

sindus

INSTRUMENTATION AND SYSTEMS



Process Analyzers



GAS ANALYZERS



- **Industrial and medical gas analyzers:** Oxygen purity, Hydrogen, argon, air separation, humidity measurement, Wobbe index and calorific value.
- **Process gas chromatograph that analyses 11 parameters,** Wobbe index, calorific value and density.
- **Several analysis technologies:** FID, laser, infrared, chromatography, capacitive, Fiber Optics, polarographic, Fluorescence, catalytic, paramagnetic, zirconium oxide, NIR, Quemiluminiscencia, thermal conductivity, electrochemical cells, etc..



Versions for safety, severe and potentially explosive areas.

TELEDYNE ANALYTICAL INSTRUMENTS, HOBRE INSTRUMENTS, AZBIL, APPLIED ANALYTICS

LIQUID ANALYZERS

- **For monitoring and process control.**



Analyzing with different techniques



- Hydrocarbons in water
- Detection of hydrocarbons floating on water
- Dissolved oxygen, pH, conductivity, ORP
- Chlorine
- Corrosion
- Density, viscosity, concentration.
- Color
- Mass
- Water in liquids
- SO₂, N₂, SH₂, Total sulfur.
- Vanadium, copper, cobalt, iron, nickel, etc...
- TiO₂

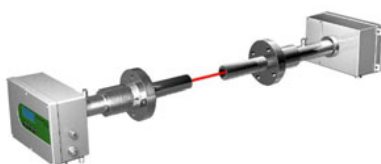
TELEDYNE ANALYTICAL INSTRUMENTS.PAC (petroleum analyzer company).RIVERTRACE ENGINEERING. LEMIS SALTIC, G.E.ANALYTICAL INSTRUMENTS

ENVIRONMENTAL ANALYZERS APPLICATIONS

Common applications of gas emission and can include: *O₂, CO, CO₂, CH₄/TOC/VOC, SO₂, SH₂, NO_x, Cl₂, O₃, HCl, HF, TC, TOC, DQO, DBO, benzene, opacity, emission flow.*

Spilling or dumping water applications examples: *Oil, grease or oils floating or dissolved, chlorine content, particles measurement, selective ion.*

- Liquid and gas analyzers in situ or extractive. Several environmental regulatory compliance techniques.
- Sample and probe conditioning systems, specifics for each application.



RIVERTRACE ENGINEERING, GE ANALYTICAL INSTRUMENTS, TELEDYNE ANALYTICAL INSTRUMENTS.

IN LINE ANALYZERS FOR PETROCHEMICAL PRODUCTS

- **Physical properties analyzers:**

Viscosimeters

Colorimeter

Flash Point, Cloud Point, C.F.P.P., Freeze Point, Pour Point,

RVP.

Complete distillation.

- **Chemical analyzers:**

Sulfur and/or nitrogen in: diesel, petrol, gas and liquids in

general

Methanol and Mercaptans

Salt in crude

Phenol and Methanol in water

Aromatics concentration (benzene, toluene, xylene...)

Polymerization

Tail Gas in desulphurization plants

- **Sample conditioning systems which include validation and calibration systems and specific sampling probes**



PAC (PETROLEUM ANALYZER COMPANY), APPLIED ANALYTICS INC, ANTEK

AUTOMATIC SAMPLING SYSTEMS AND BLENDING OPERATIONS

- **Samplers in crude oil**
- **Samplers in refined products and gas.**
- **Samplers of LNG (Liquid Natural Gas)**
- **Measurement systems for gas, water and crude in oil well**
- **In line blending**



Industrial instrumentation and sensors

FLOW INSTRUMENTATION

- We provide a full range of flow measurement equipment and portable flowmeters for gases and liquids with different principles of measurement: ultrasonic (transit time, Doppler effect and both), mass flow, electromagnetic, mechanical, differential pressure, vortex, turbines, coriolis, thermal wire, etc.
- Flow meters and mass flow controllers for gases by thermal wire.
- Indicators, regulators and flow alarms.

