Belt scales
- **Milltronics MSI:** The Milltronics MSI belt scale has more approvals than any other belt scale on the market with general, food, hazardous and trade approvals.

#### Motion Sensing
- **MFA4p Motion Failure Alarm:** Non-contacting, single setpoint motion sensor alarm unit, used with MSP and XPP motion sensing probes.
- **WM100 Zero Speed Switch:** Heavy-duty stand-alone zero-speed alarm switch.

### Process Protection

#### Motion Sensing
- **MFA4p Motion Failure Alarm:** Features include an accuracy of ±0.5% over a 20–100% capacity rate range, a single idler compact design for easy retrofit or new installations, painted mild steel, galvanized or stainless steel options, proven triple-beam parallelogram stainless steel load cells, up to 12,000 tph flow rate capacity, complete process control with Milltronics BW500 integrator, communication (BW500): 4–20 mA, Modbus ASCII, Modbus RTU, Modbus TCP/IP, Ethernet/IP, PROFINET, PROFIBUS DP, DeviceNet, approvals: CSA, FM, Atex, IEC Ex, GOST-R Ex.

#### Features and Benefits

- **SITRANS WW100 and WW200 weighfeeders:** ±0.25 – 0.5% accuracy over a 10 – 100% capacity rate range, compact design for easy retrofit or new installations, painted mild steel, or stainless steel options, dust-tight easy-open enclosure options.
- **Milltronics MSI belt scales:** ±0.05% accuracy over a 20–100% capacity rate range, single idler compact design for easy retrofit or new installations, painted mild steel, galvanized or stainless steel options, proven triple-beam parallelogram stainless steel load cells, up to 12,000 tph flow rate capacity.

### Typical Applications

- **SITRANS weighfeeders:** Lime slaking.
- **Milltronics MSI:** Solids sludge transport on conveyors.
- **MFA4p Motion Failure Alarm:** Detect stopped or slipping screw conveyors, belt conveyors, rotary vane feeder, or rotating shafts.
- **WM100 Zero Speed Switch:** Detect stopped screw conveyors, belt conveyors, rotary vane feeder, or rotating shafts.

### More Information

- **SITRANS weighfeeders:** [usa.siemens.com/weighing](http://usa.siemens.com/weighing)
- **Milltronics MSI:** [usa.siemens.com/weighing](http://usa.siemens.com/weighing)
- **MFA4p Motion Failure Alarm:** [usa.siemens.com/pi](http://usa.siemens.com/pi)
- **WM100 Zero Speed Switch:** [usa.siemens.com/pi](http://usa.siemens.com/pi)
### Communication and software

**Remote displays**

<table>
<thead>
<tr>
<th>SITRANS RD100/200</th>
<th>SITRANS RD300</th>
<th>SITRANS RD500</th>
</tr>
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<tbody>
<tr>
<td><img src="image1" alt="SITRANS RD100/200" /></td>
<td><img src="image2" alt="SITRANS RD300" /></td>
<td><img src="image3" alt="SITRANS RD500" /></td>
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</tbody>
</table>

#### Brief description

- **SITRANS RD100** is a loop-powered remote display, and RD200 is a universal remote digital display for Probe LU240, Probe LR, SITRANS P MPS to install at or in areas with easier access.
- **SITRANS RD300** is a dual-line, panel mount, remote digital display for process instrumentation for Probe LU240, Probe LR, SITRANS P MPS to install at or in areas with easier access.
- **SITRANS RD500** is a remote data manager providing remote monitoring through data logging, web access and alarming for instrumentation.

#### Features and benefits

- **SITRANS RD100**
  - Make measurement data visible and accessible from a remote location.
  - Compatible with all types of field instruments in varying process conditions.
  - Easy to set up and program.
  - SITRANS RD200 includes freely available logging and monitoring software, allowing multiple displays to be monitored from one PC.
  - SITRANS RD200 has optional large display with 35 mm (1.2") high LED text.

- **SITRANS RD300**
  - Easy-to-read, dual-line display with eight brightness levels.
  - Flexible outputs with up to eight relays and eight digital I/O for process control alarming.

- **SITRANS RD500**
  - Integrated web and ftp server, email and sms for alarming, and up to 2 GB for data logging of instrumentation.
  - Simple access to data remotely installed instrumentation.
  - Collects and sends sensor data to logistics systems providing up-to-date, timely, and accurate information. Ethernet or Modem (PSTN/GSM/GPRS) carries data to your desktop without the need of additional software.

