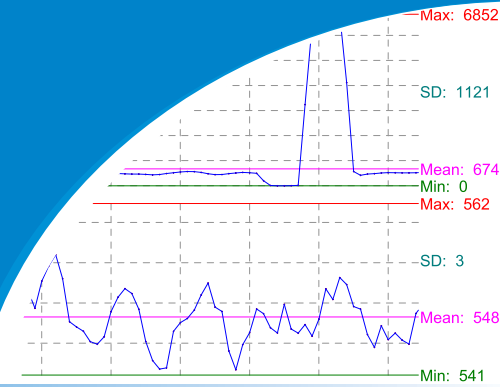




Global Analyzer Systems Limited



## WTC eICIS

### Web Based Data Acquisition & Control

The eICIS Data Acquisition System (DAS) is an electronic Integrated Control and Information System (eICIS) which integrates with CEMS instrumentation. It allows the user to see collected data and control the system via an Ethernet connection using a web browser.

The eICIS processes I/O signals, controls instrument calibration, monitors system operations, sends alarms (as needed) and provides validated data for reporting. The eICIS server architecture allows multiple user access from literally anywhere in the world with Ethernet access to the unit. A web browser allows personnel to log on to the windows of the Human Machine Interface (HMI) so the user can monitor and control operations and download data in Microsoft Excel™ format.

The eICIS system combines your data acquisition and CEMS into one flexible system. It solves many control problems and automatically handles historical data required by regulatory monitoring and reporting agencies.

## ICIS Data Acquisition System

ICIS Data Acquisition Systems (DAS) from GASL are robust, user friendly and always customized to your specific requirements. They are delivered complete with a rack mount or wall mount data logger and the central computer system.

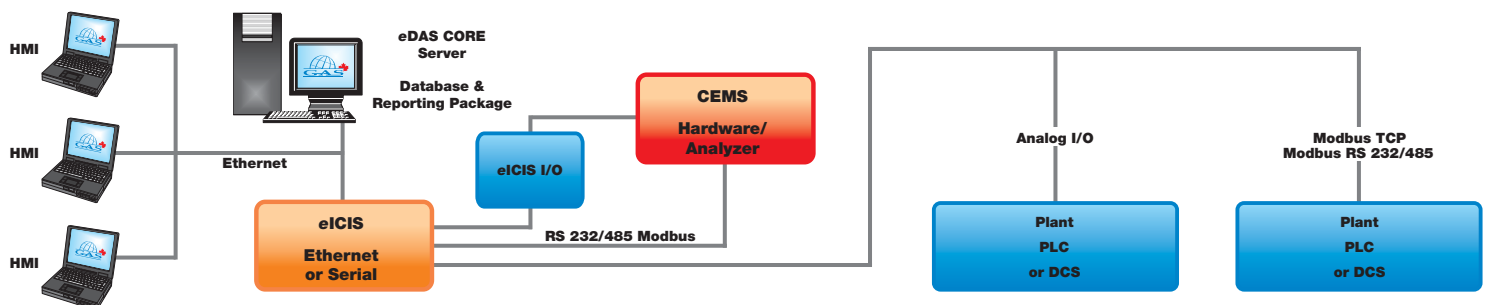
From the computer system, onsite personnel have full access to all of the ICIS DAS features such as the Human Machine Interface (HMI), data polling software, and automatic report scheduler. Other features include Microsoft Excel™ based reporting, configurable parameter trending, and full system control capabilities.

### Complete CEMS Configurations Including:

- Single to Multi-Parameter
- Direct analyzer communication via Modbus Protocol
- Multi-range alarming options
- Data validation based on requirements of regulatory bodies
- Communication and data relayed to plant control system via Modbus or analog signals
- Analog outputs to plant control system (4-20mA, 0-10VDC)
- Predicted Average calculations for operations and control
- Flow and mass emission calculations
- System Specific Documentation (User Manuals)
- Integration with Ambient Air Monitoring Stations
- Integration with Wind Monitoring Systems

### ICIS Systems by GASL Include:

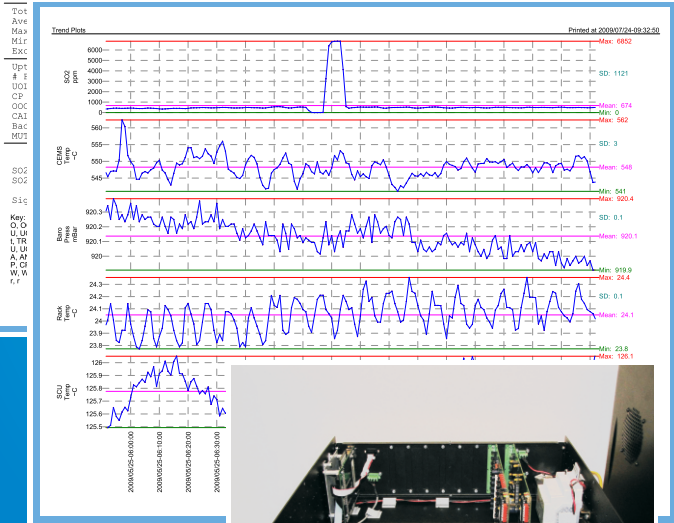
- 19" Rack or wall mount data logger
- General purpose or special area classification enclosures
- Computer interface for system control and reporting
- Automatic data, calibration, alarm, or factor reports
- RS 232, RS 485, or Ethernet communication
- Modbus over RS 232, RS 485 or Modbus TCP
- CEMS Online Reporting package based on Alberta Environment requirements