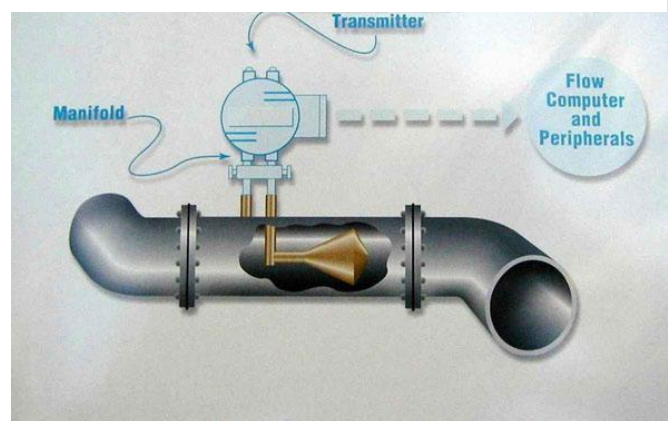
Our flow measurement equipment could be used in processes for the measurement of liquids, gases and steam in Industries such

as:

Electric Power
Generation
Oil and Gas
Chemistry
etc.



Liquids and gases complex applications without straight sections



FUJIELECTRICS, McCROMETER, ARKON, TELEDYNE HASTINGS

PRESSURE INSTRUMENTATION



For liquid or gas and for absolute, differential or relative pressures, with the best accuracy and stability and with a wide variety of outputs and communication protocols such as HART, FCX, 4-20 mA, FF.

Fixed, portable and solid state vacuum instruments with industrial and sanitary connections.

Instruments for a wide range of temperatures and pressures made of exotic materials and certified to be use in explosive areas. SIL

Instruments suitable for corrosive and erosive processes made of exotic materials and certified to be use in explosive areas with the highest quality. SIL



FUJI ELECTRIC, TELEDYNE, HASTINGS

LEVEL INSTRUMENTATION



Level instruments for all types of applications within industrial environments, liquids and solids. Level gauges or sensors based on mechanical principles to the newest developments in radar or multiple frequencies.

ARKON, FUJI ELECTRIC, BINMASTER

Multiplexer Modbus and Foundation Fieldbus temperature. Temperature converters. Temperature sensors with wireless communication.



TEMPERATURE INSTRUMENTATION

From digital indicators and controllers to non-contact temperature measurement through IR variable emissivity materials.

Equipments of single, double and multi-wavelength

WILLIAMSON, MTL, ACROMAG

REGULATOR VALVES

Esindus is an expert on the calculation and supply of valves for liquid and gas applications among which we mention:

- Pressure regulating valves
- Safety shut off valves
- Pressure safety valves



Isolation, conversion and signal conditioning

ZENER BARRIERS AND GALVANIC INTRINSICALLY SAFETY ISOLATORS

All of them with global certifications: ATEX, GOST, FM, UL, SIL2, SIL3, FF, etc.



- **Zener Barriers:** modern and compact designed for DIN rail mounting or base plate.
- **Triple galvanic isolators,** input, output and power. DIN rail mounting or base plate and integrated into the best control systems. Isolators TCP / IP.
- **Isolators, conditioners, and converters** specifics for digitizing, conversion and signal duplication and calculation.

MTL, MOORE INDUSTRIES, ACROMAG, MOXA

I/S SYSTEMS, FIELD BUS AND SAFE CLASSIFIED AREAS

- **Power supply, isolators and signal conditioners** for field buses, simple and redundant, for safe and potentially explosive areas with ATEX, GOST, FM, UL, FISCO, FF, etc..ç
- **Elements for the interconnection between FF field sensors** and DCS.
- **I/S Systems for hazardous areas,** with galvanic isolation, signal conversion and field communications. Protocols: HART, Modbus, Profibus, Foundation Fieldbus, etc.
- **Transmitters and converters for all applications:** smart transmitters, programmable, two-wire, multi-channel signal converters, etc.
- **Alarm modules DIN rail mounted, PC programmable with integral display.** Different input/output options, multi-trip alarms to provide several levels of warning and shutdown actions.
- **Converters, trip amplifiers and power transducers** IP/PI.
- **Calculation modules** with optional communication from Windows that allows the generation of complex equations with spreadsheets.



Automation, control and industrial communications

ACQUISITION AND RECORDING DATA

- **Remote station and I/S modules** available for the most common protocols and industrial buses. Our products allow reading and writing remote field signals as well as diagnostic data from each loop, failure modes and system startup.
- **Video graphic data recorders** on paper turned to PC and industrial communications that could be introduced into complex systems of control. Our products have the ability to use storage media and dump of memory card type.
- **Industrial Wireless Communications** for data transmissions and bidirectional signal according to ISA 100.11a standards.

FUJI ELECTRIC, ACROMAG

HUMAN MACHINE INTERFACE

- **Indicators and local numeric, alphanumeric and graphics display** with local keypad options: panel, wall or pipe mounting.
- **Alarm modular panels** Fully configurable, based on microprocessors preprogrammed ISA sequences.
- **Screens, operator stations and modular industrial PCs** with touchscreen, card readers, fingerprints, and bar code.

