

---

# GILSON ENGINEERING POWER INDUSTRY GUIDE

---

## Instrumentation and control products for power plant projects...Coal and Gas Fired



### **PITTSBURGH, PA**

535 Rochester Road  
Pittsburgh, PA 15237  
p (412) 348-3000  
f (412) 366-1728

### **COLUMBUS, OH**

2697 Sawbury Blvd  
Columbus, OH 43235  
p (614) 889-2150  
f (412)348-3043

### **CLEVELAND, OH**

4660 Main Hill Drive  
Seven Hills, OH 44131  
p 800-860-4499  
f (412)348-3044

### **CINCINNATI, OH**

1094 Main St # 1  
Cincinnati, OH 45241  
p 800-860-4499  
f 412-348-3042

### **CHARLESTON, WV**

3501 MacCorkle Ave. SE #143  
Charleston, WV 25304  
p (304) 342-0012  
f (304) 342-0085

### **TOLEDO, OH**

26953 Mingo Drive  
Perrysburg, OH 43551  
p (419) 874-1178  
f (419) 874-5333

### **ORLANDO, FL**

144 Harston Ct.  
Heathrow, FL 32746  
p (407) 444-0334  
f (407) 444-0335

### **TAMPA, FL**

6329 Knob Tree Drive  
Lithia, FL 33547  
p 800-860-4499  
f (407)444-0335

### **JACKSONVILLE, FL**

391 Ahern St  
Atlantic Beach, FL 32233  
p 800-860-4499  
f (407)444-0336

### **LOUISVILLE, KY**

711 Bass Lane  
Shelbyville, KY 40065  
p 800-860-4499  
f (412)366-1728

### **MIAMI, FL**

1155 97<sup>th</sup> St - #201  
Bay Harbor Islands, FL 33154  
p 800-860-4499  
f (412)366-1728

## From the Coal...

### Coal Delivery, Storage & Handling: Unloaders, Stack/Reclaim, Belt Lines, Bunkers



Car Position: Banner [Photoelectric Eyes](#), [Turck Proximity Switches](#)  
Coal in Bunkers, on Belts, in Transfer Chutes & Sampler Buckets:  
Siemens-Milltronics [LR560 Radar](#) and [LUT400](#) Ultrasonics, Thermo Scientific [PNF Point Levels](#) and [LevelPro Continuous](#) level (formerly TN Technologies)

Tripper/Dumper Car Position: [Laser Gage](#), [Turck](#), [Banner](#)

Motor Load, Speed, Winding & Bearing Temperature: Moore Industries [RTI1](#) and [RTI3](#), [Smart Sensors](#), [AI Tech Speed Monitors](#)

Unloader Cab Console Process Display and Annunciation: [PD158](#)– Precision Digital Process Displays, Precision Digital [PD6000](#),

Interface Relays for Controls - [Releco Relays](#)

Motor and Bucket Wheel Speed Measurement Systems- [AI-Tek \(Airpax\)](#)

Methane & CO Monitors, and Flame Detection: MSA [Ultima X](#) and [X5000](#),

MSA [MSIR Flamegard 5](#)– Fenwal

Pressure Sensors for Hydraulic Oil and Water: [ITT NeoDyn](#), [Siemens DSIII](#)

Flowmeters for Service Water: [GF Signet 2551](#), [Siemens Mag 5100](#)

Belts Alignment & Zero Speed Switches: [Siemens MFA4P](#) – Turck, Banner, EEC

Belt Weigh Scales: [Siemens-Milltronics MSI/MMI](#)

Wireless I/O and Gateways: Elpro [905U](#), Elpro [905U-G](#), [Banner](#), Oleumtech

### Coal Feeders/Pulverizers/Combustion

Coal in Feeder Pipes: Siemens [LR560 Radar](#), Thermo Scientific [PNF Point Level](#), [Banner Photoelectrics](#)

Pulverizer Gate Valve Position: [Turck Proximity Switches](#)

