

# Instrumentation & Control Systems

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engineering → sales → service → leasing/rental

Process Instrumentation and Control Valve Product Lines

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#### **Analytical Product Lines**



### Rosemount Analytical, Inc.

**Liquid Analyzers** 

- Continuous On-line Analyzers for pH/ORP, Conductivity, Resistivity, % Concentration, Turbidity, Total & Free Chlorine, Dissolved Oxygen, Dissolved Ozone, & Select Ion
- Wireless WiHART Transmitters and Smart Sensors

**Combustion Analyzers** 

- In-situ Zirconium Oxide for O2 or Extractive Flue Gas Analyzers for O2 & Combustibles (CO); Cross Stack CO © Compliance and Process Opacity/Dust Density Monitors
- Hagan Pneumatic Fan/Damper Actuators

- Process Gas Analyzers/CEMS

  Continuous Analyzers Single/Multicomponent X-Stream
  Series NOx, CO, CO2, SO2, O2, THC, H2, VOC, Moisture, Cl2, NH3, & other gases, General Purpose or Ex-proof; THC
- E Continuous Emissions Monitoring Systems, Stand-Alone Cabinets, Shelters, & Modular Systems

**Net Safety Monitoring** 

- Toxic and Combustible Gas Detection Transmitters and Systems; IR or Catalytic LEL, Electrochemical for O2 and Toxic Gases
- Flame Detectors, UV/IR and Optical

Chromatographs - GC Systems

- Multicomponent Model 700XA Process Gas Chromatograph Transmitter for Process and Ambient Monitoring, field mount (no shelter needed)
- Models1500XA and 500 Process Gas Chromatographs for most trace and % level Hydrocarbon processing, liquid/gas

#### **Environics USA**



Ion Mobility Spectrometetry(IMS) Industrial Air and Gas Monitors/ Analyzers (PPB and PPM) for Ambient Air, Stack Gas or Process Gases - NH3, Cl2, HCl, ClO2, HF, ETO, CH2I, CH<sub>2</sub>Br, VCM, Arsine, Phosphine, Phospene, Amines, VOC's Fox Thermal Instruments, Inc. and many organics

#### GE Sensing - Moisture & Gas Products

- EChilled Mirror Hygrometer; Moisture Analyzers and Transmitters: Industrial Relative Humidity - Class 1 Div 1
- Tunable Diode Laser (TDL) Moisture Analyzers (PPM) for Natural Gas Pipelines, Atmospheric and Process Gases
- Oxygen Analyzers for Critical Applications, Percent or PPM

#### Perma Pure, Inc.



- Nafion® Gas Dryers, Baldwin Thermo-Electric Coolers,
- **■** GASS<sup>™</sup> and Baldwin<sup>™</sup> Series Sample Conditioning Systems
- I Heated Filter Probes; Filters, Scrubbbers and Air Dryers
- **Flow Control Panels**

### Rotronic Instrument Corp.

- Digital Relative Humidity, Temperature and Dewpoint Transmitters and Probes; Portable Instruments, Data Loggers
  - D&M Instruments, Inc.

#### D & M Instruments, Inc.

Hazardous Area Approved Type "Z" Purge Indicators and Type "X" Purge Controllers

#### CADA/Telemetry Product Lines

#### Dorsett Technologies



Control of Facilities - flexible, expandable system meets specific needs of simple systems to over 100,000 points using existing instrumentation Economical MS5 xTalk RTU for Field Mount - Powerful 16

Digital Input, 16 Analog Input, 16 Universal Outputs, with Ethernet Port for Uplink and Four Serial Ports for ModBUS and other strandard protocol communication to VFDs and other 3rd party equipment

#### GE Sensing - Industrial

- Flow Products Clamp-on Transit-Time Portable or Fixed Flowmeters for 1/2" to 300" Line sizes, General Purpose, I. S. or Explosion-Proof, for Liquid, Gas or Steam Service: Vortex Flowmeter for Volumetric or Mass Flow (Multivariable)
- Pressure/Level Products Druck Submersible Pressure Transducers for Depth/ Level Measurement - GP or Hazardous, Process Pressure Transmitters, Industrial "Screw-in" Pressure Transmitters
- **Calibrators** DPI 620 Multifunction Documenting Calibrator-HART Communicator- for Pressure, Temperature, Electrical Signals, GP or I. S. Version; Loop/ Temperature Calibrators, Pressure and High Precision Pressure Calibrators;
- Pneumatic and Hydraulic Hand Pumps,

**Delta M Corporation** 

- Flow, Level, Interface & Temperature Switches, Thermal Differential Principle; SP76 Compliant Flow Switch,
- ₹ VERSA-SWITCH field configurable for Mass Flow, Level or Temperature



Thermal Mass Flowmeters for Compressed Air, Natrual Gas, Process Gas, Combustion Air, Digester Gas, Pure Gas, Mixed Gases, Emissions Monitoring, Energy Accounting + more; Ex-proof Class 1 Div 1 GRP B, C, & D

