



PROCESS AUTOMATION LINE CARD

Digitalization is changing the process industries

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SIEMENS

PROCESS AUTOMATION

Optimize your processes with the Siemens Process Automation portfolio

Process automation is the eyes, ears and heart of every plant: it measures, analyzes, regulates and controls industrial processes to increase efficiency and improve product quality – helping you stay competitive and profitable despite ever-increasing demands.

Siemens Process Automation brings you a complete range of industrial communications and power solutions, distributed control system software and hardware, gas analyzers, digitalization-ready instrumentation, and smart monitoring apps – all designed for seamless integration with each other and into any process plant. You benefit from the flexibility of our single-source solutions, our drive for constant innovation, and our comprehensive service and support.

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PROCESS AUTOMATION

Digital Connectivity & Power

Industrial Communication

Without industrial communication, complex tasks like controlling machines and entire production lines, monitoring state-of-the-art transportation systems or managing power distribution would be impossible. Our industrial communication portfolio enables optimal networking of automation components based on professional infrastructure planning and implementation using SCALANCE and RUGGEDCOM network components.

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SCALANCE

SCALANCE network components form the basis of communication networks in manufacturing and process automation. SCALANCE products have been specially designed for use in industrial applications and fulfill all requirements for ultra-efficient industrial networks and bus systems. SCALANCE is the solution for switching, routing, security applications, remote access or Industrial Wireless LAN.

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RUGGEDCOM

RUGGEDCOM products offer fast and reliable communication for electric power, transportation, oil and gas, and other industries. Covering an extremely wide temperature range, our RUGGEDCOM products offer Zero Packet Loss™ technology under high electromagnetic interference and enhanced Rapid Spanning Tree Protocol (eRSTP™) for ultra-high-speed network fault recovery.

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RFID Solutions and Locating

Industrial processes in the digital enterprise demand total transparency and a high level of customization. Our range of identification and locating systems make your entire production and supply chain visible, closing the gap between the real and digital worlds. The data intelligence made possible by SIMATIC RFID and SIMATIC RTLS can be used to increase plant availability, capacity utilization and energy savings.

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Power Supplies

SITOP power supply units are globally recognized for their high reliability, coping with critical network conditions and an efficiency rating of up to 95%. They completely integrate with Totally Integrated Automation and the TIA Portal via PROFINET for engineering and diagnostics.

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Distributed Control Systems

Providing continuous operation, maintaining consistent product quality, and reducing plant costs are only a few of the many challenges that the process industries face today. Distributed control systems (DCS) play an important role in helping you meet these challenges head-on. The Siemens flexible DCS offering allows you to respond quickly to constantly changing market requirements, whether you have a small laboratory operation or a large industrial production plant running continuous, batch or process safety applications.

The Siemens DCS portfolio includes prebuilt *DCS libraries*, hardware *controllers*, and *IO* solutions that ensure uptime with redundant, secure connections and are easy to install and commission leveraging a standards-based *industrial network*.

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Projects and Solutions

Get more value from your automation projects by leveraging our USA-based industry expertise. With over 40 years of experience in process industry projects and thousands of successful process control implementations in the USA, we are here to help you configure the best solutions for your plant.

usa.siemens.com/dcs-project-solutions

Digital Twin

A digital twin can replicate a real plant with data to allow for easy testing, training and commissioning. Learn more about how you can leverage integrated software solutions, a simulation platform and next-generation modeling tools to create the optimal digital twin.

Integrated Software Solutions - siemens.com/automation-twin

Simulation Platform - usa.siemens.com/simit

Next-Generation Modeling Tools - siemens.com/gproms

Opcenter Execution Pharma

Opcenter EX PH is a manufacturing execution system dedicated for the pharmaceutical industry that enables completely paperless manufacturing and full electronic batch recording.

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Gas Analyzers & Lasers

ULTRAMAT 23

The ULTRAMAT 23 is a cost-effective multi-component gas analyzer and can be equipped with the following sensors: IR detector for IR-active gases, UV photometer for UV-active gases, H₂S sensor (electrochemical) or O₂ sensor (electrochemical or paramagnetic). The integrated automatic calibration function using ambient air. This means that a test with calibration gases is only necessary once a year.

SIPROCESS GA700

The precise, durable, and reliable SIPROCESS GA700 is the latest generation for process monitoring, control, optimization, and quality control in process gas analytics. The modular concept makes the measurement more flexible than ever before. Both the rack and wall-mounted housing are capable of containing two modules of any combination of the Ultramat 7, Oxymat 7, and Calomat 7.

