

Establishing RS232/RS485 Communication between  
the PC3400/PC4400 Particle Counter and the  
TracData software.

# Step 1

Install USB Driver.

Open and install the USB Driver. It can be found under the installation directory (C:\Program Files (x86)\Chemtrac\TracData\USB Driver) or it can be downloaded using the following link.

<http://chemtrac.com/tracdata/>

There are two Windows drivers for the USB device. One of them should be used for Windows 10 operating systems only. The other is for all other versions of Windows.

*Note: The driver should be installed before turning on the Particle Counter and plugging in the USB cable.*

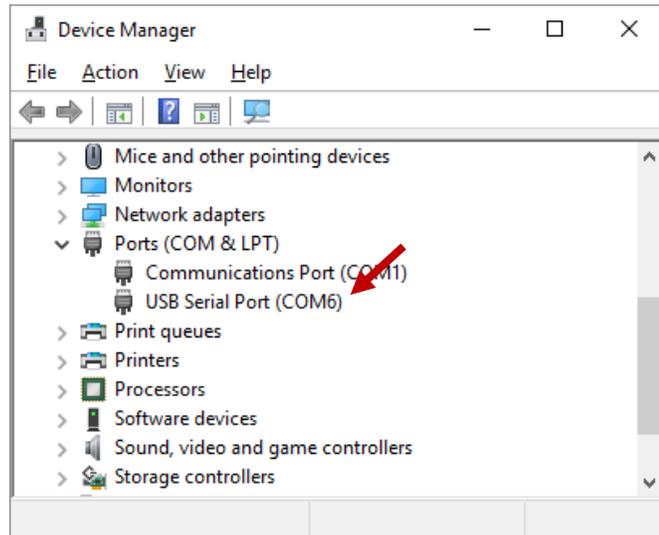
## Step 2

Determine which COM Port will be used.

Open Device Manager by using the following command (Windows Start..Run).

### **mmc devmgmt.msc**

- 1) In Device Manager, find and expand the **Ports (COM & LPT)** section.
- 2) Find the COM Port for the device that will be used in this configuration. In most cases it will be labeled USB Serial Port, followed by a COM #.



## Step 3

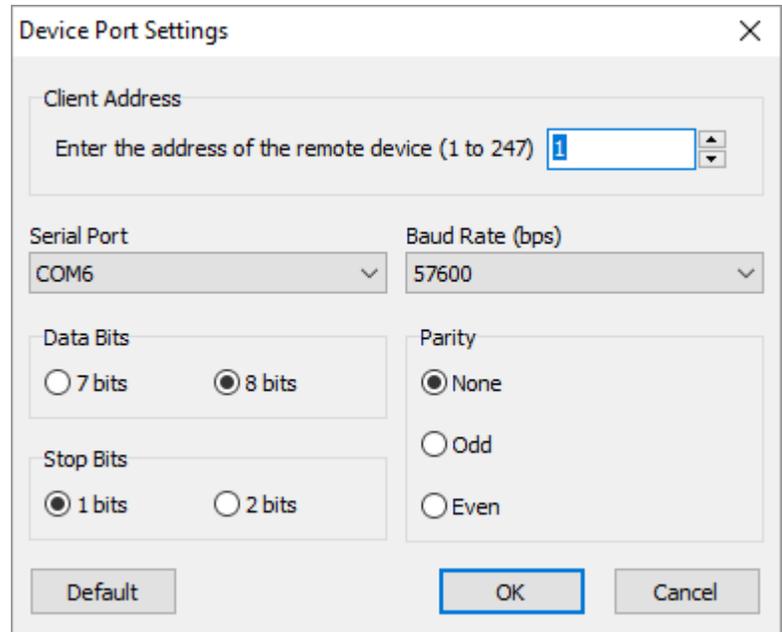
Review the Serial Port Settings in the TracData Software.

Open the TracData software and review the serial port settings (Edit..Modbus Device Port Settings from file menu).

For COM Port, use the port that was discovered in Step 1.

Select the other port settings from the available options.

