

Application Bulletin 435/1e

Connection of the Eco Titrator to the PC

Branch

General analytical chemistry, private laboratories; water wastewater, air, environmental protection; pharmaceutical industry; petrochemistry, biofuel; food, stimulants, beverages, flavors; metals, electroplating; detergents, surfactants, cosmetics; energy, power plants

Keywords

Eco Titrator; Eco; PC/LIMS; PC; LIMS; connection; Advanced serial data logger; HW VSP3; Virtual Serial Port; documentation; 6.2134.040; 6.2148.050; LAN cable; branch 1, branch 2; branch 4; branch 5; branch 7; branch 10; branch 12; branch 16

Summary

Eco Titrators provide the capability to send PC/LIMS reports directly to a PC. This feature is mainly used to transfer data to an external LIMS system or to simply store the data in a digitally on the PC. Additionally, it is possible to control the Eco Titrator by RS232 commands if the connection is set up according to the procedure described below.

The data transfer from the Eco Titrator to a PC can be done by a software- or a hardware-based option. Additional accessories are needed for the hardware-based option whereas for the software-based option two additional softwares must be installed. Both solutions are described in this document.

Method 1 – Software-based solution

Prerequisites

- Eco Titrator
- PC with LAN interface
- LAN cable

Software

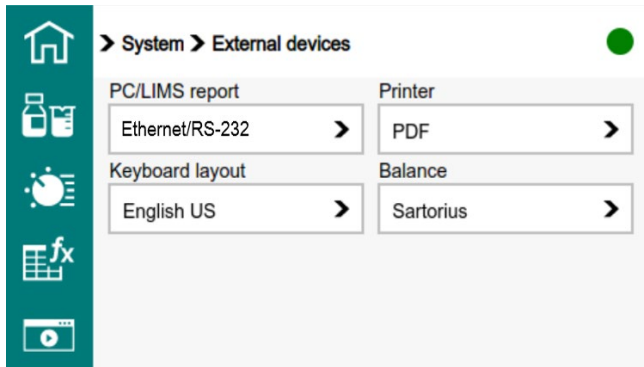
Advanced serial data logger standard (ItemID:186168, https://www.aggsoft.com/serial-data-logger/buy.htm)	License costs: 70 EUR
HW VSP3 – Virtual Serial Port (https://www.hw-group.com/software/hw-vsp3-virtual-serial-port)	Freeware

Both softwares are necessary for the connection of the Eco Titrator to a PC. The “*HW VSP3 – Virtual Serial Port*” creates a virtual COM port, which links to the IP address of the Eco Titrator. The “*Advanced serial data logger standard*” creates for each PC/LIMS report a separate file in a defined folder.

Connection of Eco Titrator to PC

The Eco Titrator must be connected to the PC by a LAN cable via the corresponding plug on the backside of your Eco Titrator and the other end to the Ethernet port of the PC. You might also use a splitter to expand the number of Ethernet ports of your PC.

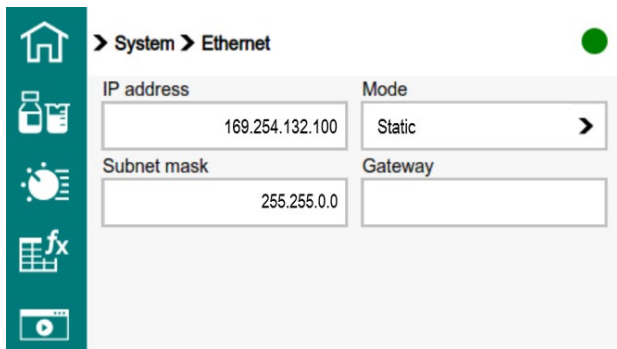
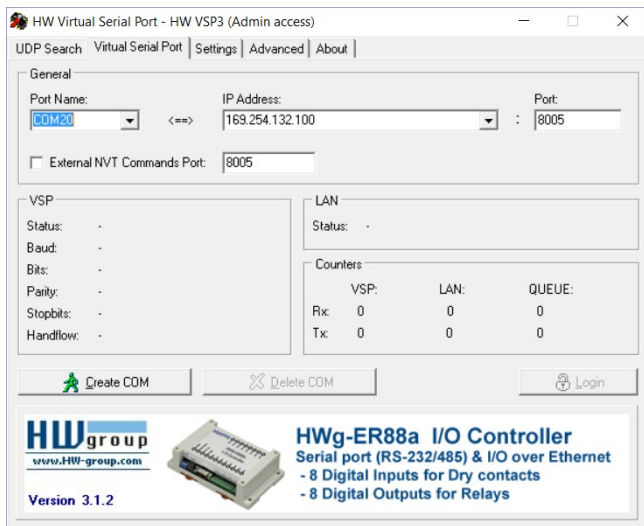
Configuration of Eco Titrator