TRIMEC

# Trimec Flow Products

- and Dualpulse Insertion Turbine Flowmeters
- Oval Gear Flowmeters, 1/8" to 4" Line Sizes
- **Universal Flowrate Totalizer**



#### FLO-Corp

- Flow Meters Volumeteric, Turbine, Positive Displacement, Purge, Variable Area, Calirometric and Water Meters
- Level Transmitters/Switches- Ultrasonic. Radar Level Transmitter for Liquid/Granular Applications, Vibrating Element Level Switch
- DigaCom 2000 Universal Process Meters, IP Precision Digital Configuable for Text/Email Alarm Notification

# PRO MAG LTD

### ProMag, Ltd.

- Magnetic Float Type Liquid Level Indicator/ Transmitter; Liquid Level Switches
- Magnetostrictive Level Transmitter
- Auto-Pump Maintenance Free Pump

# **DESCRIPTION**

#### Phoenix Contact

Telemetry Systems utilizing Trusted Omnex HopLink Technology (Spread Spectrum Products)



### Berthold Technologies U.S.A. LLC

- Non-contact Instruments for Continuous & Point Level, Liquid Density & Solids Mass Flow (Weighing Systems/Free Fall), HART Detectors: Ash in Coal Analyzer
- Microwave Liquid/Slurry Density Gauge
- Microwave Moisture Analyzer Systems
- Radiation Survey Meters, Semi-stationary/Portable



#### Ceresist, Inc.

- © Ceramic Lined Spoolpieces, Elbows, Reducers and Orifice Plates
- E Ceramic Lined Butterfly Valves, 2"to 10",

#### **ElĭteValve** Elite Valve

- ₹ Fully Customizable High Performance Knife Gate Valves, Polyurethane Lined Knife Gate Valves for heavy slurry and FGD Systems, 2" to 2", 316 SS, other alloys
- Butterfly Valves Standard or Teflon Coated, Lug Style 2" to 48", AWWA Butterfly Valve to 36"
  Ball Valves, Stainless Steel, 1/4" to 12", 2- and 3-way
- Manual Levers and Handwheels, Pneumatic or Electri cal Actuators, Cylinders and Limit Switch Options



#### Fujikin of America, Inc.

Solid Ceramic Ball Valves, 1/2"to 6", Throttling, On-off and Manual; Abrasion and Corrosion Resistant

### API- Cecomp



- 3 Signal Transmitters, Conditioners, Alarms, Loop Isolators, Power Supplies: DIN or Plug and Socket
- Cecomp Digital Pressure and Temperature Gauges, mA Output or Battery Power; FM Approved Gauges RheinTacho Speed Monitors and Tachometers
- Sineax True RMS Multi-function Electrical Power Meters, Power Transducers, Position Transducers



- Multipulse PD Flowmeters, Turbopulse In-Line MicroMod Automation & Controls, Inc. Legacy PID Controllers: Micro-DCI and MOD Control Product Families; Parts, Upgrades, Replacements
  - Pre-engineered Solutions WaterPAK for Water/ Wastewater, SteamPAK for Boiler Control
  - **EHMI Solutons- SCADA, Operator Panels, Networks**
  - Phoenix DX Variable Speed Digital AC Drives, Panels

# PermaCal Industries

Direct Drive Pressure Gauges- High Reliability & Safety, Process or Test PRECISION DIGITAL ÷

- Digital Panel Meters, Combo Bargraph/Digital Display Device for 4 or 8 Channels, Annunciators
- NOVA Series Temperature/Process Controllers: 1/16, 1/8, 3/16, 1/4 DIN w/Setpoint Programs

# Thermocouple Innovations Thermocouple PTD Thermocouple PTD Thermocouples PTD Thermoc

Thermocouples, RTDs & Wells, Connectors, Panels, and Accessories Blue-White

#### Blue-White Industries

Metering Pumps- ProSeries Peristaltic or Diaphragm

Chemical Feed Systems- ProSeries Chem-Feed CFS Pre-engineered or Custom Built incl. 1 or 2 Pumps





## **APPLICATIONS**

#### **Liquid Analyzers**

Rosemount Analytical Liquid Div.-pH/ORP, Conductivity, Resistivity, Chlorine, % Concentration, Dissolved Oxygen or Ozone, Turbidity, Select Ion, Wireless WiHART Systems

#### Gas Analyzers/Sample Systems

Rosemount Analytical- Process Streams, Stack or Flue, CEMS, Chromatographs, Combustion Analyzers GE Moisture & Gas - Oxygen Analyzers, Percent or PPM E Instruments- Handheld or Portable Combustion Analyzers **Environics** - IMS (Ion Mobile Spectrometry) Ambient and Process PermaPure- Nafion® Gas Dryers, GASS™ and Baldwin™ Series Sample Conditioning Systems for Stack or Flue Gas; Filters, Scrubbers, Air Dryers and Heated Filter Sample Probes GE Moisture & Gas - Tunable Diode Laser (TDL) for Moisture

