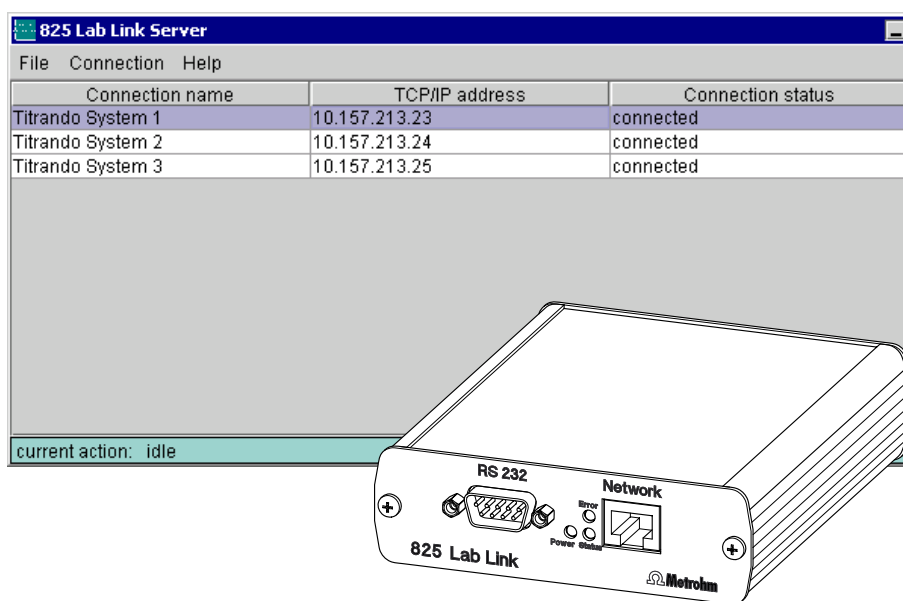


825 Lab Link

825 Lab Link Server



Instructions for Use

8.825.1003



l o n a n a l y s i s

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825 Lab Link

825 Lab Link Server

Version 3.0

Instructions for Use

Contents

1	Introduction	2
1.1	Description	2
1.2	Arrangement and functions	2
1.3	Description of 825 Lab Link	3
2	Installation	4
2.1	Requirements	4
2.2	Configuration of the IP address of the 825 Lab Link	5
2.3	Connection of the 825 Lab Link	7
2.4	Configuration of the Touch Control	7
2.5	825 Lab Link Server software setup	8
2.5.1	Software installation	8
2.5.2	Basic settings	8
2.6	Setting up a connection	16
3	Starting Lab Link	20
3.1	Setting up a connection	20
3.2	Operation	21
4	Appendix	22
4.1	Special network settings	22
4.1.1	TCP/IP configuration	23
4.1.2	Serial transmission parameters	23
4.1.3	Save new configuration	24
4.2	Troubleshooting	25
4.2.1	825 Server Software Status "not available"	25
4.2.2	Error message 011-105 Access <i>not possible</i>	26
4.3	Technical data	28
4.3.1	Interfaces	28
4.3.2	Ambient temperature	28
4.3.3	Power supply	28
4.3.4	Dimensions	28
4.4	Standard equipment	29
4.5	Essential accessories	29
4.6	Warranty and conformity	30
4.6.1	Warranty	30
4.6.2	EU Declaration of Conformity	31
4.6.3	Certificate of Conformity and System Validation	32
5	Index	33

1 Introduction

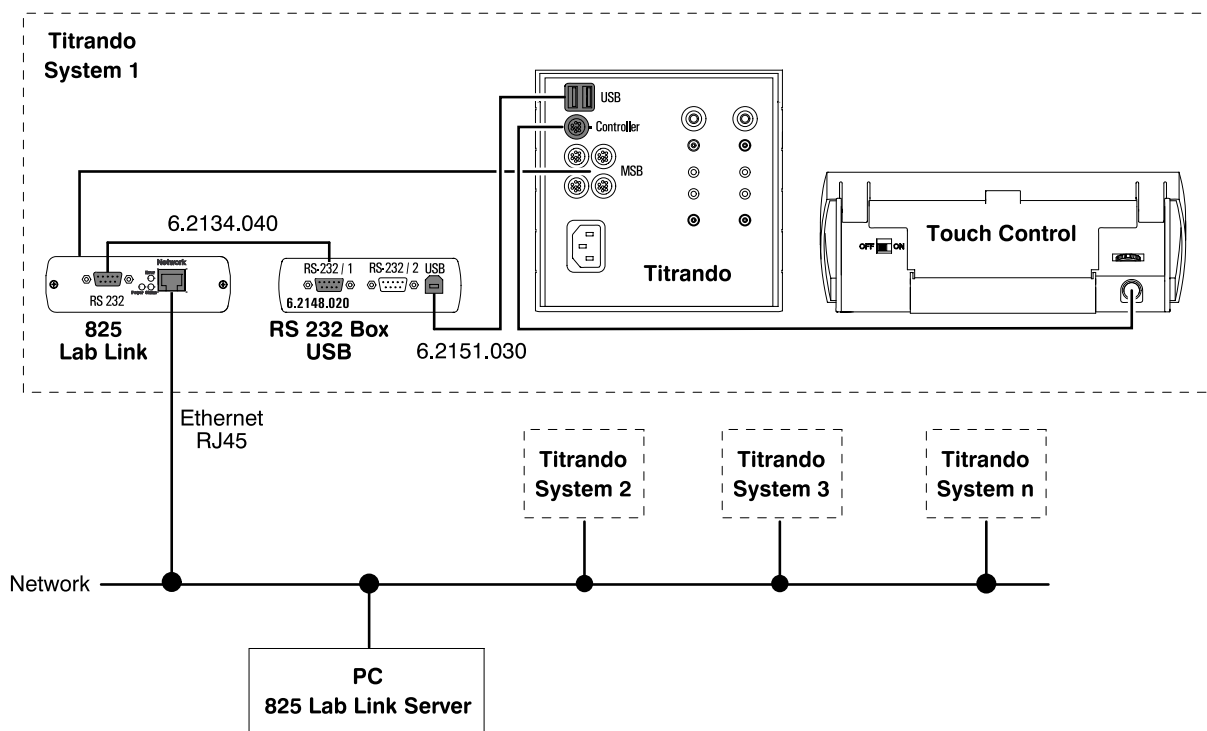
1.1 Description

The 825 Lab Link System consists of the instrument **825 Lab Link** and the PC program **825 Lab Link Server**. It allows the Ethernet connection of a Titrand system with Touch Control. Several Titrand systems can transfer their data (methods, results, LIMS data, etc.) to a networked PC with installed 825 Lab Link Server software via such a TCP/IP connection. In this way correspondingly configured folders of the server PC are available to Touch Control as an additional memory medium.