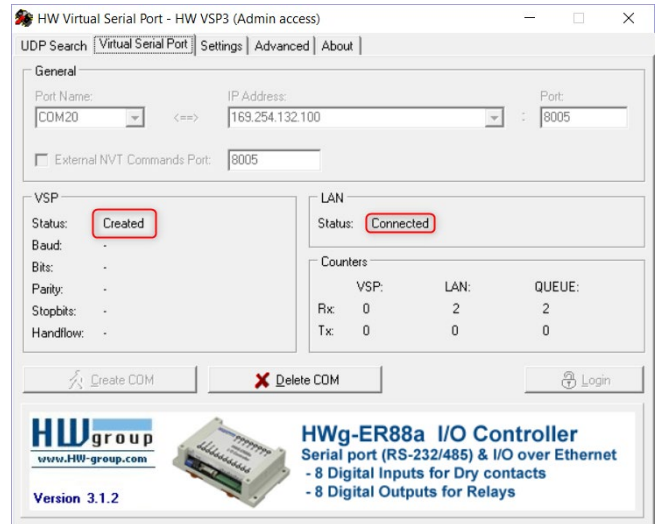
Choose “Ethernet/RS232” on the Eco Titrator under “System > External devices” to send the PC/LIMS report.

Configuration of HW VSP3 – Virtual Serial Port

Open the “HW VSP3 – Virtual Serial Port” software and choose a serial port, which is not already existing on the PC under *Device manager > COM ports*. In this example, COM 20 is chosen to connect the Eco Titrator. Please make sure that the entry in the field “IP address” corresponds to the IP address of your Eco Titrator. In this example, the IP address of the device is 169.254.132.100.



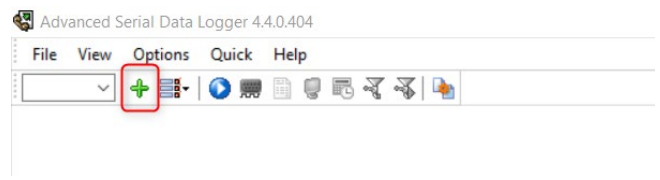
After configuration of the software, choose the button “create COM”. If the IP address is entered correctly, a COM port will be created and the device is then connected:



Now, the COM port is linked with the IP address of your device. To save each PC/LIMS report in a separate file, please continue with the next step.

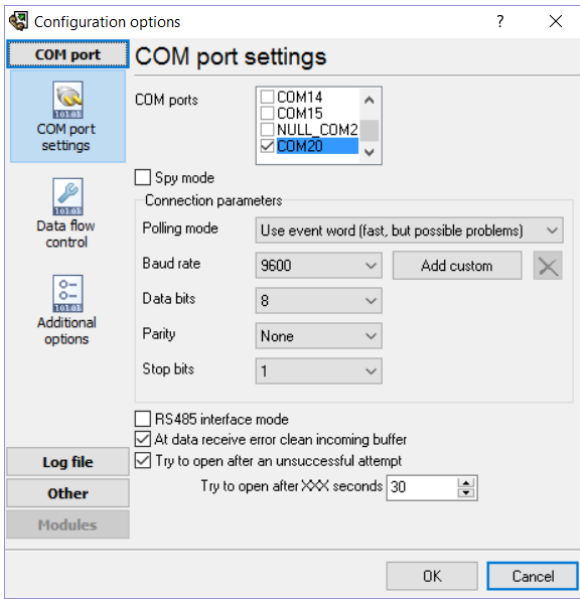
Configuration of Advanced serial data logger standard

