

User Guide

Titrette® Software 4.02

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1. Introduction

This program is designed to transmit titration data from the Titrette® bottle-top burette to a PC. The titration data can be transmitted either immediately or later into a spreadsheet program, e.g., into an Excel-file.

The connection between instrument and PC is done with the included connector cable for RS 232 communication interface (COM-connection).

The program supports the connection of several instruments to one PC according to the number of available RS 232-ports.

For connection with an USB-interface please use a standard USB/RS 232-adapter (with 1 to 8 RS 232 interfaces).

If the instrument should be used distant from the PC e.g., in a production setting, it is possible to bridge up to 20 m with an appropriate RS 232-cable. Also standard RS 232/LAN adapters allow a network connection.

Depending on your data processing environment, select one of the following three methods for processing the titration data:

- Uploading log files (*.ptk extension).
- Input via the keyboard cache.
- Direct communication via a serial interface (RS232).

Uploading log files

The log files are written by Titrette® Software. They are easily readable text files. Each titration volume sent by Titrette® is provided with a serial number, adjustment data and time stamp, and is written line-by-line in the log file. To avoid data loss (power failure, PC crash, etc.) and ensure data documentation, log files are always written.

Input via the keyboard cache

Data entry via the keyboard is a universal input method for spreadsheets or database interfaces. The Titrette® software offers the option of copying the titration data to the keyboard cache for use in further data processing. After you have configured the Titrette® software for the program to which the data should be sent, the software switches over temporarily to this program and copies the data into the keyboard cache. For the target program, it is the same as if the input were actually coming from the keyboard.

Direct communication via a serial interface (RS232).

Installation of the Titrette® Software and thus the Windows operating system is a requirement for the procedures described above (log files and keyboard cache). If you don't work under Microsoft Windows, direct communication with the Titrette® can also be employed. In this case, however, you must create your own communications protocol. All the information needed to create such a program interface can be found in the " RS 232 Communication Protocol Titrette.pdf" file on the CD.

2. Installing the program

2.1. System requirements

The installing requires operating systems as follows:

- Windows® 2000 (Service Pack 3)
- Windows® XP (Service Pack 2)
- Windows® Vista 32-Bit and 64-Bit
- Windows® 7

Additionally required are:

- Microsoft® Installer 3.1
- Windows® .NET Framework 2.0 Service Pack 1

These programs are normally included in the operating systems named above. If required current versions can be downloaded from Microsoft®.

2.2. Authorization

You need the authorization to install software and the writing rights for the necessary files.

If you adopt the initial settings the program will be installed under C:\Programs\BRAND\Titrette\ and the data will be saved under C:\BRAND\Logfiles. If you do not have the authorizations or rights named above, please contact your system administrator.

2.3. Before installing

If there is a former version of Titrette® Software installed on your PC, it has to be uninstalled. To do so, click **Start → BRAND → Programs → Titrette® → Uninstall** and follow the instructions on the screen.

Only the software will be deleted, your log files will be retained.

2.4. Installing Titrette® Software 4.02

Open the folder "English" of the CD and then open the folder "Titrette® Software 4.02". Double-click "setup.exe" and follow the setup-assistant. If you adopt the initial settings the program will be installed under C:\Programs\BRAND\Titrette\. After successfully installation you will find an icon to start the program on the desktop.

3. Connecting Titrette® and the PC

Connect the bottle-top burette Titrette® with the RS 232-port (COM-connection) of your PC using the delivered cable, respectively use an USB/RS 232-adapter to connect the cable to an USB port.



To connect the instrument, plug the cable into the locking socket of the instrument, the red dot facing upwards. To disconnect the instrument draw the sliding sleeve backwards to remove the plug. **Never pull on the cable!**

4. Starting the program

Please complete the following steps consecutively:

1. Start the program with a double-click on the icon **BRAND - Titrette®** on your desktop, or with **Start → All Programs → BRAND → Titrette® → Software 4.02**.
2. After starting the program the **BRAND – Instrument Window** opens on your desktop and the **BRAND – Instrument Manager** opens in a minimized view (task bar).

4.1. Instrument Window

(Tabs: Titrette®, Data Logging and Target Application)

The communication between the instrument and the PC can be controlled in the **BRAND - Instrument Window**. If there are several instruments connected to the PC, each instrument opens its own window. In this window the instrument data and settings are displayed, for later applications, e.g., which COM-port is used by the burette (COM1, COM2, ...), etc.

If the “Transferred Data” does not match the “Stored Data” during reconnection the differing field will show a red background.