The ULTRAMAT 7 offers high selectivity and measuring precision in complex gas mixtures as well as low maintenance costs due to easy on-site cleaning of the analysis cuvettes. In addition, the ULTRAMAT 7 features an integrated interfering gas correction option. It is also equipped with a preventive maintenance function. This lets you know ahead of time when upcoming maintenance is required.

With its long service life, the OXYMAT 7 is an exceptionally reliable measuring instrument and can even handle small measuring ranges (0 to 0.5% O₂). But that's not all: With its vibration compensation and physically suppressed zero point (99.5 to 100% O₂), it delivers very reliable and precise measurements.

The main field of application for the CALOMAT 7 is to carry out quantitative determinations of H₂ or He in a binary or quasi-binary gas mixtures. With its high measuring range dynamics, the CALOMAT 7 is the ideal solution for a variety of applications.

SITRANS TDL

The SITRANS TDL gas analyzer consists of a pair of cross-duct sensors, an emitter unit and a receiver unit, containing all the needed hardware and algorithm to perform the actual measurement. The sensors are meant to be mounted directly on the process with no need of sampling systems, for a pure so called in situ principle. A laser beam at a specific wavelength is sent from the transmitter, passing through the process gas, absorbed by the targeted molecules, reaching the detector on the receiver side. Capable of measuring a wide range of components, including but not limited to H₂, O₂, CO, CO₂, hydrocarbons, hot wet NH₃.

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Flow Measurement

Electromagnetic Flow Meters

Whether it's a standard electromagnetic flow meter with modular pulsed DC technology, a high-performance pulsed AC flow system or a battery-operated water meter, the SITRANS FM product line has the right sensor and transmitter for every industry challenge. Siemens magmeters measure the volumetric flow and conductivity of electrically conductive liquids and slurries. We also offer the ability to verify your magmeter performance in-situ with either an on-demand internal verification or with an independently certified external verification.

Clamp-on Ultrasonic Flow Meters

SITRANS FS clamp-on ultrasonic flow meters feature externally mounted sensors that are quickly and easily installed on the outside of a pipe, making them the perfect choice for preexisting applications or when corrosive, toxic or high-pressure fluids rule out the option of cutting the pipe. The cost-efficient technology provides highly accurate measurement of liquids in pipes ranging in size from 0.5" to 394" (33 ft) in diameter.

Coriolis Mass Flow Meters

SITRANS FC multivariable Coriolis flow devices measure the direct mass flow rate of liquids and gases in nearly any application, delivering reliable and repeatable information on mass flow, volume flow, temperature, density and concentration (e.g., Brix or Plato). They fulfill requirements for high performance in multiple industries, including oil and gas, chemical, food and beverage, pharmaceutical, and automotive.

Vortex Flow Meters

SITRANS FX is your all-in-one vortex solution for volumetric and mass flow measurement of steam, gases and liquids – and so much more. These reliable all-rounders integrate flow, pressure and temperature monitoring into one user-friendly, two-wire device.

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Level Measurement

Capacitance

Accurate, reliable, and repeatable. The capacitive point level switches, SITRANS LCS and Pointek CLS series, ensure excellent measurement performance, even under harsh and difficult conditions such as interface, high-pressure and high-temperature applications. Pointek CLS capacitance level switches feature robust aluminum or chemically resistive plastic enclosures that last in harsh and abrasive environments, guaranteeing a long service life and low cost of ownership. SITRANS LCS100 features flexible output options including IO-Link.

Mechanical Point Level Detection

We offer a comprehensive portfolio for extremely reliable and precise point level detection. In addition to capacitance and ultrasonic point level switches, we offer rotating and vibrating level switches that are cost-effective and suitable for level detection, dry run and safety backup applications including bulk solids, liquids and slurries.

Radar

Unaffected by temperature, pressure, vapor or extreme dust, SITRANS LR radar level transmitters measure liquids and solids up to 328 ft. IQ Guard with Process Intelligence (PI) ensures a robust measurement with built-in diagnostics, monitoring, and verification. PI advanced echo processing offers unparalleled accuracy proven on over a million installed applications. Measuring level, interface or both, SITRANS LG guided wave radar technology offers quick and easy setup with local menu-driven quick start wizards.

Ultrasonic Transmitters

SITRANS LU ultrasonic level measurement is a leading non-contact technology for liquids and slurries. Siemens Process Intelligence distinguishes true echoes from false ones, isolating material echoes from obstructions or electrical noise. Field-proven algorithms ensure intelligent echo profile processing.