Motor Load, Winding & Bearing Temperature, Moore Industries [RTI1](#) and [RTI3](#), [Smart Sensors](#)

Interface Relays For Controls: [Turck Releco Relays](#)

Data Acquisition Systems for Temperature, Load, etc:

[Gilson GR PR Series](#)

Air Flow Transmitters: [FCI ST100](#), [Comate Vortex](#), [DPs for Venturis DSIII](#), [Veris Verabar](#) and [Veris Accelabar](#)

Air Temperature Sensors & Transmitters: Moore Industries [RTI1](#), [RTI2](#) [RTI3](#), [Smart Sensors](#)

Primary Valves and Manifold Valves for Pressure & D/P Cells: [Siemens](#)

Fire Detection via CO Detection: MSA [Ultima X](#)



### FD & ID Fans & Motors

Motor Load, Winding & Bearing Temperature: Moore Industries [RTI3](#) & [RTI4](#), [Smart Sensors](#)

Motor Speed Measurement Systems: [AI-Tek](#)

Vibration Monitor Output Signal Conditioning: Moore Industries, [Banner Engineering](#)

### Boilers: Fire Box, Drum, Heater/Deareators, Condenser, Oil Lighters, Soot Blowers

Pressure Measurement in Boiler, Drum or Heater: [Siemens DSIII](#)

Boiler Tube Temperature Sensors: [Smart Sensors](#)

Flame, Water & Steam Temperature Sensors: [Smart Sensors](#)

Data Acquisition Systems: [Gilson GR PR](#)

Drum and Heater Level Indication/Control/Tripping: [Siemens DSIII](#), Questtec [LT210](#) and Quest-tec [LT220](#), Quest-tec [LT300](#)

Soot Blower Position Sensors : Turck, ITT NeoDyn

Oil Lighter Flow Measurement and Totalization: Siemens, [UFM MN Series](#) Vane Style Meters, Turbines Inc [TM Series](#), [MacNaught Positive Displacement MX Series](#) ,

Pressure Regulators - Jordan Valve [Mark 60](#) Valve Positioners: Siemens [760](#) and Siemens [PS2](#)

Condensate Flow Measurement: Siemens Clamp-on flow [FS230](#), [Veris High Temp Vortex](#) and Verabar [Pitot Tubes](#)

# To the steam...

## Water : Intakes, Cooling Towers, Filter/Demineralizers, Discharge

Filter Screen, Basin and Tower Level Controls: Siemens [LUT400](#), Precision Digital [PD6060](#), [Gilson Submersible Level](#) Transmitters,  
River and Discharge Temperature Sensors: [Smart Sensors](#), Moore Industries [RTI-1](#) and [RTI-2](#) Temperature Assemblies  
Radio, Fiberoptic & Hardwired Data Transmitters: Moore Industries, [Elpro 905U](#) and [905U-G](#), [Banner Wireless](#), [Oleumtech](#)  
Pump Motor Bearing and Winding Monitoring: Moore Industries [RTI-1](#) and [RTI-2](#), Temp Sensor Kits [RTI-3](#)  
pH & Conductivity Monitoring: ECD S80 and [T80](#), and GF Signet 2734-2736  
Loop Controls for pH & Conductivity, Levels, Flows: Moore Industries [535 Controller](#), Precision Digital [PD765](#), [PD6000](#), and [PD6060](#)  
Valve Positioners: [Siemens 760](#) and [PS2](#)  
Resin Bead Level Measurement: Siemens [Probe LU](#) and [LUT400](#)  
Acid & Caustic Level Sensors: Siemens [Probe LR](#) and [LR250FEA](#)  
Water Flowmeters: [Comate Vortex](#) and DP's [DSIII](#), Siemens Mag [5100W](#), Signet Insertion Mags [2551](#) and [2552](#)  
Flow Totalizers: Moore Industries, [Precision Digital PD6200](#), [Fluidwell](#)  
Valves for Flow Control and Pressure Regulation: Jordan Valve [Mark 70](#) and [Mark 67](#)