Open the software “Advanced serial data logger standard” and click on the green “plus” button:

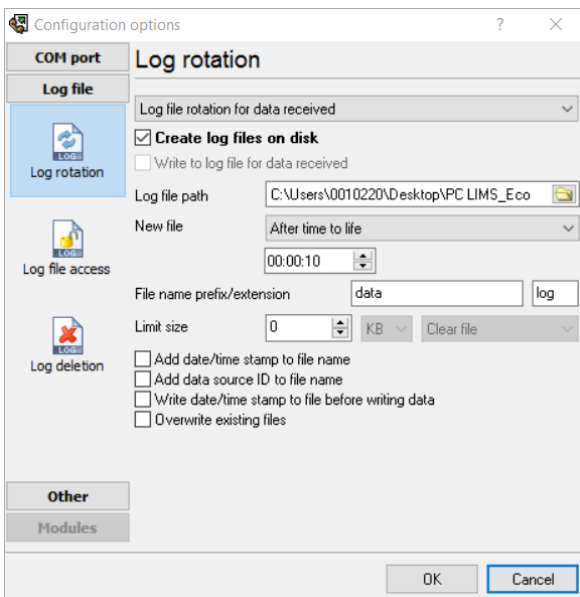


The “configuration options” window opens. Choose the corresponding COM port (in this example, COM 20) and set the following connection parameters.

- Polling mode: Use event work
- Baud rate: 9600
- Data bits: 8
- Parity: None
- Stop bits: 1



Click on “Log file” and choose “Log rotation”. Tick the option “Create log files on disk”. Then choose the following options, where the log file path can be defined by the user:



If desired, the log path name can be modified by adding a file name prefix or a file name extension.

Now PC/LIMS reports can be sent to the PC and are saved in the appropriate folder.

Method 2 – Hardware-based solution

Prerequisites

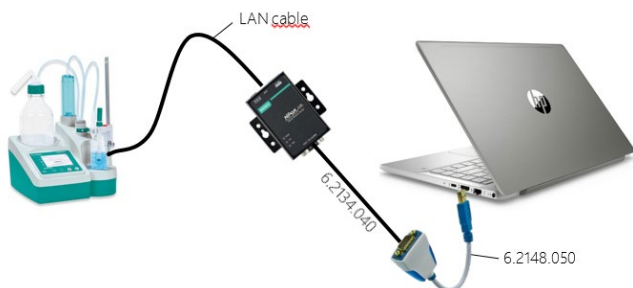
- Eco Titrator
- Windows-based OS
- Moxa NPort 5110A (must be bought from a local supplier)
- USB/RS232 converter 6.2148.050
- RS232 cable 6.2134.040
- LAN/ethernet cable

Software

Advanced serial data logger standard (ItemID:186168, https://www.aggsoft.com/serial-data-logger/buy.htm)	License costs: 70 EUR
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The “Moxa NPort” and the software “Advanced serial data logger standard” are necessary for the connection of the Eco Titrator to the PC via RS232. The “Moxa NPort” device connects the RS232 interface to the IP address of the Eco Titrator. The “Advanced serial data logger standard” creates a separate file in a defined folder for each PC/LIMS report.

Setup



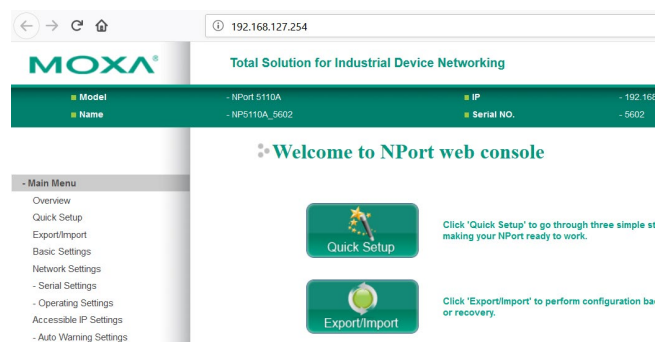
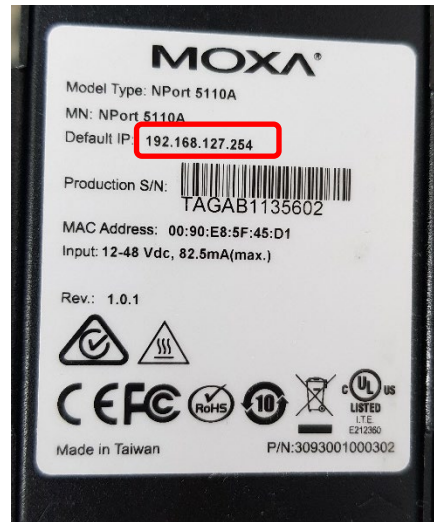
The USB/RS232 connector is attached to the USB port of the PC. The cable 6.2134.040 is linked in between the USB/RS232 connector and the “Moxa NPort” device. The “Moxa NPort” and the Eco device are then connected via Ethernet cable Cat 6 to the Ethernet port of the Eco Titrator.