**GASL  
Dilution Demo  
CEMS Daily Report**

Daily Report for 02/18/2009

Time	SO2 ppm Avg	SO2 T/Hr Avg	SO2 T/Day Avg	S2 T/Hr Avg	DP mmH2O Avg	CEMS Temp Deg C Avg	Flow m/s Avg	Stack Temp Deg C Avg
00:00	2659	0.16	3.94	0.082	1.94	509.9	6.54	436
01:00	2650	0.16	3.91	0.081	1.93	509.8	6.52	436
02:00	2669	0.16	3.93	0.082	1.92	510.6	6.51	436
03:00	2653	0.16	3.93	0.082	1.94	510.8	6.54	436
04:00	2638	0.16	3.91	0.081	1.95	510.4	6.55	436
05:00	2613	0.16	3.86	0.080	1.93	509.7	6.53	436
06:00	2704	0.17	3.99	0.083	1.93	509.4	6.52	436
07:00	2499	0.15	3.69	0.077	1.93	510.1	6.52	435
08:00	2557	0.16	3.80	0.079	1.96	510.0	6.57	436
09:00	2523	0.15	3.69	0.077	1.90	510.5	6.47	436
10:00	2745	0.17	4.07	0.085	1.95	510.4	6.55	435
11:00	2884	0.18	4.36	0.091	2.02	511.1	6.67	436
12:00	2897	0.19	4.45	0.093	2.10	512.8	6.78	439
13:00	2856	0.18	4.28	0.089	1.95	513.9	6.54	439
14:00	2806	0.17	4.07	0.085	1.87	512.4	6.43	437
15:00	2762	0.17	4.00	0.083	1.86	510.3	6.40	435
16:00	2955	0.18	4.38	0.091	1.95	511.0	6.55	436
17:00	2749	0.17	4.04	0.084	1.92	511.1	6.49	436
18:00	2850	0.18	4.22	0.088	1.96	513.4	6.54	438
19:00	2791	0.17	4.13	0.086	1.95	513.9	6.54	439
20:00	2836	0.17	4.14	0.086	1.90	514.3	6.45	438
21:00	2726	0.17	3.99	0.083	1.91	514.3	6.46	439
22:00	2820	0.18	4.22	0.088	2.00	515.3	6.61	440
23:00	2745	0.17	4.15	0.086	1.91	513.4	6.48	439



## ICIS 128 Specifications

### Stand-alone Enclosure Dimensions & Specs:

- 19"W x 7"H x 20"D (or 22") rack mount chassis provides power, communication, calibration and common trouble indicator lights
- Aluminum wall mount (20"W x 12.5"H x 8.5"D) or (20"W x 18"H x 7"D)
- Special area classification enclosures available
- Operating temperature: 0°C to 40°C
- Humidity: 5% to 95% non condensing
- Power supply input of 100 - 250VAC, 50/60Hz
- Designed for simplified field maintenance
- 4 port serial communication card: RS 232 and/or RS 485, isolated or non-isolated, Modbus compatible

### Analog Inputs:

- Up to 32 differential analog inputs
- Connect to signal conditioning panels for channel-by-channel signal conditioning
- One part in 10,000 resolution
- Accuracy ± 0.08% over temperature
- Input impedance > 10 megohm
- Input bias current 100 nA maximum
- Common mode rejection, 80 - 106 dB depending on gain range selected

### AI/AO Ranges:

- 0 to 10V
- 0 to 1V
- 0 to 100mV
- 0 to 10mV
- -5V to +5V
- -500mV to +500mV
- -50mV to +50mV
- -5mV to +5mV

### Optional Analog Outputs:

- Up to 16 Channels
- Connects to signal conditioning panel for channel-by-channel signal conditioning
- Voltage or current, isolated or non-isolated outputs
- 8 bit resolution (1 part in 256)
- Accuracy ±0.4% of full scale over time and temperature

### Optional digital Input/Output:

- 24 channels
- Connects to signal conditioning panel for channel-by-channel signal conditioning
- Programable for I/O in blocks of 8
- Up to 8 digital input lines can be used for event counting

With an ICIS from GASL you have at your fingertips, a versatile, adaptable and user-friendly system customized to integrate seamlessly with your existing analyzer and business network.

## ICIS Hardware:

### ICIS 128: Maximum I/O Count per Node

An ICIS 128 package includes processor and communication cards, analog & digital input/output connection panels with signal conditioning on a channel-by-channel basis, a power supply and optional communications.

- 32 Analog input
- 16 Analog output
- 24 Digital input/output channels
- RS 232
- RS 485
- Ethernet

### ICIS 512 PLC version: For Higher I/O Counts

The ICIS 512 interfaces with any PLC, DCS, other ICIS, or Direct to Analyzer. Four separate serial connections for PC, PLC & DCS via Modbus, RS 232 or RS 485.

T: +1 403 291 4828  
F: +1 403 291 4810

Bay #3, 4220 - 23rd Street N.E.  
Calgary, Alberta T2E 6X7

www.gasl.ca



Global Analyzer Systems Limited