*Note: The default settings are shown in the image and should be used if any problems are encountered.*



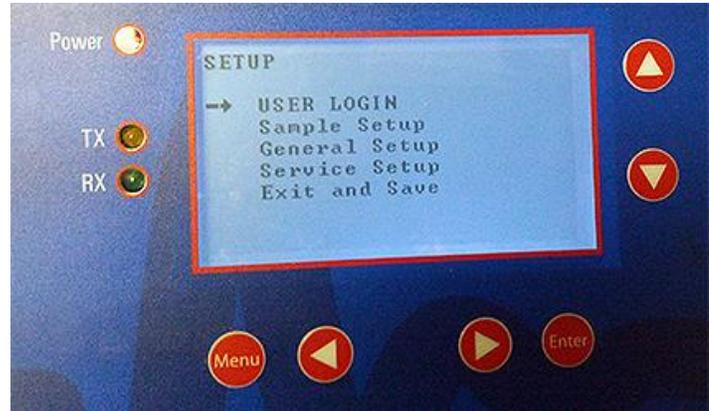
The screenshot shows the 'Device Port Settings' dialog box with the following configuration:

- Client Address:** A numeric input field containing the value '1'.
- Serial Port:** A dropdown menu set to 'COM6'.
- Baud Rate (bps):** A dropdown menu set to '57600'.
- Data Bits:** Radio buttons for '7 bits' and '8 bits', with '8 bits' selected.
- Parity:** Radio buttons for 'None', 'Odd', and 'Even', with 'None' selected.
- Stop Bits:** Radio buttons for '1 bits' and '2 bits', with '1 bits' selected.
- Buttons:** 'Default', 'OK', and 'Cancel' buttons are located at the bottom.

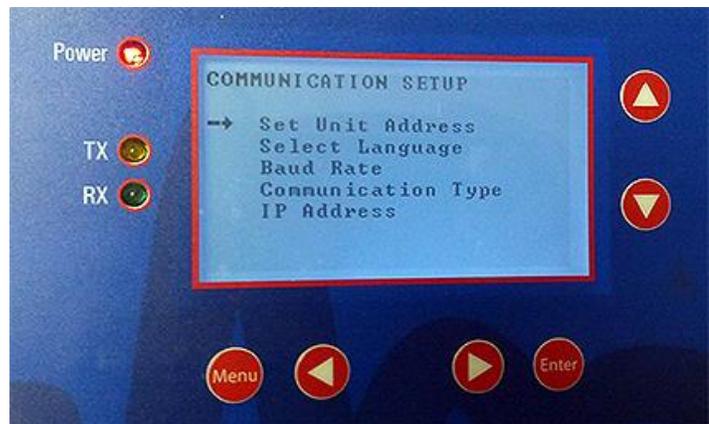
## Step 4

Set the Unit Address.

- 1) Press the **Menu** button on the keypad of the Particle Counter to enter the SETUP menu (see Image 1).
- 2) Use the arrow keys to select **General Setup** and press **Enter** to open the menu.
- 3) Select **Communications Setup** from the General Setup menu (Image 2).
- 4) Select **Set Unit Address** to learn or configure the Unit ID for this device (image 3).
- 5) Press **Menu** to return to the Communications Setup menu.



(Image 1)



(Image 2)



(Image 3)

## Step 5

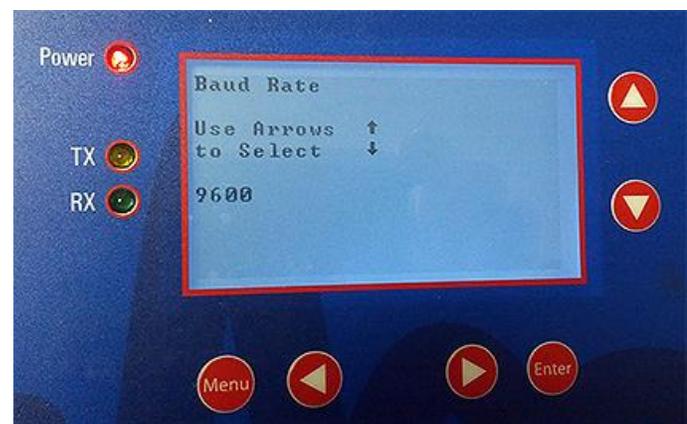
Set the Baud Rate and other port settings.