4.2. Instrument Manager

The window **Instrument Manager** is needed when several instruments are connected. To open one or more Instrument Windows mark them in the list and press the button “**Open instrument window**”. Double-click on the highlighted line will also open the Instrument Window. Open Instrument Windows are marked by green lines in the instrument list. Using the buttons below you can add or remove instruments in the list. (This table is not directly editable).

4.2.1. Tool tips

Automatically displayed texts explain the functions of the buttons. You can switch off this option, choosing “expert mode” in the Instrument Manager.

5. Connecting the instrument (Instrument Window, tab Titrette®)

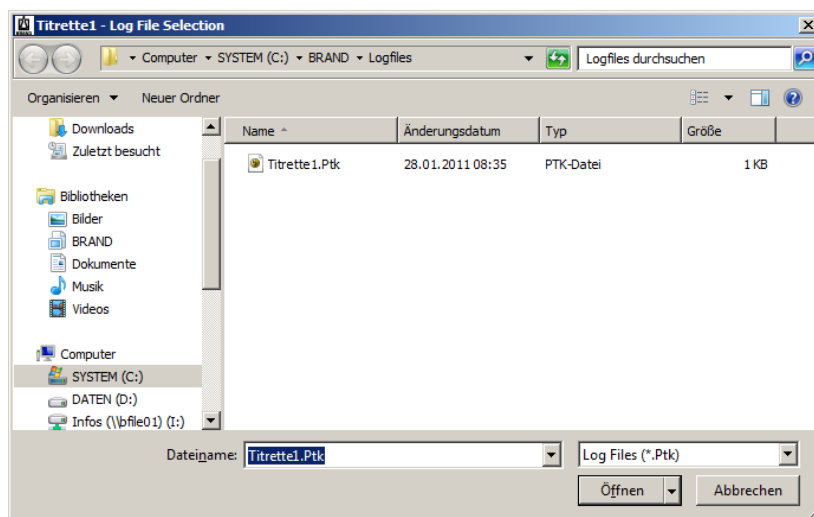
The image shows two windows from the BRAND software. The top window is titled "Titrette1 - BRAND Instrument Window" and has three tabs: "Titrette®", "Data Logging", and "Target Application". The "Titrette®" tab is active, showing a form for configuring the instrument. On the left is an image of a Titrette1 burette. The form includes fields for "Individual Name" (set to "Titrette1"), "Serial Number", "Nominal Capacity", "Adjustment Value (CAL)", and "Next Calibration". There are also fields for "Stored Data" and "Transferred Data" with a vertical "ENTER" button between them. A checkbox for "Alarm at data deviation" is present. Below these is a "Connection" section with a "Port" dropdown menu (set to "none") and checkboxes for "Open window at start" and "Reconnect at start". At the bottom of this window are buttons for "Connect", "Transmit Data", "Close Window", and "Minimize Window".

The bottom window is titled "BRAND - Instrument Manager" and contains a table with the following data:

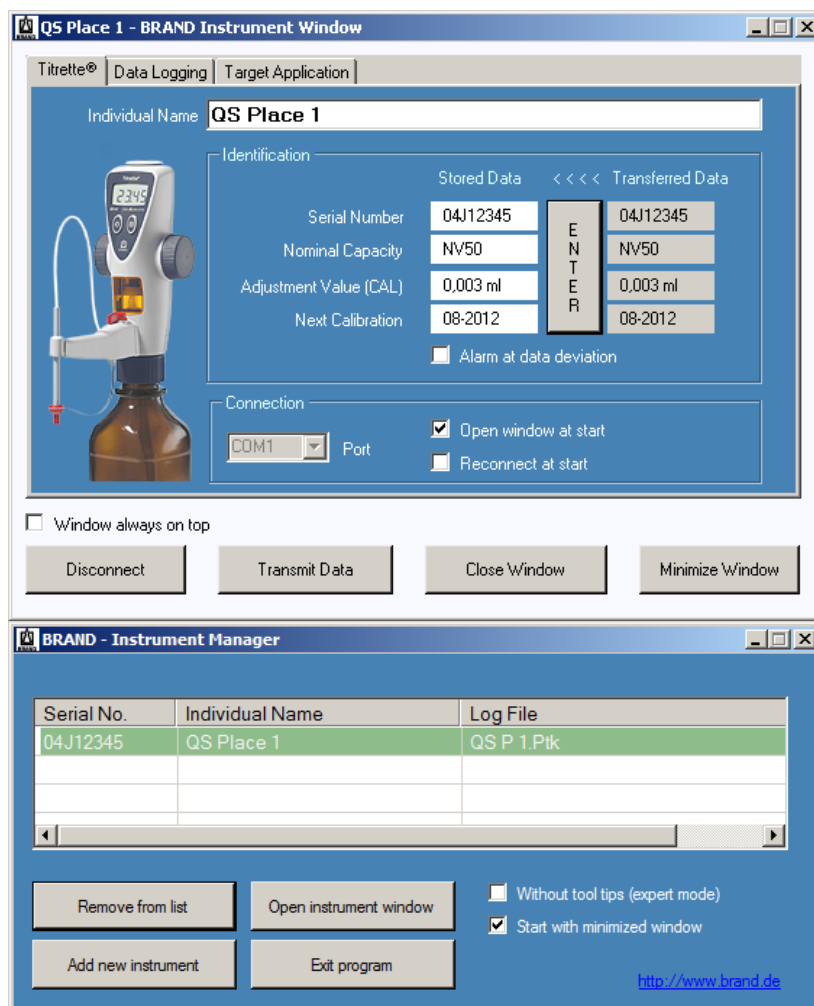
Serial No.	Individual Name	Log File
	Titrette1	Titrette1.Ptk