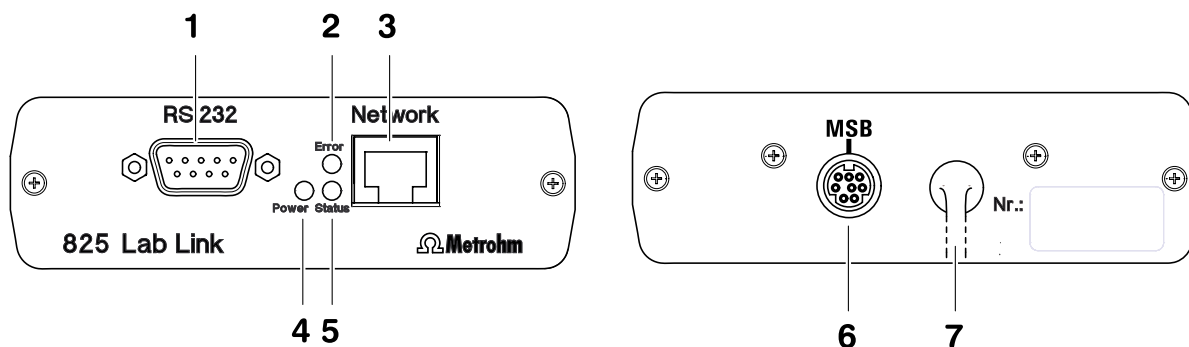
In addition, the Titrand system also has the possibility of sending E-Mail messages via the 825 Lab Link Server.

1.2 Arrangement and functions

The following illustration shows the schematic arrangement of a Titrand system for network operation in combination with the 825 Lab Link Server. Peripheral devices such as stirrers, etc. have been left out for reasons of clarity.



1.3 Description of 825 Lab Link



1 RS 232 connection

9-pin sub-D connection, connects with 6.2148.020 USB RS 232 Box with 6.2134.040 Cable

6 MSB connection

Connection for additional peripheral devices in Titrando system.

2 LED "Error" display

Indicates network problems by blinking

7 MSB connector

for connection to Titrando MSB ports 1-4. The occupied MSB Port is made available again by 825 Lab Link-connection **6**.

3 RJ45 network connection

Connection to network; supports at least 10 MBit/s.

4 LED "Power" display

5 LED "Status" display

2 Installation

2.1 Requirements

In order to network a Titrand system using the 825 Lab Link you require the following equipment (see also Sections 4.3 and 4.5).

- Titrand system with Touch Control
- 825 Lab Link with 6.2134.040 RS 232 Cable
- 10 MBit network with RJ45 Ethernet cable
- One free IP address per 825 Lab Link; Subnet Mask and Gateway must be known if applicable
- 6.2148.020 USB RS 232 Box with 6.2151.030 USB Cable

The 825 Lab Link Server software should be installed on a PC with the following minimal equipment level:

- Processor: Pentium III
- Main memory: 128 MB RAM
- Free hard disk memory: 50 MB for program files and sufficient space for the planned Titrand data
- Network connection with at least 10 MBit/s

The use of Microsoft Windows 2000 or Windows XP as the operating system is absolutely essential.

Warning! The installation of the 825 Lab Link Server must be carried out as "Administrator". If you are using an NTFS file system then take care that the users intending to utilize the server operation have full rights of access to the data folders that have to be set and to all subfolders created in them. This can be checked in Windows Explorer in the security settings in which the properties of the corresponding folders are defined. Please note that for the operation of the 825 Lab Link Server software the corresponding user must remain continuously logged in under Windows.

Windows XP: The safety settings described above are only accessible when the option "Use simple file release" is switched off in the menu *Extras / File options / View* in Windows Explorer.

2.2 Configuration of the IP address of the 825 Lab Link

In order to address the 825 Lab Link in your network and to carry out the further configuration you must first assign an IP address to it. This must be unambiguous for the network and must not have been used already. If necessary, contact the responsible network administrator.

If you know the IP address which is currently set for your 825 Lab Link and if this can also be accessed under your network configuration then you can also alter the IP address via a Telnet connection (see Section 4.1).

1 Connect 825 Lab Link to Titrande

For communication with the PC the 825 Lab Link needs a power supply. Connect MSB cable **7** of the 825 Lab Link to an MSB connection of the Titrande.

2 Connect 825 Lab Link to PC

Connect RS 232 connection **1** on the 825 Lab Link temporarily to a free COM interface of a PC. This must not necessarily be the PC intended for use with the 825 Lab Link Server software. Use the included 6.2134.040 Cable.

3 Configure terminal program

In any terminal program (e.g. Microsoft Windows HyperTerminal) prepare a serial connection with the following transmission parameters:

- 9600 baud
- 8 data bits
- no parity
- 1 stop bit
- no handshake
- emulation: VT100

These parameters only apply for this terminal connection for setting the IP address!

4 Start communication

With the terminal connection opened hold down the <x> key on the PC while you switch on the Titrando at the Touch Control. This starts a program for configuration of the IP address in the 825 Lab Link; after approx. 2 seconds the following prompt appears on the PC monitor:

IP no.+<ENTER>: _

5 Enter IP address

Enter the new IP address without any leading zeros (e.g. 10.157.213.23) and then operate the ENTER key. These characters are not visible at first. A successfully stored IP address will be shown:

**IP no.+<ENTER>:
010.157.213.023**

If a faulty entry is made then the message '**Fail**' will appear. In this case repeat the procedure from **4**.