Remark: Before starting the configuration of the “Moxa NPort” and the Eco Titrator, ensure that both IP addresses which are used are in the same subnetwork.

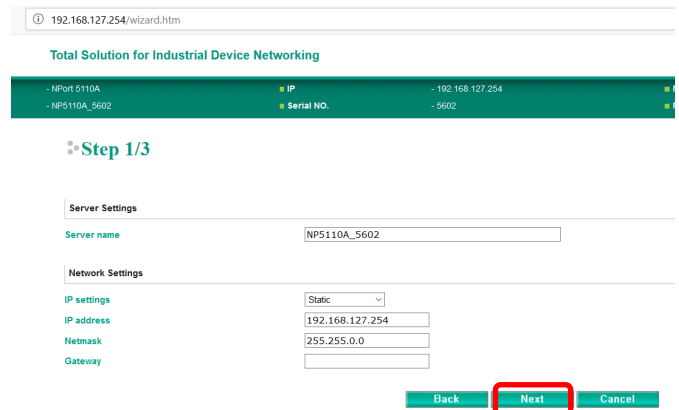
Configuration of the “Moxa NPort” Device

Connect the “Moxa NPort” Device to your PC or switch via LAN cable and enter the IP address of your device into a

browser (Firefox, Chrome, Internet Explorer, ...). The default IP address can be found on the device itself:



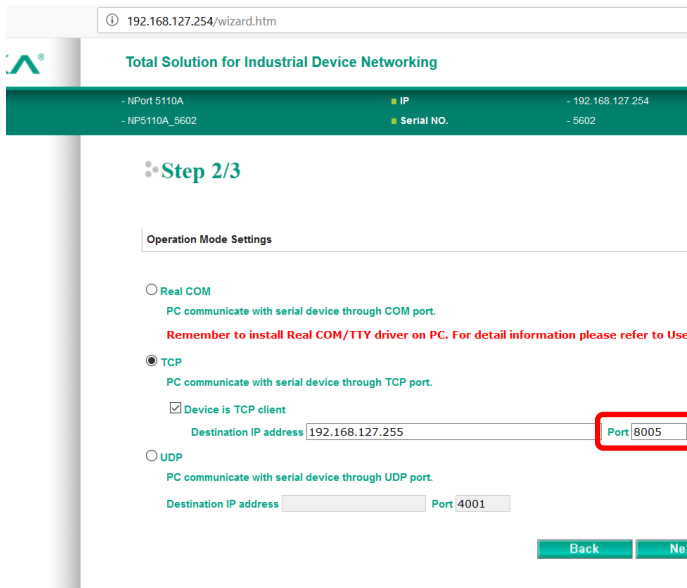
Press on the “Quick Setup” button.



On the next screen (Step 1/3) press Next.

On the next step (Step 2/3) choose “TCP” and tick the checkbox “Device is TCP client”. Under destination IP address, enter the IP address of your Eco Titrator. Ensure that both IP addresses are in the same subnetwork.

Important! Designate the Port field as **8005**. Otherwise it will not work.