Ultrasonic Controllers

From basic level control to complex pumping routines, Siemens ultrasonic level controllers support a range of technologies, including 80 GHz radar, ultrasonics, and two-wire 4-20 mA devices, making them dual technology devices. They offer unparalleled ease of use, setup in under a minute, and customer-driven features, with support for PROFIBUS DPV1, PROFINET, MODBUS TCP/IP, and Ethernet IP. Siemens controllers provide the highest accuracy in open channels and reliable performance in measuring liquids and slurries.

Displays

Remote digital displays make measurement data visible and accessible from a remote location. Remote displays can be used with all types of field instruments in varying process conditions, and are easy to set up and program. Bring critical application data to a location that is convenient.

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Pressure Measurement

SITRANS P is a complete portfolio of pressure measurement instruments. From premium smart transmitters to simple, fixed-range transducers, Siemens has a pressure transmitter for any application.

Advanced Pressure Measurement

As a digital smart pressure transmitter, the SITRANS P320 is available in versions for absolute, gauge or differential pressure measurement. Local pushbuttons and text-based menus allow configuration and scaling of your pressure, level and flow applications.

Premium Pressure Measurement

Building on the advanced measurement system, the SITRANS P420 brings premium performance features like enhanced temperature characteristics and the highest measurement accuracy. On-board trend-logging of up to 1,500 points ensures your measurements are digitalization-ready.

Hygienic Pressure Measurement

Designed for applications requiring a stainless-steel enclosure and hygienic process connections, the SITRANS P300 transmitter can be used for gauge and absolute pressure measurements. The compact design makes for a good choice wherever simple, smart measurements are required.

Fixed-Range Transmitters and Transducers

For the most basic measurements, the SITRANS P200/P210/P220 family of transducers are the cost-effective choice for gauge or absolute pressure. They are available with stainless steel or ceramic measuring cells and 4-20 mA or 0-10 V output.

Hydrostatic Level Transmitters

With a slim design for use in a 1" stilling well, the SITRANS LH100 submersible pressure transmitter measures the level in basins, tanks, canals and dams. For longer cable lengths (available up to 3200 ft) or protective caps made of PTFE or stainless steel, the LH300 is the high-performance option for hydrostatic pressure measurement.

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Temperature Measurement

SITRANS T products are the temperature measurement professionals, even in extreme conditions. Whether used in hot, cold or hazardous environments, the communicative SITRANS T meets all expectations. And whether you're looking for sensors or transmitters for head, rail or field mounting, all are available individually or as complete measuring points. Our cost-effective SITRANS T transmitters offer high precision in every application and are quick and easy to connect to thermocouples or resistance thermometers.

Head Transmitters

The SITRANS TH family is suitable for everything from simple applications right up to PROFIBUS and Foundation Fieldbus. It allows for use in the low-cost connection head Form B, even in the flat-cover version where it is installed in place of the terminal block. It also has a host of user-friendly and safe features.

Rail Transmitters

SITRANS TR transmitters are the universal specialists for DIN rail installation.

Field Transmitters

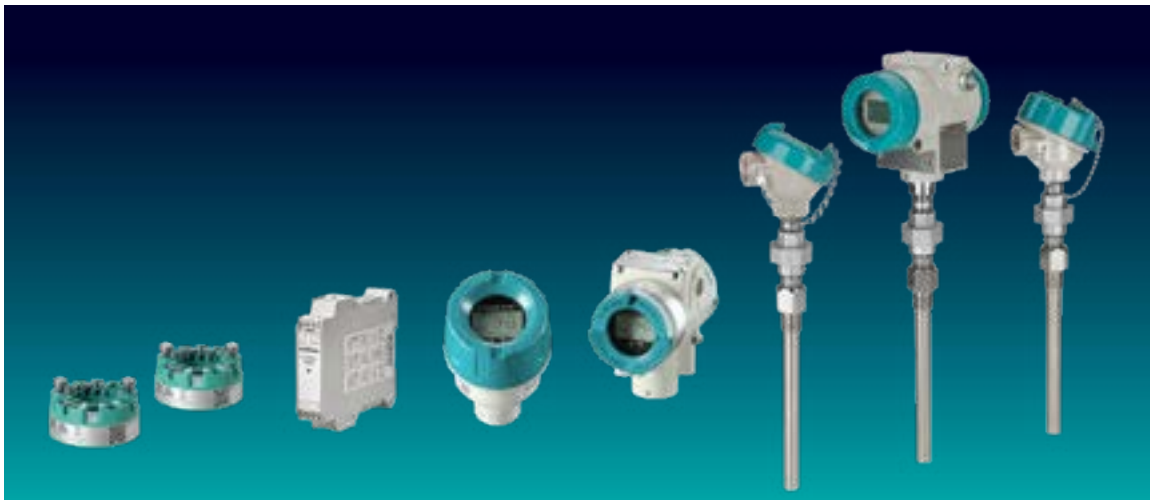
The SITRANS TF series of field transmitters are designed for rugged industrial environments. Because of its IP67 protection, the TF is used in environments too tough for other transmitters. It measures signals from resistance thermometers, resistance-type sensors, thermocouples and voltage sensors, and converts the signal into direct current signal (HART) or bus signal (Profibus PA, Foundation Fieldbus or wireless HART) in accordance with the sensor characteristics.