The 825 Lab Link is now properly configured. If any further adaptations for TCP/IP or RS 232 communication are necessary then these can be carried out as described in Section 4.1.

2.3 Connection of the 825 Lab Link

Connect the 825 Lab Link to your switched-off Titrande system as shown in Section 1.1 and connect it to the network:

- To do this connect the USB RS 232 Box to a USB connection of the Titrande by using the 6.2151.030 USB Cable.
- Connect one RS 232 connection of the USB RS 232 Box to RS 232 connection **1** of the 825 Lab Link by using the 6.2134.040 Cable.
- Connect the 825 Lab Link to the local network by using an RJ45 Ethernet cable at connection **3**.
- For MSB connection **7** of the 825 Lab Link you can use any free MSB connection of the Titrande or a peripheral device. This connection is then made available again on the 825 Lab Link to exactly the same extent (MSB connection **6**).

2.4 Configuration of the Touch Control

The Touch Control used must be set for data transmission to an external system:

1. Switch the Touch Control on.
2. If no **PC/LIMS** has been set up under **System/Device manager**, then insert it with **[New]**.
3. Select **PC/LIMS** and operate **[Edit]**. Set "**Ext. System access**" as the communication mode.
4. You should also set the **RS 232 interface** according to the selected connection at the USB RS 232 Box.
5. The Touch Control must then be switched off in order to store these settings.

2.5 825 Lab Link Server software setup

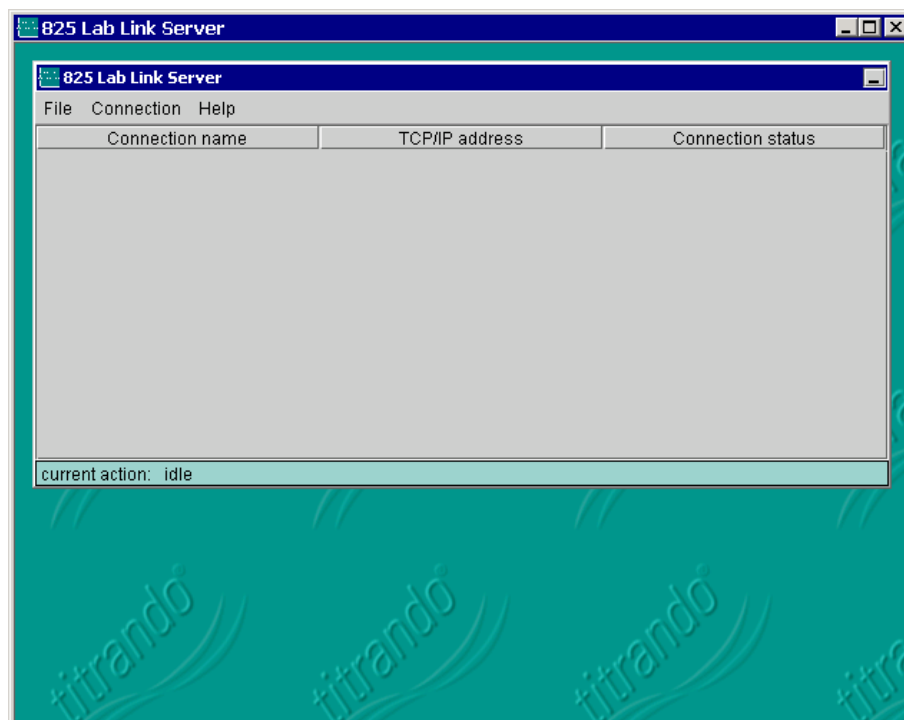
2.5.1 Software installation

On the intended server PC start the installation program **Titrando.exe** in the main folder of the accompanying CD and select the option **825 Lab Link**. You can also start the corresponding installation program **Setup.exe** directly from the 825 folder.

Follow the instructions given by the program.

2.5.2 Basic settings

After successful installation start the program **825 Lab Link Server**. The main program windows opens:

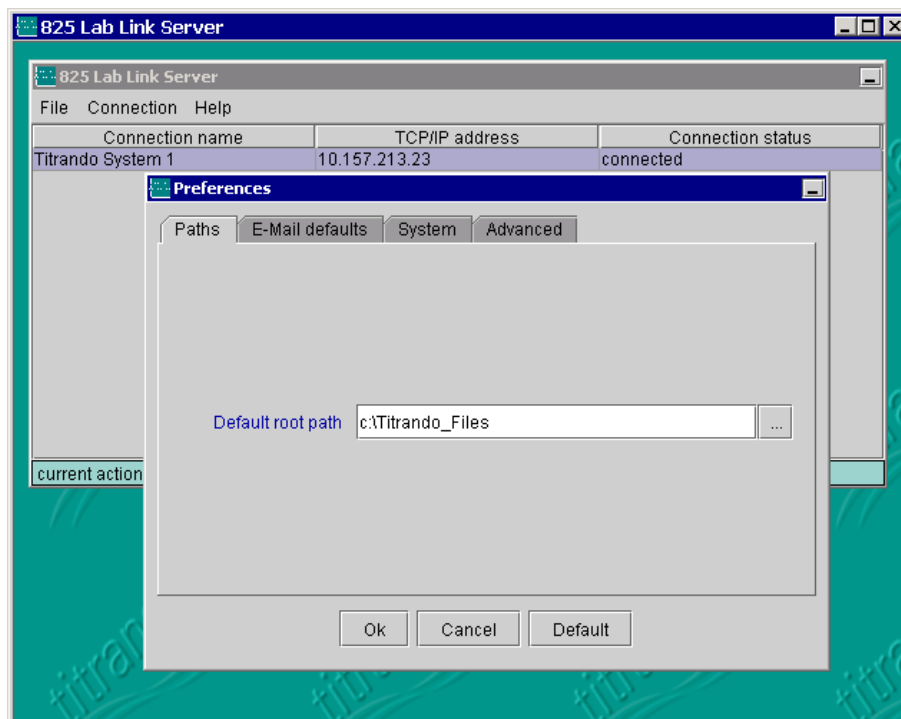


Before you set up one or more Lab Link connections you should first configure some standard settings under *File / Preferences*. These will then appear automatically as defaults when setting up new connections.

