

# Particle Counter SCADA Integration

## TracServer (DDE), OPC Server, and Communication Protocol



### DESCRIPTION

Particle Count information is critical, and the Chemtrac servers, along with the PC2400D particle counters, provide uninterrupted data to almost any SCADA system.

Chemtrac's Servers were developed for those interested in reliable error-free communication. They can be integrated into any development system with DDE or OPC capabilities.

The Serial Communication Utility allows any integrator to learn how the PC2400D particle counters can be setup for SCADA integration through a PLC or other serial device.

### STANDARD FEATURES

- **Analog 4-20 mA signals** - The Chemtrac PC2400D on-line particle counter can be equipped with four analog outputs. These four outputs are representative of the first four channels of count data. A typical configuration for the four output channels might be CH 1) 2 to 5um, CH 2) 5 to 10um, Ch 3) 10 to 25um and CH 4) 25 to 100um. Advantages of this approach are: 4-20mA signals are easily understood and commonly used with SCADA systems.
- **TracServer v1.1** - The TracServer(DDE) utility allows the user to configure and communicate with up to 96 particle counters. The number of sensors and size ranges can be configured from the main window. Communication parameters and scanning for sensors can easily be setup through the Comm tab. Auxiliary input settings, such as scaling and tag names, can be configured using the Inputs tab.

The status view shows current communication and status conditions. The Sensor tab shows current particle counts and auxiliary input values as well as other particle counter parameters. These values can all be accessed via a DDE client(SCADA, Excel, etc..).

- **OPC Server v1.2** - The OPC Server interface allows for immediate setup and configuration of all particle counter settings. The server supplies status, sizes, counts, and auxiliary information via OPC. The newer versions of most SCADA software packages can communicate with an OPC server.

The Read/Write Settings window is easy to view and makes individual particle counter setup easy. Use this window to view and change the frequency, period, noise, size ranges, and auxiliary input settings.

All sensor values can be viewed using the visual tree interface. Folders can be selected showing particle counter status, sizes, counts, and auxiliary inputs. In the lower part of the screen is a status view for displaying current server and communication conditions.

- **Serial Communication Utility** - The Serial Communication Utility shows how serial strings can be constructed to communicate with the PC2400D particle counters. The main window shows what strings to send for each command and how to interpret the response from the particle counter. Using the proper settings the user can learn how to use these serial strings to develop there own software utility. This utility will communicate with the counters showing the constructed strings as well as the response string and how to convert them.

WATER QUALITY MONITORING

6991 Peachtree Industrial  
Boulevard, Building 600  
Norcross, GA 30092  
USA

PH: 770.449.6233  
US: 800.442.8722  
FX: 770.447.0889

WWW.CHEMTRAC.COM

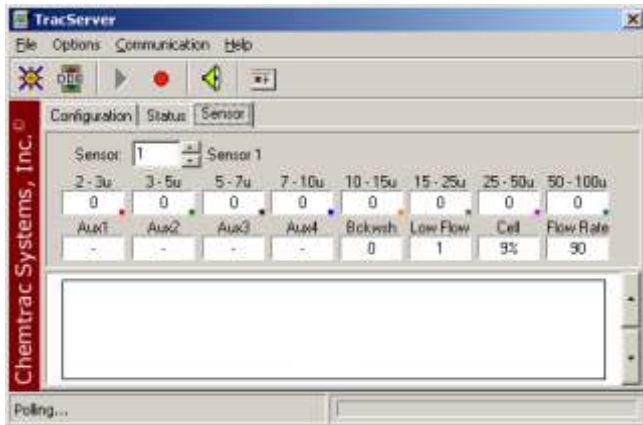
## GENERAL SPECIFICATIONS

Operating Systems:	Windows 95/98/ME/NT/2000/XP
Communication Protocol:	Modified Optomux Opto 22
Size Channels:	Up to 8 configurable
Sample Period:	15 seconds/minute (OPC, unlimited)
Sample Frequency:	60 seconds (OPC, unlimited)
Number of Sensors:	Up to 96
Auxiliary Inputs:	4 Inputs per Particle Counter (4-20 mA)
DDE/OPC Item Values:	Particle Counts(8), Auxiliary Inputs(4), Size Ranges, Backwash Condition, Low Flow, Cell Condition, Flow Rate, Status(OPC)

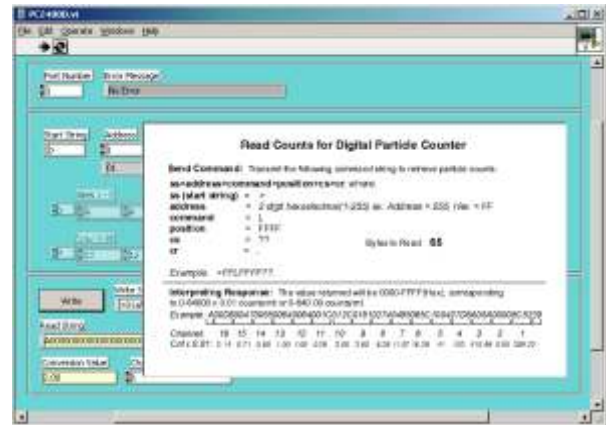
## SYSTEM REQUIREMENTS

### Suggested System Requirements

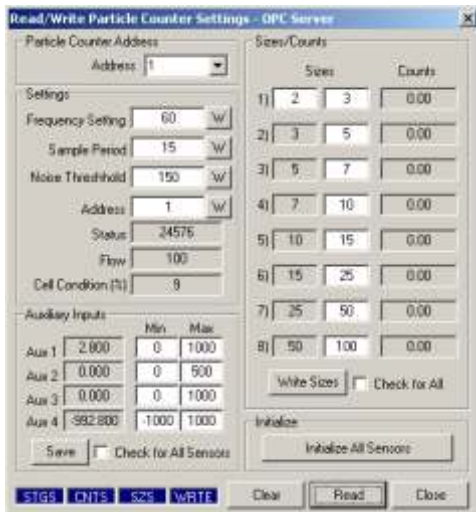
- ▶ Windows 32-bit Operating System (95/98/NT/2000/XP)
- ▶ Pentium III 600Mhz Processor  
Minimum - Pentium II 266Mhz
- ▶ 64MB RAM  
Minimum - 32MB RAM
- ▶ 20MB Available Hard Drive Space
- ▶ Available Serial Communications Port



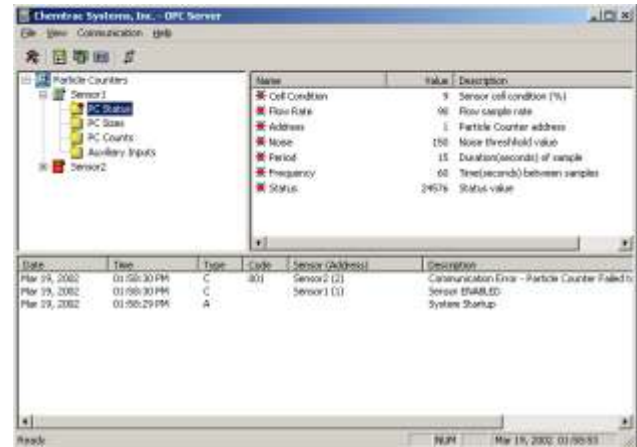
**DDE Server  
Sensor View**



**Serial Communication Protocol  
Main Window - Documentation**



**OPC Server  
Read/Write Settings Window**



**OPC Server  
Status View**

Chemtrac Systems, Inc.  
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