Below the table are buttons for "Remove from list", "Open instrument window", "Add new instrument", and "Exit program". There are also checkboxes for "Without tool tips (expert mode)" and "Start with minimized window". A URL <http://www.brand.de> is displayed at the bottom right.

1. Click the tab **Titrette®** and choose the appropriate COM-port in the pull-down menu at **Port** for the connected instrument. Click the button "**Connect**" at the lower window border.
When you set a checkmark at "**Reconnect at start**", the connection will be established automatically at restart of the program.
2. If the instrument is correctly connected, the burette will show the symbol for the computer connection (square with enter sign) in the upper right corner of its LCD and on the PC desktop the dialog window **Log File Selection** pops up.



3. In the window **Log File Selection**, you may enter the file name (example: QS P1) and the folder location (example: C:\BRAND\Logfiles) for your measurement. For confirmation click on the button “**Open**”.



4. Now enter the name of your burette into the field **Individual Name** (example: QS Place 1), in the tab **Titrette®** and click the button “**Enter**“ in the field **Identification**.
5. Now this data is adopted automatically in the first line of the **Instrument Manager**.

6. Transmission of titration data to the PC (Instrument Window, tab Data Logging)

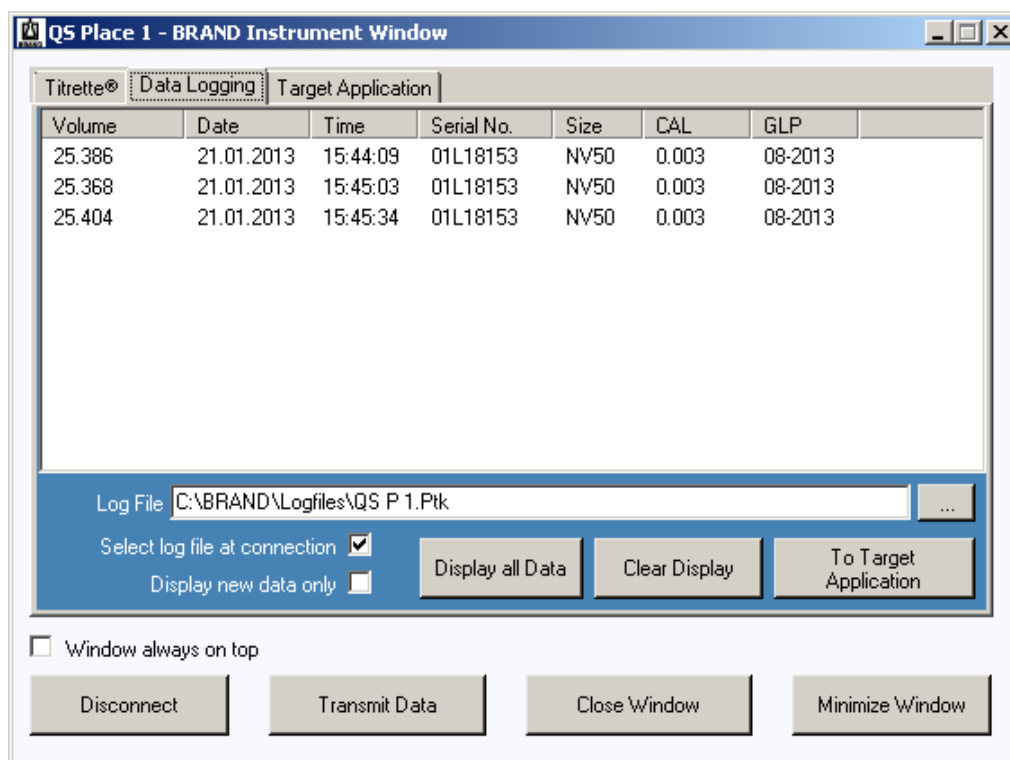
6.1. Transmission of titration volume

After titration, the displayed titration volume is transmitted into the chosen logging file (example: C:\BRAND\Logfiles\QS P1.Ptk) by a double-click on the instrument's CLEAR key. By this action the display of the burette is set to zero simultaneously.

Note: If the gap between the two clicks is too long, the display will be set to zero at the first key press (the sign for PC-connection is flashing) and with the second key press the titration value will be restored. The instrument behaves like an instrument without communication interface. No data will be transmitted!