All the following standard settings can be reset together to the values that they had immediately after the program installation with the *[Default]* button.

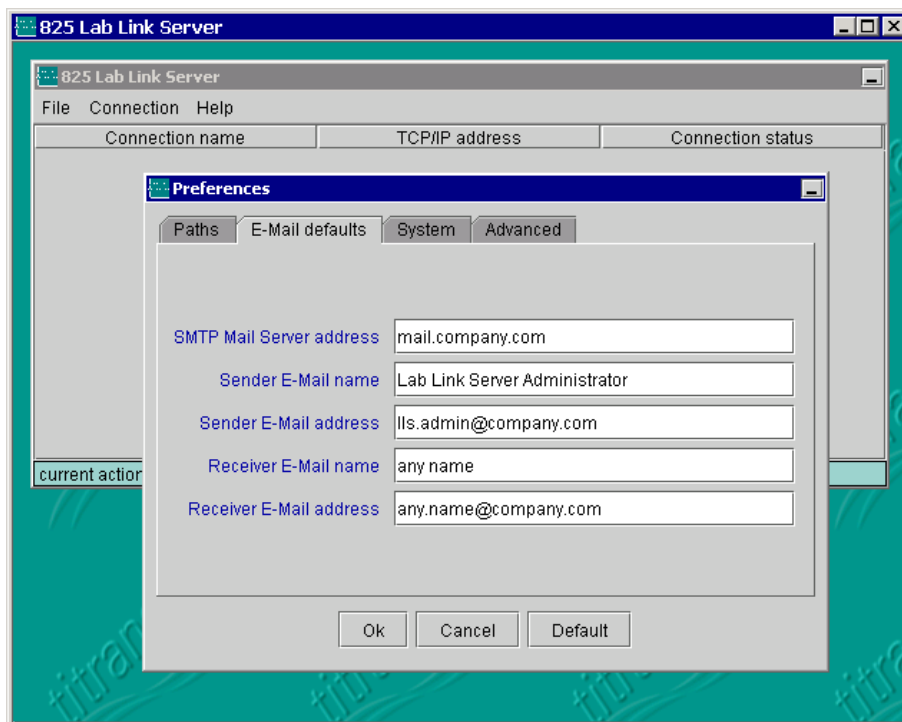
Default root path

A common default root path can be defined for the data of all the Titrandos systems connected to the 825 Lab Link Server. The specific folders for the individual Lab Link connections are defined separately (see Section 2.6) and then stored in this default root path as subfolders.



E-Mail

Error and warning messages from the Touch Control can be sent by E-Mail to any address. Under *E-Mail defaults* you should define the standard instructions for the corresponding settings of the new Lab Link connections to be defined.



SMTP Mail Server address

You should enter the address of your SMTP Mail Servers here.

Sender E-Mail name

Define the name which is to appear as the E-Mail sender in the mail header of the E-Mail received by the receiver.

Sender E-Mail address

Define the sender address. Enter a valid E-Mail address so that you will be informed if the E-Mail cannot be delivered.

Receiver E-Mail name

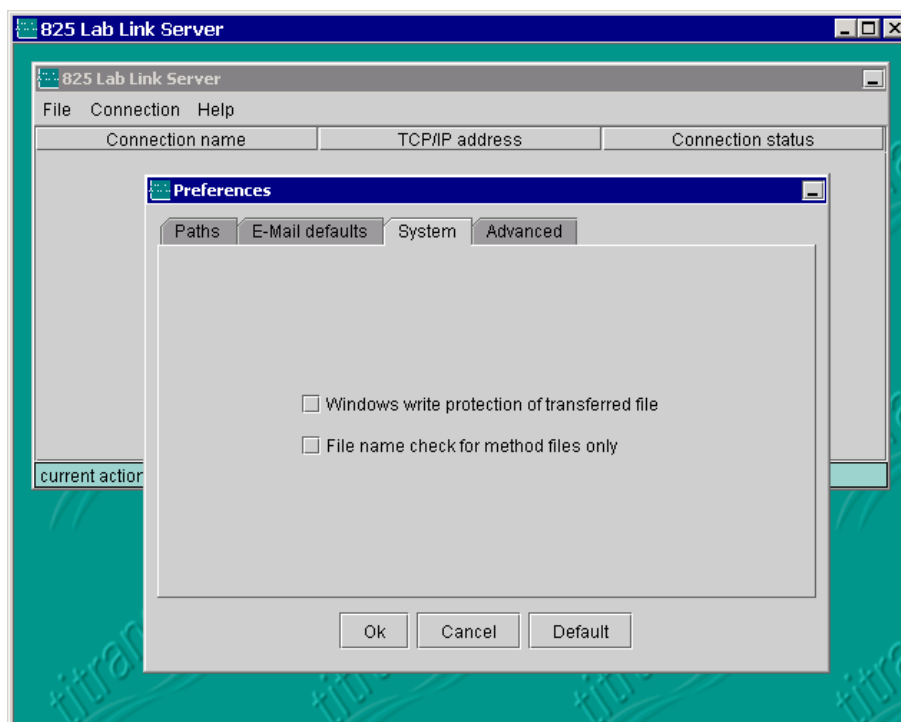
Enter the name of the receiver of the E-Mail.

Receiver E-Mail address

Define the receiver address. If an invalid E-Mail address is entered the sender E-Mail address will receive a message that the E-Mail cannot be delivered.

System

Under *System* you can make settings that apply to all the connected systems.



Windows write protection of transferred file

Files transferred from the Titrando system to the 825 Lab Link Server (methods, determinations, etc.) are not write protected as standard outside the Touch Control or PC Control software. By activating this checkbox all files can be protected by the Windows write protection after transmission to the server, so that they cannot be directly overwritten or deleted in a Windows file manager (e.g. Explorer). This Windows write protection should not be confused with the write protection option in Touch Control or PC Control under *Options Methods / Write protection*; this provides an internal system protection against accidental overwriting or deletion of files.