## Turbine/Generator Area

Speed Sensors: [AI-Tek](#)  
Temperature Sensors: [Smart Sensors](#), Moore Industries [RTI-1](#) and [RTI-2](#)  
Data Collection: [Gilson Recorder GR](#)  
Turbine Valve Limit Switches: Banner Engineering, Turck  
Generator Field Temperature Monitoring: Moore Industries, [Gilson Recorder GR](#)  
Vibration Monitor Signal Conditioners: [Banner Engineering](#)  
60 Hz Frequency Monitors - Moore Industries [FDY](#)  
Hydrogen Flow: [FCI ST100](#), [Comate Vortex](#)  
Hydrogen/Oxygen/Air Gas Analyzers: MSA [Ultima X](#) and [X5000](#)  
[Alarm Beacons - E2S](#)

## Flue Gas & Ash Handling (also see FGD, SCR & Stack sections)

Economizer, Precipitator, Hopper Temperature Sensors: [Smart Sensors](#)  
Precipitator Power Consumption Monitors: Moore Industries [PWT](#)  
Baghouse Differential Pressure & Suction Sensors: [Siemens DSIII](#), [ITT NeoDyn](#), Turck  
Ash Level Sensors: [Thermo PNF](#), Siemens [LR560 Radar](#) and [LG240](#) Guided Wave Radar  
Gate Valve Position Sensors: Turck  
Hopper Heater Controls: [Gilson Recorder GR PR](#), Precision Digital Alarming Displays [PD765](#) and [Minimux PD138](#)  
Data Collection Systems: [Gilson Recorder GR PR](#)  
[Alarm Beacons and Horns:E2S](#)  
Wireless: Elpro [Wireless 905U](#) and [905UG](#), [Banner Wireless](#), Oleumtech

## SCR Systems

Ammonia Leak Detectors: MSA [Chillgard 5000](#)  
Ammonia Tank Level Measurement: Siemens [LR250FEA](#) and [LG250 TDR](#)  
Ammonia Tank Temperature Measurement: [Smart Sensors](#), Moore Industries [RTI-1](#) and [RTI-2](#)  
Remote Data Collection & Transmitting: Moore Industries NCS, [Gilson Recorder GR](#), Siemens [RD500](#)  
Pressure Regulators: Jordan Valve [Mark 60](#), GF Signet Valves  
Local Indicators: Precision Digital [PD765](#), [PD6000](#), [E2S Alarm Beacons](#)

# To the stack...



## Stacks

CEM Data Transmitters: Moore Industries ECT , Elpro Technologies [Wireless 905U](#) and [905U-G](#) Gateways  
Stack Temperature Profiling and Flow Verification: Moore Industries [THZ3/TDZ3](#)  
Stack Gas Mass Flow: [FCI MT100](#)  
CEM Backup Recorders: [Gilson Recorder GR](#)  
Gas Detectors: MSAUltima X NH3 and [Chillgard 5000](#) Ammonia

## Fly Ash Ponds

Fly Ash Slurry Flowmeters – Siemens [5100W](#) Magmeters, Siemens Clamp-on Flowmeters [FS230](#)  
Fly Ash Slurry Density Measurement: Thermo [Density Pro](#)  
Pond Water pH Measurement and Control: [ECD S80](#) and [T80](#), [Signet 2724-2726](#)  
CO<sub>2</sub> Flow Measurement to Bubble Ring in Pond: [RCM](#) Mechanical Gage, Universal Flow [OFS](#)  
CO<sub>2</sub> Buildup Detection in Shelter: MSA [Ultima XIR](#)  
Effluent Flow Measurement: Siemens-Milltronics [LUT400](#) and [HydroRanger HMI](#)  
Effluent pH Measurement: [ECD S80](#) and [T80](#)