Alternatively instead of double-clicking the instrument's CLEAR-key, you can click on the button "**Transmit Data**" in the Instrument Window on the desktop of the PC. Note: The instrument's display is not zeroed when the button "**Transmit Data**" is pushed.

The transmitted data are listed in the tab **Data Logging**.



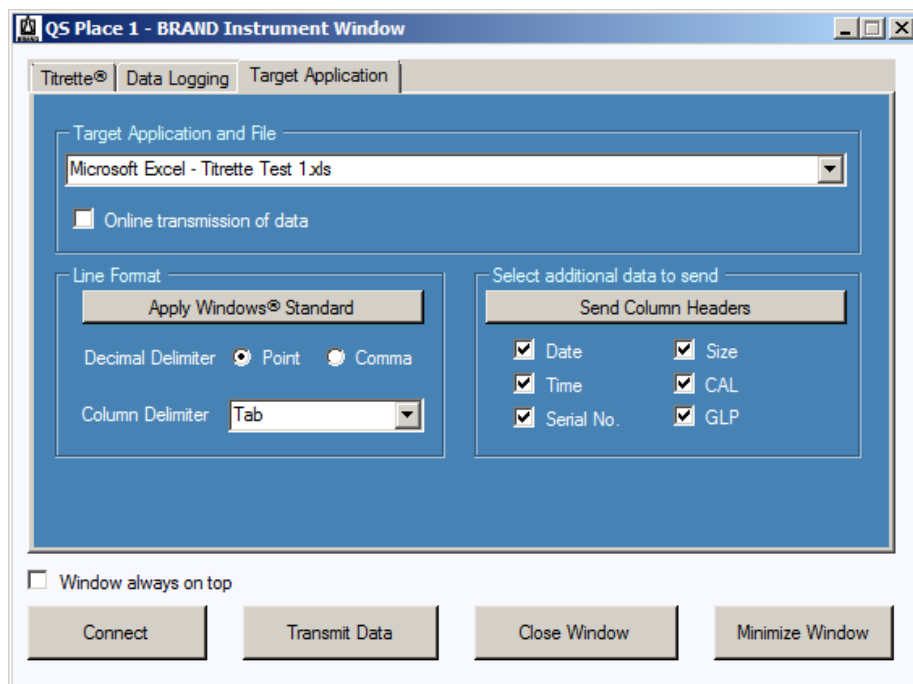
6.2. Starting a log file

To start a new file, please click on the small button, right next to the line **Log File**. The window **Log File Selection** opens.

Note: In the initial settings the window "Log File Selection" opens automatically with every restart of the program, so that you can choose a file. If you remove the checkmark at "Select log file at connection" then the program will start automatically with the last log file used. If you set a checkmark at "Display new data only", only the data of your actual measurement are shown.

7. Transmission of titration data into the target application (Instrument Window, tab Target Application)

For transmission of data from the data logging into the target application e.g., in a spread sheet you have to start the spread sheet program first (e.g., Microsoft Excel). Apply "Standard" as line format and save the file with its name (example: Titrette Test1) in the designated folder.



7.1. Setting of the tab Target Application

1. Chose the appropriate application and file from the pull-down list in the field **Target Application and File** of the **Target Application** tab.
If the data should be automatically transmitted into the target application, set the checkmark at **"Online transmission of data"**.
2. At **Line Format**, we recommend to apply the **Window® Standard** settings.
3. At **Select additional data to send**, you can select the additional parameters to be transmitted into the target application by the setting the appropriate checkmarks. Then click on the button **"Send Column Headers"**, to transmit the data.