Please note that, if the Windows write protection is activated, there is no possibility of deleting or overwriting an already existing file on the server from the Titrando system. In this case the Windows write protection for the particular file must first be manually disabled at the Lab Link server PC.

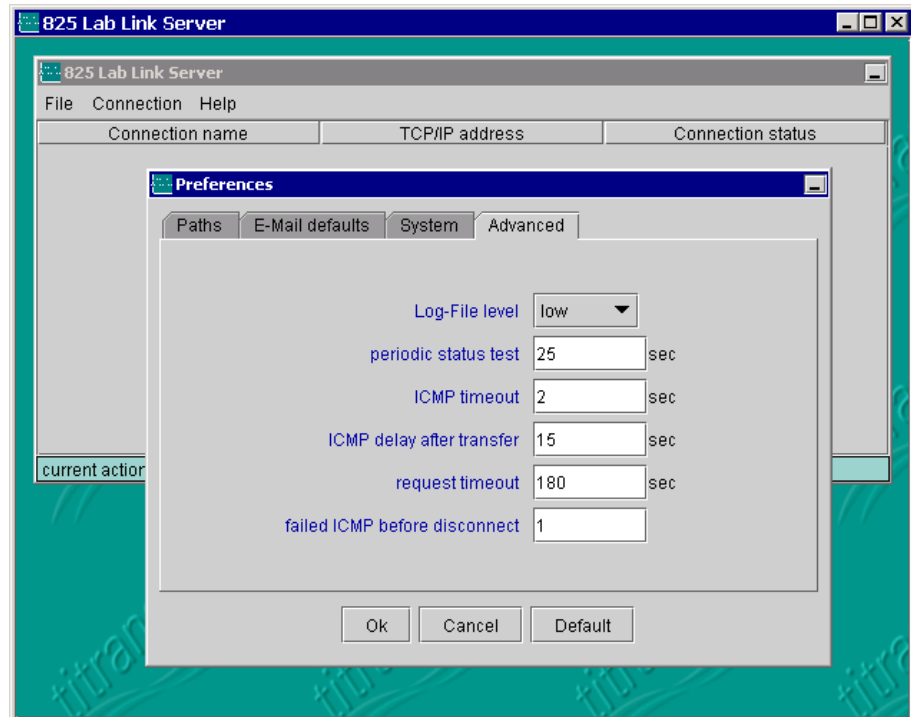
File name check for method files only

When files are saved the Titrando checks the exclusivity of the file name in all folders and subfolders in the folder defined as *Root path* for the particular Lab Link connection. This check could take some time, particularly when a large number of determination files are stored in a single (sub)folder. By activating this checkbox this check can be switched off for all files with the exception of the methods. This increases the performance, but the Titrando user must then personally ensure that no files names are used twice.

Warning! If the same names are used in an identical target folder then the existing file will be overwritten without any warning, unless the target file is write protected by the checkbox described above being activated!

Advanced

Under *Advanced* special adaptations to the local network surroundings can be carried out. These apply immediately for all Lab Link connections after confirmation with [Ok].



Warning! You should only alter these settings when you have detailed knowledge of the corresponding functions. Faulty timing settings may cause malfunctioning.

Log-File level

Communication with the connected Titrand systems can be recorded in a log file. This function may be particularly useful during startup for searching for errors. The log file is deleted every 60 operating minutes; recording then starts again from the beginning.

Level *low*: No detailed recording is made. This is recommended for normal operation.

Level *medium*: All received and transmitted commands as well as the periodic status tests are recorded. This is normally sufficient for tracing communication problems.

Level *high*: In addition, the info-packages sent by each 825 hardware as well as technical programming information is recorded.

This is only intended for "debugging" in cooperation with Metrohm Service.

Recommendation: Keep the Log-File Level as low as possible in order to avoid unnecessary CPU and memory occupancy.

periodic status test

After the definition of a connection has been concluded (see Section 2.6), the 825 Lab Link Server attempts to contact the corresponding 825 hardware. All the defined Ethernet connections are checked at regular intervals. The status test for an individual connection consists of two parts:

- a) an ICMP (Internet Control Message Protocol = "Ping") to the corresponding TCP/IP address
- b) an info-package request to the connected 825 hardware

The result of the status test directly determines the connection status shown in column 3 of the server list (*Connection status*).

The status test cycle is defined in this input field. A short cycle period enables a rapid reaction to status changes, but subjects the network to a slightly greater load. A long cycle period lengthens the reaction time to a newly switched-on 825 hardware, but results in less network traffic. The time must be selected so that the Lab Link Server program always has the opportunity of opening the TCP/IP connection to newly switched-on 825 hardware before the Titrand system terminates the setting up of a connection to the Lab Link Server. At the earliest, the connection setup takes place 25 seconds after switch-on and is terminated after 50 seconds at the latest with an error message if no connection is made within this time. The following equation can be used as an aid for calculating the optimal time:

$$\begin{aligned} \text{periodic status test time} \\ = 42 \text{ s} - (\text{no. of defined connections} * \text{ICMP timeout}) \end{aligned}$$

ICMP timeout

As described above, the periodic status test also includes a connection from an ICMP (Internet Control Message Protocol) to the corresponding TCP/IP address. If the target address does not reply within the timeout period defined here then the connection will be regarded as being non-existent.

In networks with only a little traffic a successful ICMP only requires a few milliseconds. With intensive network traffic this command may take a little longer. However, we recommend that the timeout setting is not made too high as its size directly influences the periodic status test, particularly if large numbers of 825 hardware have been defined (but are switched off).

ICMP delay after transfer

As in the periodic status test, successful data transfer indicates a functioning connection. In this case an additional ICMP does not need to be set.