Temperature Sensors

SITRANS TS temperature sensors are the perfect basis for precise and safe temperature measurement. The RTDs and thermocouples support a broad range of applications across the process industries.

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Valve Positioners

As the interface between control system and valves, positioners play an important role in ensuring reliability and optimal performance in process plants around the world. Siemens offers you a choice of digitally based smart valve positioners or conventional pneumatic valve positioners to ensure an ideal fit for every application.

Smart Positioners

SIPART PS100

The SIPART PS100 electropneumatic positioner is the right choice whenever you need a simple, fast and reliable controller for standard applications. Its speed of initialization, ease of operation and robust construction make it a winner for valve manufacturers, the chemical industry, the energy sector and many other fields.

SIPART PS2

The SIPART PS2 electropneumatic positioner can handle difficult applications and operates with minimal air loss compared to conventional positioners. Achieve higher plant availability and process security with the PS2 thanks to its diagnostic capability and extensive range of intelligent features, including partial stroke tests, fail-in-place and failsafe functions, and end-to-end control and analysis using the Valve Monitoring App.

Conventional Positioners

Series 760 P/E

Series 760 P/E valve positioners provide a cost-effective, universal approach to your valve control. Their modular concept allows all models to be built on the base pneumatic unit (760P). The electropneumatic model (760E) is created by adapting an I/P transducer to the base and a wide range of accessories is easily installed inside the unit.

Model 74

Model 74 pneumatic valve positioners are universal positioners that provide versatility, dynamic performance and high positioning accuracy. Supply pressure variations have little or no effect on the positioner output, which eliminates the need for a supply pressure regulator.

Model 73

Model 73 built-in, compact pneumatic valve positioners incorporate a single-axis, force-balance principle of operation to ensure accurate and stable control valve positioning. In all cases, including bottom-loading applications, the Model 73 is mounted directly on the topwork of the valve, with no external levers or other exposed mechanisms.

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Weighing & Process Protection

Integrated Weighing Modules

Secure your investments with SIWAREX electronics featuring SIMATIC hardware and seamless integration into Step 7, TIA Portal and SIMATIC PCS 7. SIWAREX provides a comprehensive range of weighing electronics for hopper, platform, batching, bagging and belt scales as well as solids flow meters and loss-in-weight applications.

Stand-Alone Weighing Modules

SIWAREX terminals and Milltronics integrators are stand-alone weighing electronics from Siemens, featuring an integrated display for commissioning and operation. On-board interfaces and optional communication modules offer a wide range of integration possibilities.

Load Cells

Siemens brings you a wide selection of different design options, from platform load cells to bending and shear beam, S-Type and compression cells. The different load cell series cover nominal loads from 0.66 lb to 550 T. Mounting units are also available to support optimum alignment, protect the load cell against overloads or transverse loads, and greatly simplify assembly.

Belt Scales

Whether you need to record flow rates, check stock levels or monitor production sequences, Siemens belt scale systems can help you achieve your weighing goals.

Weighfeeders

Siemens weighfeeders deliver high-accuracy weighing and flow rate control of solids – without interrupting your process. SITRANS WW100 and WW200 are versatile enough for use across a variety of industries, including food, animal and compound feed, pharmaceutical, water treatment, and mineral processing.