#### Typical applications

- **Remote process monitoring.**

#### More information:

- [usa.siemens.com/pi](usa.siemens.com/pi)
Service & Support Software

<table>
<thead>
<tr>
<th>Service &amp; Support</th>
<th>SIMATIC PDM Maintenance Station</th>
<th>SITRANS Library</th>
</tr>
</thead>
<tbody>
<tr>
<td>Siemens Process Instrumentation provides a complete line of service and Advantage+ programs to keep your operation running with superior performance.</td>
<td>SIMATIC PDM Maintenance Station V3.0, Siemens offers an optimal tool for efficiently monitoring the condition of smart field devices, irrespective of the automation or control systems used. SIMATIC PDM is a universal, non-proprietary tool for the configuration, parameterization, commissioning and monitoring of smart field devices. The maintenance station is based on the SIMATIC DCS PCS 7 maintenance system but is now available as a standalone system. MS can run independently of the both the customers’ automation control projects as well as with complete autonomy from the PLC/DCS process control systems being used.</td>
<td>The SITRANS Library consists of function blocks, block icons and faceplates for a growing number of field instruments out of the families SITRANS and SIPART. Target systems are SIMATIC PCS 7 and SIMATIC PLCs in parallel with SIMATIC WinCC and panels. Automation solutions can be implemented just by using already existing features and diagnostics information available in the instruments.</td>
</tr>
</tbody>
</table>

**Brief description**

**Services**
- Start-up
- Calibration
- Troubleshooting
- Training

**Advantage+**
- Advantage+ Support
- Advantage+ Shipping
- Advantage+ Stock
- Advantage+ Extended Warranty

**Device supported:**
- SITRANS F M MAG 6000
- SITRANS LUT400
- SIPART PS2 with PROFIBUS PA and 4–20mA/HART® interface

**Device supported:**
- SITRANS F M MAG 6000
- SITRANS LUT400
- SIPART PS2 with PROFIBUS PA and 4–20mA/HART® interface

**Customers advantages are:**
- Same look and feel like standards in SIMATIC PCS 7
- No additional training for operators
- Usage of features in field devices without additional cost: customers use what they already have paid for

**Features and benefits**

**Typical applications**
- All field applications, start-up and services
- Advantage+ Shipping: standard shipping covers basic freight charges, duties and taxes
- Advantage+ Stock: offers quick delivery for unexpected needs
- Technical Support Hotline
- Mobile App for Siemens Industry Online Support

**Features and benefits**

- Stand-alone maintenance station for diagnostics and condition monitoring of field devices with EDD/DD/FDI technology
- Stand-alone maintenance station for small and medium-sized facilities (up to 500 field devices per maintenance station) in process and production automation
- Subsystem-specific use in large facilities
- Central data access point of plant data for cloud based apps
- Permits simultaneous access for 30 independent PDM web-clients users

**More information:**
- usa.siemens.com/pisupport
- usa.siemens.com/simatic-pdm
- usa.siemens.com/library
Totally Integrated Automation

Products from the controller level to the field level
With Totally Integrated Automation (TIA), Siemens is the only provider of an end-to-end integrated portfolio of products and systems for the automation of the entire production workflow.

Totally Integrated Automation reduces the complexity of the automation solution and enables what really counts: the practical combination of optimally coordinated individual components – without interface problems.

Totally Integrated Automation integrates not only the production process but all parts of the company – from the field level to the management level. The result: a perfectly coordinated overall concept that enables higher productivity.

Example: SIMATIC PCS 7. The innovative process control system offers numerous options for connecting I/Os as well as for sending and receiving process signals via sensors and actuators.
With Siemens Process Instrumentation you are in complete control of your water and wastewater operations. That's why it's so important that your team be fully trained to maintain and handle any situation that may arise. Our comprehensive training classes are led by field-proven and experienced instructors who combine extensive application and instrumentation knowledge with many years of training experience.

Our 3 day, comprehensive, hands on water and wastewater class provides students with the technical knowledge required to specify, apply, install, and maintain process instruments utilized in both drinking water and wastewater applications.

Want to learn even more? Our technology focused courses delve deeper into a wide array of specific topics, including pressure, temperature, level, valve positioners, loop controllers, flow, weighing and industrial communications.

Classes are offered throughout the year at various locations or through our mobile training platform we can bring the class right to you!

For more information please send an email to piotraining.industry@siemens.com, or call 1-800-365-8766, Prompt 5.
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