The time shown here indicates the off-time for an ICMP to the corresponding TCP/IP address after a successful transmission. A larger off-time reduces network traffic, but increases the reaction time of the Lab Link Server software to a change in status of an 825 hardware.

request timeout

A running request cannot be interrupted by the periodic status test. If for any reason a request cannot be completed (e.g. power cut affecting the Touch Control), then this connection remains blocked from the point of view of the Lab Link server. When this timeout period has elapsed the connection will be reset automatically and initialized. In order to avoid unintended resetting do not set this time too short.

failed ICMP before disconnect

If the periodic status test (ICMP) fails then an existing connection will be interrupted (status “not available”). This parameter can be used to determine the number of failed status tests in series necessary for the actual termination of a connection. Once a connection has been interrupted it will be reactivated automatically at the next status test at the earliest, or manually via the option *Connection / Reconnect*.

2.6 Setting up a connection

Under *Connection* new Lab Link connections can be set up; existing ones can be edited or deleted:

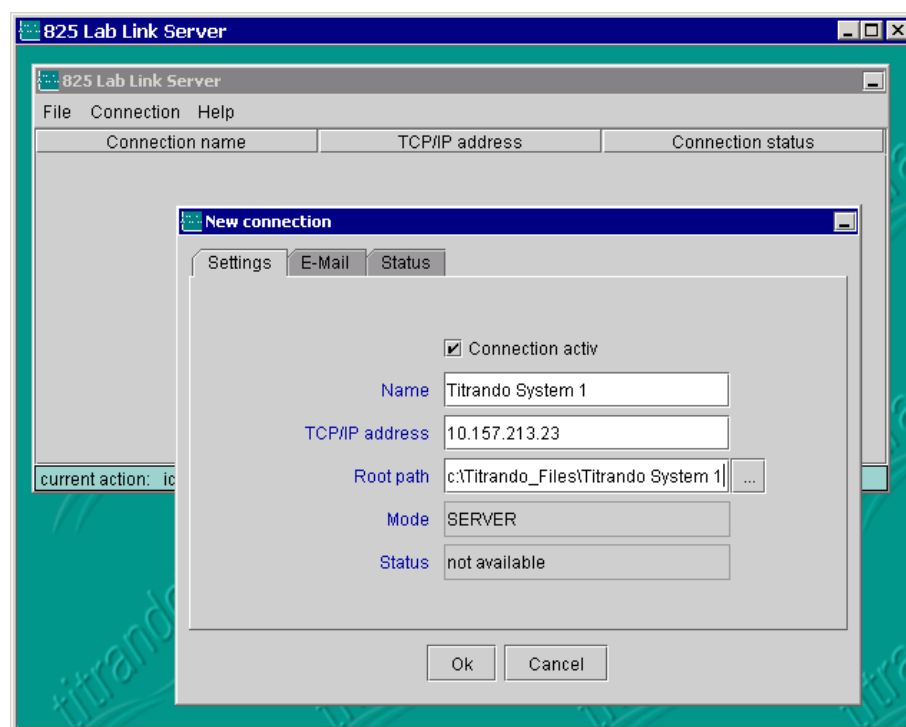
Connection

- New:* Sets up new connection
- Edit:* Edits selected connection
- Delete:* Deletes selected connection
- Disconnect:* Disconnects selected connection
- Reconnect:* Reconnects selected connection

Select **New** in order to set up a new Lab Link connection:

Settings

The specific settings for a Lab Link connection are made under *Settings*.



Connection active

Connections which are not to be used for a longer period of time can be exempted from the regular connection check (see Section 2.5.2) by deactivating this checkbox. This reduces unnecessary network traffic.

For (re-)activation it is only necessary to activate this checkbox. During the next periodic status test all the active connections will

be checked and, if necessary, restarted. Inactive connects are given the status “inactive”.

Name

Give your Titrand system a name that is unambiguous. This name will only be shown in the list of connections.

TCP/IP address

Here you should enter the TCP/IP address that you assigned to the particular 825 Lab Link hardware during installation / configuration (see Section 2.2). Take care that you use the correct writing form, e.g. one- and two-place numbers without any leading zeros.

When editing an existing connection it is not possible to alter this field. If you subsequently find that the TCP/IP address of a defined connection is incorrect then you should delete this connection and set up a new one.

Root path

At first the *Default root path* defined in Section 2.5.2 appears here. You should now extend this path by adding the subfolder intended for use with this connection. In this way you can differentiate between the individual Titrand systems that are connected.

However, if you enter the same folder for all connections then the amount of data in this folder and its subfolders will increase; this has a negative effect on the performance, e.g. during manual storage.

Tip: Use the possibility of placing one of your own terms in front of the automatically assigned file name for a determination. This avoids possible name conflicts. Please consult the PC Control / Touch Control Instructions for Use of your Titrand system (Method Options).

Mode

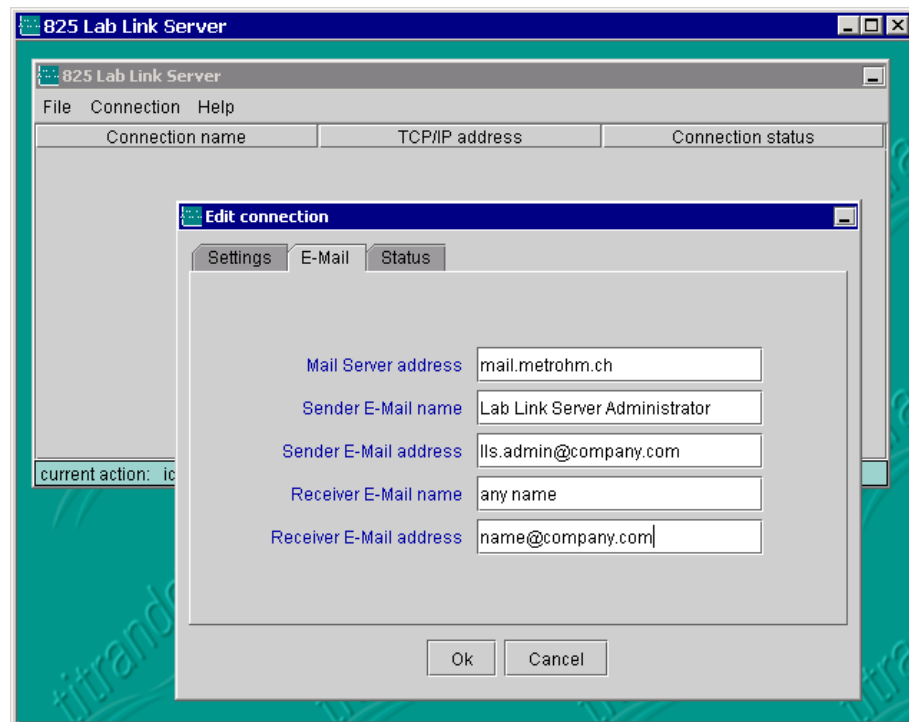
This parameter is fixed to “SERVER” and cannot be altered.