#### Moisture

Berthold Technologies- Microwave On-line Analyzer GE Moisture & Gas- On-line or Portable Moisture Analyzer in Gases

#### **Environmental/Hazardous Area Monitors**

D & M Instruments, Inc.- "YZ" Purge Indicators and Systems Emerson Chromatographs- Area Monitor GC Systems Emerson Net Safety-Infrared or Catalytic LEL Detection, Toxic Gas and Oxygen Deficiency Transmitters and Systems

### Liquid Concentration/Density

Berthold Technologies-Non-contact Radiation Absorption or Microwave Technologies

#### Flow

GE Sensing - Clamp-on Ultrasonic Transit-Time Meter for Liquid, Gas or Steam Applications; In-line Vortex Meter for Steam or

Natural Gas, Process Gas, Combustion Air and more

Delta M Corp. - Thermal Differential Gas or Liquid Flow Switches; Thermal Mass Flowmeter for Liquids

FLO-Corp. - Open Channel Flowmeters, Volumeteric, Purge, Variable Area, Calirometric Meters and Water Meters

Berthold Technologies - Non-contact Radiation Absorption for Bulk Materials (belt scale or free fall type)

Aalborg - Thermal Mass Flow Controllers, Digital Mass Flow Controllers, Variable Area (Rotameter) Flowmeters

Trimec Flow Products Positive Displacement, Turbine, Oval Gear Meters

#### Level

Berthold Technologies- Non-contact Radiation Absorption, Continuous Transmitter or Point Switch

Delta M Corp. - Thermal Differential Point or Multipoint Switches FLO-Corp. - Radar Level Transmitter for Liquid and Granular

Applications, Vibrating Element Level Switch, Ultrasonic Gap Level Switch, AccuTank Tank Inventory Management System Ultrasonic Transmitters and Pump Control Systems

**GE Druck-** Submersible Level Transmiiters

ProMag Ltd.- Magnetic Float Type Indicator/Transmitter, Switches

#### Temperature/Pressure/RH

Absolute Process Instruments- Transmitters, Alarms, Isolators API-Cecomp - Digital Pressure Gauges, Digital Temperature Gauges GE Sensing Druck- PressureTransmitters, Submersible or Process MadgeTech- Temperature, DP, P, RH, & Process Data Loggers MultiCable Corp. - Thermocouple Wire and Cable Perma-Cal Industries - Direct Drive Pressure Gauges Precision Digital- Panel Meters, Controllers, Temperature Transmitters: Universal, HART, GP or Ex-Proof

Rotronic Instrument- RH/Dewpoint Transmitters, Loggers ThermoCouple Innovations- Thermocouples, RTDs, Thermowells, Connectors

#### **Metering Pumps/ Chemical Feed Systems**

Blue-White Industries- Pro-Series Chem-Pro Diaphragm Metering Pumps and Flex-Pro Peristaltic Metering Pumps, Pro-Series Chem-Feed Pre-engineered Single and Dual Pump Skid Systems

#### Remote Alarming and Telemetry

FLO-Corp. - DigaCom 2000 Remote Alarm Communications Phoenix Contact- Telemetry Systems for Analog and Digital I/O and RS232 or RS485 Serial Data

Precision Digital- Remote Annunciators and Systems

#### Controllers/Control Systems/SCADA

Dorsett Technologies-Plantwide SCADA Systems, Field mount RTU's MicroMod Automation & Controls-Legacy Micro-DCI and MOD Controllers, single or multi-loop control, manual loading sta tions, display statons; MODCELL Distributed Control w/ HMI Stations; SCADA Systems

#### Test and Calibration

GE Sensing Druck- Compact Handheld Single or Documenting Multifunction Calibrators: Pressure, Process Signals, Temperature, Electrical; Handpumps, Pneumatic or **Hydraulic Pressure Generators** 

Fox Thermal - Thermal Mass Flow Measurements for Compressed Air, GE Sensing- Portable Clamp-on Flowmeters for Liquids or Gas E Instruments HVAC- Handheld Flow Monitor for Gas/Air (Velocity, Volumetric, DP, P, Temperature)

Perma-Cal Ind. - Precision Test Gauges (w/optional pump) Rotronic Instrument- Handheld RH/Temperature Instruments

#### Valves/ Pipe Components

Elite Valve- High Performance Knife Gate Valves, Butterfly Valves, Ball Valves (2-way and 3-way) and Actuators, Cylinders, Manual Levers, Handwheels, Limit Switches

Fujikin of America- Solid Ceramic Ball Valves, 1/2" to 6" Size, Throttling, On/Off and Manual; Ultra-Precise Control w/ Mini-Control Valves, 1/2" to 2"; Abrasion-Corrosion Resistant

Ceresist- Ceramic Orifice Plates, Ceramic Lined Spoolpieces, Elbows, Flange Adapters, Reducers and Pipe Sections; Z-Max Ceramic-Lined Butterfly Valves, 2" to 10" Size

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