- 1) Select **Baud Rate** from the menu (Image 4).
- 2) Use the arrow keys to select the Baud Rate that matches the setting from the software and press **Enter** (see image 5).
- 3) Continue by selecting the Character Length (Data Bits), Stop Bits, and Parity. Press **Enter** after each selection.

*Note: The port settings in the device must match the software setup before communication can be established.*



(Image 4)



(Image 5)

## Step 6

Change the Communication Type to Modbus RTU.

- 1) From the Communications Setup menu, scroll down and select **Communication Type** (Image 6).
- 2) Scroll to select the **Modbus RTU** option. Press the **Enter** button (Image 7).
- 3) Continue to press the **Menu** button to return the main **Setup** menu.



(Image 6)

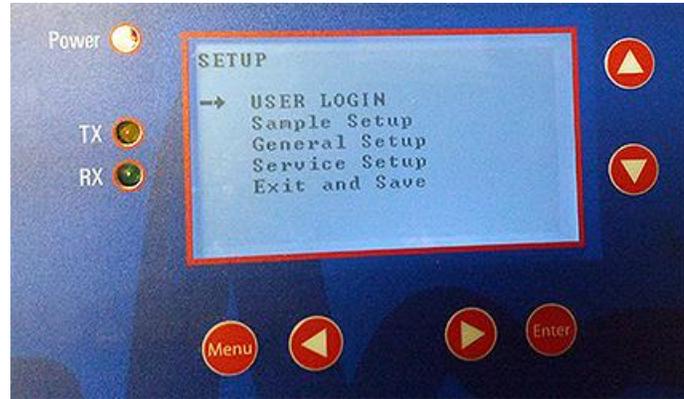


(Image 7)

# Step 7

Save the Settings.

From the main Setup Menu, scroll down and select **Exit and Save** to store the settings (Image 8).



(Image 8)

# Step 8

Configure the TracData Software and verify communication.

- 1) Click Tools..Connect from the menu to open the communications port.
- 2) Follow the instructions under the Log Data tab to download the data from the Particle Counter.
- 3) Contact Chemtrac at 800-442-8722 if you have any problems or questions.

The screenshot shows the TracData software interface. The 'Log Data' tab is active, displaying configuration options for data retrieval. The 'Date & Time' section shows a date of 7/13 and a time of 15:18. The '# of Recent Records' is set to 50, and the 'Data Retrieval Interval' is set to 1. There are buttons for 'Retrieve Data' and 'Stop Download'. The 'Export Data Log' section has an 'Export to File' button and a dropdown menu set to 'CSV'. A progress bar at the bottom indicates 'Download Complete!' at 00:00:19 with 0% completion.

The 'Data' table shows the following records:

Record Index	Date	Time	Cnts 1
28765	07/14/2017	13:11	0
28766	07/14/2017	13:12	0
28767	07/14/2017	13:13	0
28768	07/14/2017	13:14	0
28769	07/14/2017	13:15	0
28770	07/14/2017	13:16	0
28771	07/14/2017	13:17	0
28772	07/14/2017	13:18	0
28773	07/14/2017	13:19	0
28774	07/14/2017	13:20	0
28775	07/14/2017	13:21	0
28776	07/14/2017	13:22	0
28777	07/14/2017	13:23	0
28778	07/14/2017	13:24	0
28779	07/14/2017	13:25	0
28780	07/14/2017	13:26	0

The status log at the bottom right shows the following messages:

```
[16:02:26.218] Download will take approximately 15 Seconds
[16:02:26.219] Initializing Download...
[16:02:26.271] Stop Acquisition...
[16:02:26.758] Modbus Mode...
[16:02:28.039] Write Number of Output Logs...
[16:02:29.339] Write Nth Record...
[16:02:29.789] Start Retrieving Most Recent Records...
[16:02:29.790] Find Current Record...
[16:02:30.520] Retrieve All Records...
[16:02:31.039] Current Record: 28815
[16:02:31.040] First Record: 28765
[16:02:45.160] Data Cleanup... Please wait...
[16:02:45.449] Last Record: 28814
[16:02:45.450] Sorting List... Please Wait...
[16:02:45.537] List Count: 50
[16:02:45.538] Elapsed Time: 00:00:19.320
[16:02:45.580] Start Acquisition...
[16:02:46.524] Download Complete!
```