Status

For a new connection the status is “not available”. When editing an existing connection the current status appears here.

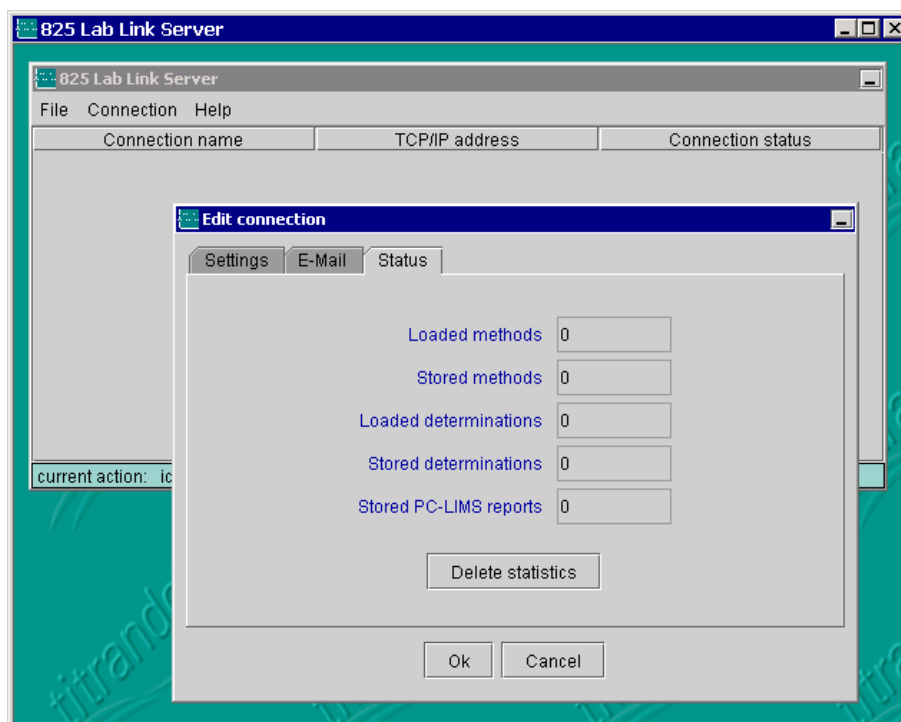
E-Mail

Here you can make special settings for each Lab Link connection for sending E-Mails or accept the default settings defined in Section 2.5.2 without alteration.



Status

This table shows the statistics for the transmitted data for the connection. With *Delete statistics* all fields can be reset to zero.



Close your entries with *Ok* in order to insert the new connection in the current list or to allow alterations to the connection settings to become effective.

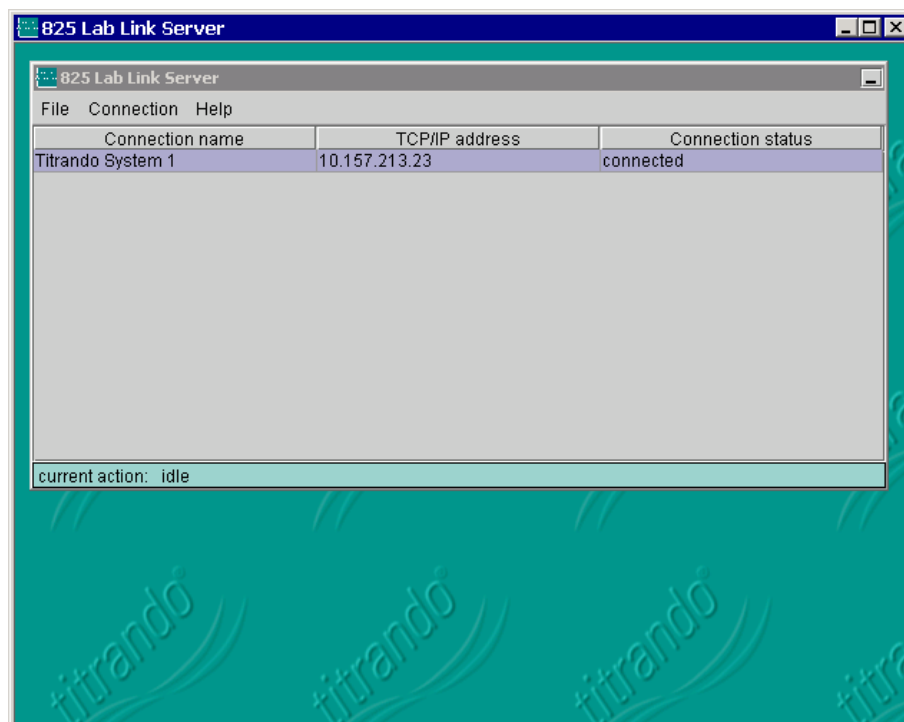
3 Starting Lab Link

3.1 Setting up a connection

Always start the 825 Lab Link Server software before you switch on the Touch Control!

As soon as you have started the 825 Lab Link Server software or have edited or defined a new connection the program will attempt to make a connection to the 825 Lab Link hardware.

If this is successful then the *Connection status* will change to *connected*. Otherwise the server will make regular attempts to set up the connection. This is indicated in the status line at the lower margin of the window. An existing connection (status *connected*) will also be checked at regular intervals to see if it is still active.