## Control Rooms

Paperless Recorders and Data Collection Systems: [Gilson Recorder GR](#)  
Process Indicators and Small Annunciators: Precision Digital [PD6000](#), [PD7000](#), [PD158](#)  
Loop Controllers: Moore Industries [535](#)  
Pneumatic Converters for Electronic Interface Applications :  
Moore Industries [IPT2](#), [IPX2](#), [ITT NeoDyn](#)  
Signal Conditioners, Isolators, Integrators, Power Supplies:  
Moore Industries [ECT](#) and [PULS](#)

## Miscellaneous Areas : Instrumentation and Equipment

Oil Storage Tank Levels: [Siemens LR250](#), [Siemens DP Cells DSIII](#), [Gilson Submersibles](#)  
Diesel Engine Oil Consumption – Siemens, [Universal Flow MN](#) Series, [McNaught Positive Displacement](#)  
Sumps and Drain Level Controls – Siemens [ULS-200](#), [LUT 400](#) [Gilson Submersibles](#), Precision Digital [PD765](#), [PD6000](#)



Oil Reclaim Interface Level Detection: Siemens-Milltronics [CLS200](#), FCI [FLT93B](#)  
Confined Space Monitors : MSA [Altair 4XR](#) and [Altair 5X](#)  
Transmitter Testing Manifolds: Siemens  
Remote Data Gathering to DCS- Elpro [Wireless 905U](#), [905UG](#) and [915U](#) Wireless Mesh, OleumTech

## Gas Fired Turbines – Simple Cycle...



Gas Flow Metering – FCI Thermal Mass Flow [ST100](#), Veris [Verabar](#) and [Accelabar](#), [Siemens Clamp-on flowmeters for Gas](#), [Comate Vortex meters](#)  
Lube Oil Flows: [McNaught Positive Displacement](#), [UFM Vane Style meters Series MN](#), [Comate Vortex](#), [Turbines Inc.](#)  
Lube Oil Levels: Siemens Radar LR250, Siemens Ultrasonics [LUT400](#), Siemens [Probe LU](#), Siemens Flange Mounted Levels, [Quest-Tec Magnetrac Magnetic Site Gages](#) and [Site glasses](#), [Gilson Submersible Level Transmitters](#), [Oleumtech wireless level](#), Siemens Capacitance Point [CLS200](#) and [CLS300](#), Precision Digital Process Displays [PD765](#) and [PD6000](#)  
Engine Combustion Chamber LEL Monitoring: MSA [Ultima XIR](#)  
Generator Hydrogen Cooling Leak Detection: MSA [Ultima](#), General monitors, MSA Portable Gas Monitors [Altair 4XR](#)  
Gas and Oil Pressures: [Siemens Pressure Transmitters DSIII](#)  
Temperature Monitoring: [Smart Sensors](#) Inc, Moore Industries [RTI-1](#), [RTI-2](#), [THZ3/TDZ3](#), Precision Digital [PD765](#) and PD7000, [Banner Wireless](#)  
In Plant General Gas and CO Leak Detection: MSA [Ultima X](#)  
Alarm Beacons and Horns: [E2S Alarm Horns and Beacons](#), Precision Digital Annunciators [PD158](#) and PD8-158 Explosion Proof  
Power Transducers and Frequency Monitoring: Moore Industries [FDY](#) Frequency Transmitter, Moore [PVT](#) and [PWT](#)

## To Combined Cycle...



Intake Screen levels and Screen Activation: [Gilson Submersible Levels](#), Siemens Radar [Probe LR](#) and Ultrasonics [Probe LU](#), [LUT400](#), Siemens [HydroRanger HMI](#), , Precision Digital [PD6060](#)  
Cooling Water Flows: Siemens Magnetic Flowmeters [5100W](#), Signet insertion Mags [2551](#) and [2552](#), [Siemens Clamp-on Flowmeters FS230](#), [Soundwater Technologies](#), [UFM Vane Meters](#)  
Cooling Tower Sump Levels – Siemens Ultrasonics [Probe LU](#), [LUT400](#), [HydroRanger 200 HMI](#), and Radars [Probe LR](#), [Gilson Submersible](#)