Solids Flow Meters

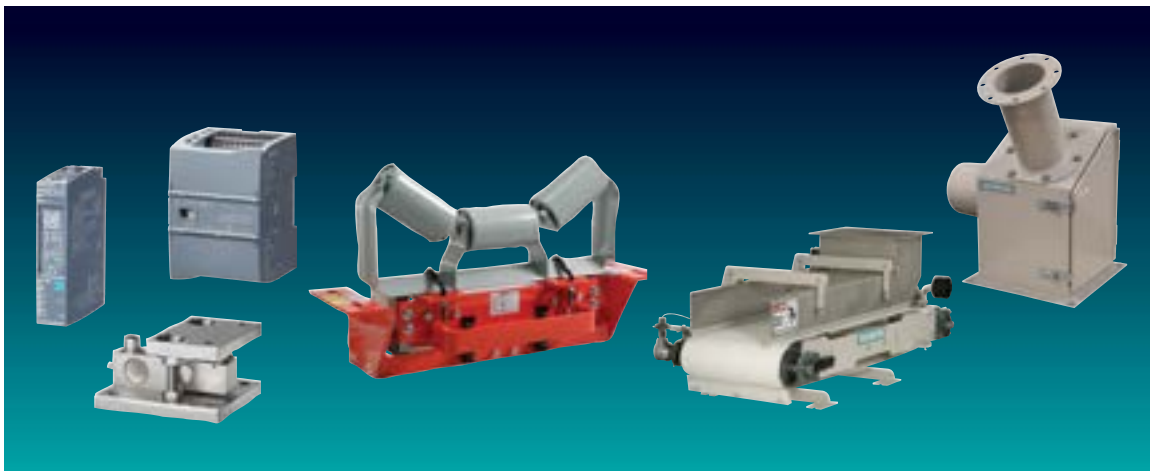
Siemens solids flow meters provide accurate, repeatable measurements that can improve end product quality, increase operating efficiency and provide significant cost savings.

Intelligent Process Protection

Siemens offers the devices necessary for highly reliable process protection against flow problems, blockages, sieve and filter problems, and pump cavitation. Our non-contacting acoustic sensors measure inaudible high-frequency noise emissions, while our non-contacting speed sensors record changes in drive and speed in your piston, turning and conveyor systems.

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Engineered Instrument Solutions

Siemens Engineered Instrument Solutions (EIS) understands that no two businesses are the same and that your differentiation is your competitive advantage. As a worldwide leader in process instrumentation and automation, Siemens brings you a wealth of engineering expertise together with an expansive portfolio of products and services. This winning combination enables our EIS team to design comprehensive, customized and cost-effective solutions for the process. Our wide range of innovative solutions and services includes:

- Smart monitoring apps
- Thermal energy calculators
- Communications enclosures
- Ethernet IP field-mounted enclosures
- Stand-alone multi-channel weighing displays
- Sunshields for clamp-on ultrasonic flow meters
- Magnetic level indicators
- Custom flow meter configurations

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Smart Monitoring Apps

SITRANS store IQ

SITRANS store IQ is a cloud-based smart monitoring app offering customers the dual ability to remotely monitor process measurements as well as remotely monitor the activity and health of that instrumentation without the need for SCADA systems or other expensive process control room products. Working in conjunction with the Siemens Insights Hub industrial IoT service solution, store IQ allows information to be uploaded to the cloud and then used for real-time monitoring of multiple assets and retrieving data from remote sites for your user group – anywhere and anytime. The store IQ app also provides independent alarms and other notifications without delay. All of this can be sent directly to your PC, tablet or phone in formats like SMS, email or voicemail.

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Service & Support

All the support you need in one place: the Siemens Technical Support website is a one-stop source for answers to your questions about process instrumentation. Seeking contact information for pre-sales technical consultations, sales support or your local US sales representative? How about easy access to Siemens Industry Online Support (SIOS) or the PIA Selector?

Maybe you're looking for quick videos on how to configure your field devices, or more in-depth training courses led by expert instructors. Perhaps you want to submit a pre-site evaluation request but need guidance on where to start. No matter what your process instrumentation requirement might be, the Technical Support website is here to help.

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Training & Solutions Center

Innovation Sessions – A New Way of Learning in a New Normal World

As we continue to work within the digital sphere, traditional webinars have the potential to put us in “airplane mode” after awhile – which is why Siemens created the Process Automation Innovation Sessions, a educational series hosted by technical and industry experts. This interactive new spin on the webinar provides a great opportunity to explore the latest technologies, stay up-to-date on industry trends and earn PDH credits through engaging discussions and insightful Q&A. Check out our on-demand Innovation Sessions today, available anytime and anywhere.

usa.siemens.com/pait

Virtual Solutions Center – 360 Degrees of Pioneering Technology

Experience the future of process automation with no travel required! Visit the Siemens Virtual Process Automation Solutions Center, where you can walk through our 360-degree showcase of process measurement and control solutions to learn about innovative technologies for the process industries – including web-based process control, digitalization, integration of smart instrumentation, remote monitoring and support, and much more.

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