7.2. Transmission of data into the target application

7.2.1. From Data Logging

You may transmit the data later on into your target application, by selecting the designated data in the tab **Data Logging**. Then press the button **“To Target Application”**.

7.2.2. Online from instrument

If the data should be transmitted directly „online“, set a checkmark at **“Online transmission of data”** in the tab **Target Application**.

	A	B	C	D	E	F	G
1	Volume	Date	Time	Serial No.	Size	CAL	GLP
2	50,000	21.01.2013	16:10:33	01L18153	NV50	0,002	Aug 13
3	50,000	21.01.2013	16:11:04	01L18153	NV50	0,002	Aug 13
4	50,000	21.01.2013	16:11:39	01L18153	NV50	0,002	Aug 13
5	50,000	21.01.2013	16:12:01	01L18153	NV50	0,002	Aug 13
6	50,000	21.01.2013	16:12:43	01L18153	NV50	0,002	Aug 13
7	50,002	21.01.2013	16:13:13	01L18153	NV50	0,002	Aug 13
8	50,000	21.01.2013	16:13:42	01L18153	NV50	0,002	Aug 13
9	50,004	21.01.2013	16:14:37	01L18153	NV50	0,002	Aug 13
10	50,000	21.01.2013	16:15:39	01L18153	NV50	0,002	Aug 13
11	50,000	21.01.2013	16:16:12	01L18153	NV50	0,002	Aug 13
12							
13	This row of data export the Titrette® at each data transmission						
14							

The cell format “Figure“ for the column “Titr. Volume“ and “Standard“ for the other columns is chosen.

7.3. Example of analysis

A	B	C	D	E	F	G	H	I	J	K	L	M
1	Volume	Date	Time	Serial No.	Size	CAL	GLP	Date:	21.01.2013			
2	50,000	21.01.2013	16:10:33	01L18153	NV50	0,002	Aug 13	User:	Mr. Bopp			
3	50,000	21.01.2013	16:11:04	01L18153	NV50	0,002	Aug 13	Individual name	QS Place 1			
4	50,000	21.01.2013	16:11:39	01L18153	NV50	0,002	Aug 13	Serial No.	01L18153			
5	50,000	21.01.2013	16:12:01	01L18153	NV50	0,002	Aug 13	Adjustment:	0,002			
6	50,000	21.01.2013	16:12:43	01L18153	NV50	0,002	Aug 13	Exercise:	Calibration			
7	50,002	21.01.2013	16:13:13	01L18153	NV50	0,002	Aug 13	Medium	Deionized Water			
8	50,000	21.01.2013	16:13:42	01L18153	NV50	0,002	Aug 13	Temperature	23 °C			
9	50,004	21.01.2013	16:14:37	01L18153	NV50	0,002	Aug 13					
10	50,000	21.01.2013	16:15:39	01L18153	NV50	0,002	Aug 13					
11	50,000	21.01.2013	16:16:12	01L18153	NV50	0,002	Aug 13					
12												
13	This row of data export the Titrette® at each data transmission							Serial No.	Titrette®			
14								Nominal capacity (ml)	RV50			
15								Testing volume (ml)	50,00			
16								Measurement	Result (g)	Calculated vol. (ml)	Titrated vol. (ml)	Difference (ml)
17								1	49,8402	50,015	50,000	0,015
18								2	49,8431	50,018	50,000	0,018
19								3	49,8422	50,017	50,000	0,017
20								4	49,8414	50,016	50,000	0,016
21								5	49,8417	50,016	50,000	0,016
22								6	49,8399	50,014	50,002	0,012
23								7	49,8409	50,015	50,000	0,015
24								8	49,8398	50,014	50,004	0,010
25								9	49,8412	50,016	50,000	0,016
26								10	49,8410	50,015	50,000	0,015
27									Mean value	Mean value	Standard deviation	
28									1,0035	50,016	50,001	0,0022
29								Factor Z				
30								Calculated mean volume (ml):	50,016			
31								Titrated mean volume (ml)	50,001			
32								Adjustment value	0,015			
33								Changed adjustment:	0,017			
34								Accuracy A%	0,03			
35								Coefficient of Variation CV %	0,00			
36								Accuracy A% specified	0,06			
37								Coefficient of Variation CV % specified	0,02			

Please find the transferred data on the left hand side and an example of a titration application on the right hand side. The transmitted data, e.g., serial No., nominal capacity, next calibration and the titration value are copied with reference to the original field place into the framed fields.