Click on *Next* and choose the following parameters:

Step 3/3

Serial Settings

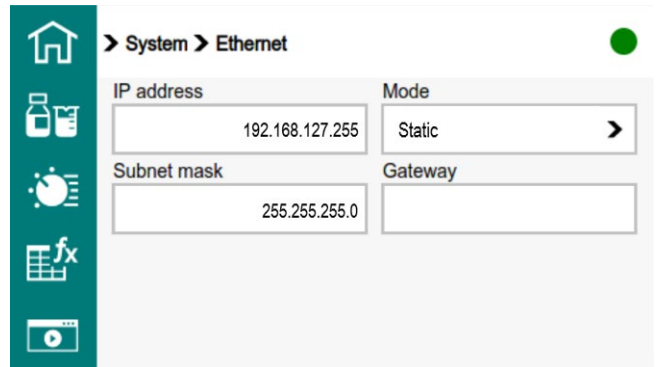
Baud rate	19200
Data bits	8
Stop bits	1
Parity	None
Interface	RS-232

Press *next* and then *Save/Restart*. A screen will appear which indicates “*settings saved / Restarting...*”. Your “*Moxa NPort*” Device is now ready to use and configured to send PC/LIMS reports.

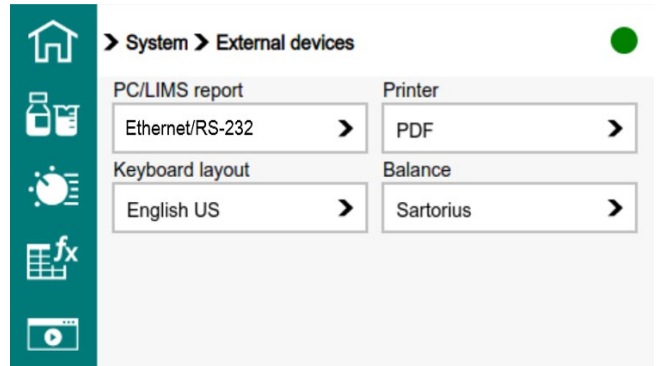
Configuration of the Eco Titrator

Define a corresponding static IP address at the Eco Titrator under *System → Ethernet*.

Make sure that both IP addresses (Eco Titrator and “*Moxa NPort*”) are in the same subnetwork!

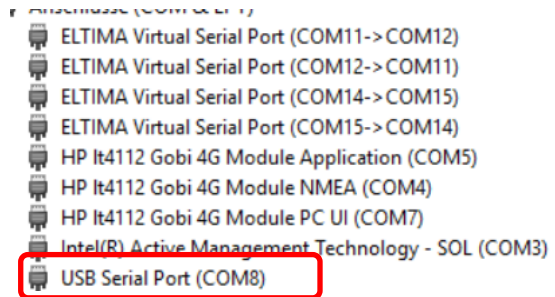


Additionally, choose under “*System → External devices*” Ethernet/RS232 under PC/LIMS report.



Configuration of the COM Port at the target PC

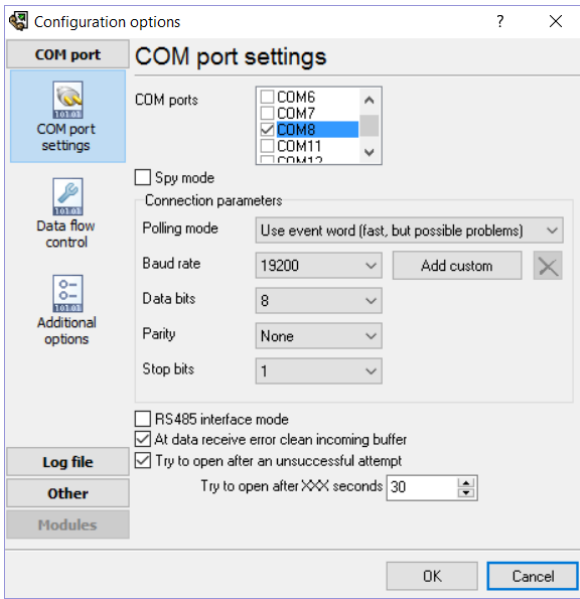
Open the device manager of the target PC and search to find which COM port your USB/RS232 device belongs to. In this example, it is COM8:



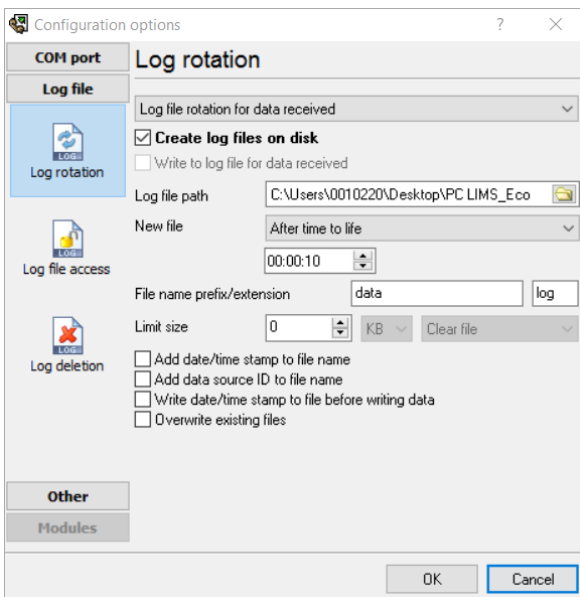
Start the program “*Advanced serial data logger*” and add a new configuration by pressing green “*plus*” button.



Choose the corresponding COM port to which the Eco Titrator is connected and adjust the connection parameters accordingly.



Click on “Log file” and choose “Log rotation”. Tick the option “Create log files on disk”. Then choose the following options, where the log file path can be defined by the user:



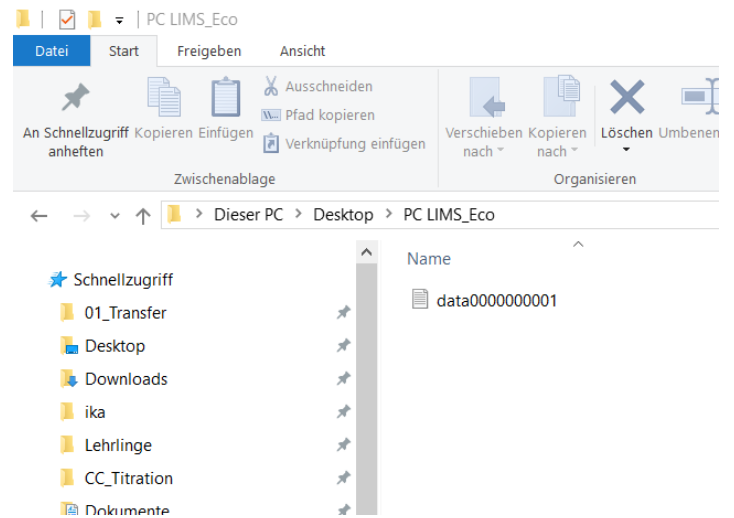
Now PC/LIMS reports can be sent to the PC, and are saved in the selected folder.

```

$E
$S Messages V1
$E
$S Methodproperties V1
DET_pHModified2019-06-27 15:25:502019-06-27 15:25:502019-06-27 15:25:50
$E
$S Method V1
$S Methodoptions V1.1
Off3offID1D2ononoff1.0goff00off0 soffoffoffCard 1ID1onoffonoffnofn*****00*offoff
$E
$S 01 REQUEST Data Request
1.0goffon
$E
$S 02 DET pH
0.0000Max.0Max.50.0026Optimal410.000offMax.50.002625.0100.0000off90ffOffMax.Off5allpH electr
$E
$S 03 PREP
Not defined
$E
$S 04 EVAL FIX-EP
pH6.50ff
$E
$S 05 EVAL BREAK
pH5-2000.02000.0
$E
$S 06 CALC Calculation
$S R1
12%00ffOff0on-2000.02000.0
$E
$S R2
22%10ffOff1on-2000.02000.0
$E
$S R3
32%20ffOff2on-2000.02000.0
$E
$S R4
42%30ffOff3on-2000.02000.0
$E
$S R5
52%40ffOff4on-2000.02000.0
$E
$S 07 Eco REPORT
OffOffOffOffOffOff
$E
$S 08 STIR
$E
$S 09 BEEP Acoustic signal
1
$E
$E
$E

```

The folder now contains the sent PC/LIMS report.



Date

August 2019

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