*Our equipments
have certifications to be used in
hazardous areas, explosive
atmospheres, etc..*



SECURITY SYSTEMS

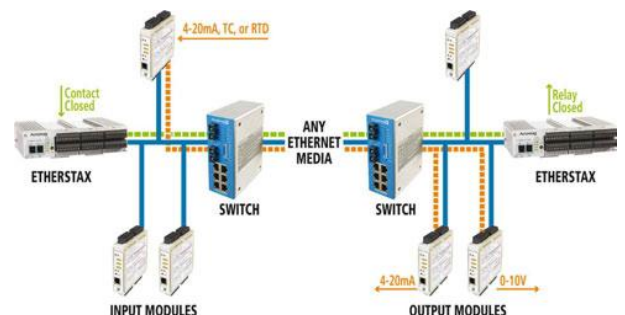


- **Drivers and SIL Certified Systems:** With open protocols and software. The system is completely certified so their programming, installation, integration and implementation is simple. Specific developments for fire and gas (F & G) applications and emergency shutdown systems (ESO).
- **Protection systems for industrial communications:** Modbus TCP, Firewall.
- **Alarm panels for security systems:** with the same features as our industrial alarm panels but with SIL certification.
- **Protection against natural phenomena (lightning, static discharges) and random man made events (power switching, spikes welding current faults).** Applications for fieldbus (FF), power supplies, analog signals, CCTV, load cells, etc. Installation both in hazardous or safe areas.

MTL, RTK Instruments, SIMTRONICS GROUP, ACROMAG

INDUSTRIAL COMMUNICATIONS

- **Hubs, Switches and industrial Routers:** managed, unmanaged, with redundancy, with fiber optics, lightning protection, surge, short circuit, etc.
- **Fieldbus connection hardware:** power supplies conditioners, power strips and hubs for safe or hazardous area, simple, redundant, high power, terminator integrated, hot-swappable. Our products can connect the Fieldbus devices, providing protection against short circuits on each segment.
- **Signal converters:** interfaces, gateways, protocol converters, physical environment inverters. Modules I/ O: Ethernet, Ethernet P2P, Ethernet Switches, Modbus, Profibus, Hart. i2o.
- **Wireless Communication Systems**



Lighting, sounders, control and distribution

INDUSTRIAL LIGHTING, CLEAN ROOMS AND EMERGENCY

Lighting for clean rooms, industrial environments and hazardous areas. Direct Power on both incandescent and fluorescent lighting. Protection systems against heating lamps. All of our products are certified according to the main international standards (to IEC Ex), European (ATEX), Russian (GOST R), Canadian (CSA), Naval (Marine UL, ABS, DNV. CSA, Lloyd's, etc.).

Our range of lighting products includes International certifications: ATEX, GOST, FM, UL, SIL2, SIL3...



VICTOR LIGHTING

ENCLOSURES AND GLAND CERTIFIED

We have a wide range of star-delta starters, control panels, junction boxes, pushbuttons, selector switches and industrial selectors design to operate in the harshest industrial conditions, aggressive or explosive atmospheres.



HORNS, VOICE SOUNDERS, ALARMS...

- **Horns**
- **Light beacons**
- **Speaker**
- **Combination Units**



MEDC

Specifically designed for harsh environmental conditions or explosive areas using materials that go from the reinforced polyester (GRP) to the stainless steel and marine.

Complete gas and fire extinction, prevention and detector systems

- **Toxic and combustible gas detectors:** with tunable laser diode technology, IR sensors, semiconductors and electrochemical.
- **Flame detectors** with Multi-spectrum Infrared 3IR, or Ultra Violet / Dual Infra Red
- **Ultrasonic gas leak detectors**
- **Fire prevention systems**

With HART communication, self-diagnostics and without calibration. High immunity to interference like heat / light and solar radiation. Classified Areas certificates: ATEX, UL, ABS, SIL, and so on.



SIMTRONICS GROUP

Service and support

Esindus has a team of highly qualified and with wide experience in the industrial area that besides working in providing advice to clients and designing solutions offers a variety of services with the highest quality and warranty

- **Repair and maintenance**
- **Start up of equipment and systems**
- **Maintenance contracts**

Also provides integrated systems specific for each equipment, including cabinets of analysis, sample conditioning systems, communications systems, instrumentation, etc

esindus

INSTRUMENTATION AND SYSTEMS

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