Under *Connection status* the following messages are possible:

- | | |
|------------------------|---|
| <i>"inactive"</i> | Ethernet connection is deactivated (no periodic status test).
You can active the connection with the <i>Connection active</i> checkbox under <i>Connection/Edit/Settings</i> . |
| <i>"not available"</i> | No Ethernet connection to 825 Lab Link hardware or the latter is switched off. |
| <i>"connected"</i> | A functioning Ethernet connection exists to the 825 Lab Link hardware. |
| <i>"busy"</i> | Data transfer Titrandosystem ↔ Lab Link Server software is taking place |

Please note that the message given in column 3 only indicates the status of the Ethernet connection from the 825 Lab Link Server to the 825 Lab Link hardware. The connection from the Lab Link Server to the Titrandosystem is checked by the Client (Touch Control) for each communication.

3.2 Operation

When the Lab Link connection has been set up correctly and is active then on the Touch Control you will have a further storage medium available in addition to "**Card 1**" and "**Card 2**": the option "**Shared memory**".

Please note that, because of the limited transmission speed of the RS 232 connection from the Titrandosystem to the 825 Lab Link, this connection is not suitable for managing the stored files with the Touch Control file manager. For this purpose, and for viewing and e.g. recalculating determination data, the PC Control program is optimally suited; this is supplied with each Titrandosystem.

4 Appendix

4.1 Special network settings

In Section 2.2 a description is given of how to use an RS 232 terminal program to set the IP address of the 825 Lab Link. This address is then used when setting up a Lab Link connection in the 825 Lab Link Server (see Section 2.6).

If you know the IP address which is currently set on your 825 Lab Link and if this can also be addressed within your network configuration then you can also edit the IP address via a Telnet connection. You can also use this Telnet connection for making special adaptations of the TCP/IP configuration of the 825 Lab Link to suit your network surroundings. If necessary, you should also contact the responsible network Administrator.

First start a Telnet connection from a computer located in the same sub-net as the IP address assigned in Section 2.2. For example, this could be the PC intended for use with the 825 Lab Link Server software. In this way you can simultaneously test the network connection of the devices intended for use in the operation.

Use configuration Port 1111 of the 825 Lab Link:

telnet (IP-Address) 1111

The configuration menu appears as the answer:

```
*****
*           MINI Com-Server           *
*****
```

1. INFO System
2. SETUP System
3. SETUP Port 0 (Serial)
4. SAVE Setup

Press <No.+ ENTER> (q=quit):

Note! In the TCP/IP menu do not set "BOOTP Client" to "on". This will activate the unnecessary DHCP capability of the 825 Lab Link and will later prevent operation with the 825 Lab Link Server software!

4.1.1 TCP/IP configuration

Via

2. SETUP System

and

1. Setup TCP/IP

you can access the required submenu for the configuration of the IP address, Subnet Mask and Gateway:

***** Port:- / Menu Level:2 *******

Setup TCP/IP

1. IP-Address
2. Subnet Mask
3. Gateway
4. MTU (512-1024)
5. BOOTP Client

Press <No.+ ENTER> (q=quit):

After you have made the appropriate entries you can return to the main menu (Menu level:0) by pressing the <ENTER> key several times.

4.1.2 Serial transmission parameters

The serial parameters of the 825 Lab Link are set correctly in the factory for communication with a Titrand system. These settings are:

- 19200 baud
- 8 data bits
- no parity
- 1 stop bit
- no handshake
- Emulation: VT100

If other settings should be necessary then proceed as follows:

Via

3. SETUP Port 0 (Serial)

and

2. UART Setup

you can access the required submenu for the configuration of the RS 232 parameters:

```
*** Port:0 / Menu Level:2 *****
```

```
(19200,N,8,1,N)
```

1. Baud:
2. Parity:
3. Data Bits:
4. Stopbit:
5. Handshake:

Press <No.+ ENTER> (q=quit):

After you have made the appropriate entries you can return to the main menu (Menu level:0) by pressing the <ENTER> key several times.

4.1.3 Save new configuration

Store the new configuration in the main menu with

4. SAVE Setup

Note! The IP address, Subnet Mask and Gateway are basic parameters that are also required by the 825 Lab Link for the current Telnet session. For this reason the stored settings only become effective after the Telnet session has been properly concluded by entering "q" in the main menu.

4.2 Troubleshooting

4.2.1 825 Server Software Status "not available"

If in the status line of the 825 Lab Link Server software (*Connection status*) the display for the corresponding connection does not change to *connected* within the defined status test period after the Touch Control has been switched on then check the following points:

No power supply to 825 Lab Link

The 825 Lab Link is provided with power via MSB connection **7**. A correct power supply is indicated by green Power LED **4** being permanently lit up.

Ethernet connection is interrupted

Ethernet connection **3** of the 825 Lab Link is not plugged in correctly (RJ45). The red Error LED **2** is blinking. If communication is functioning then green status LED **5** blinks irregularly.

TCP/IP address of the 825 Lab Link incorrectly configured

Compare the TCP/IP address set in the 825 Lab Link Server with the address of the 825 Lab Link. The latter can be easily checked with a Telnet connection from the PC and altered if necessary (see Section 4.1.1). If because of an unknown or incorrectly configured TCP/IP address no Telnet connection can be set up to the 825 Lab Link, as described in Section 2.2, then the address must be redefined.

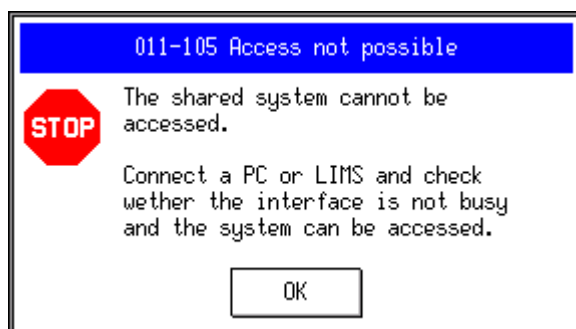
Time for *periodic status test* set too high

If the 825 Lab Link Server list contains a large number of non-existent connections then the *ICMP timeout* period must be included when calculating the time (see rule-of-thumb equation in *periodic status test* in Section 2.5.2). We recommend that unnecessary connections are deleted from the list.

825 Lab Link has an internal fault

A fault in the 825 Lab Link hardware is indicated by Error LED **5** being lit up red permanently.

4.2.2 Error message 011-105 Access not possible



This Touch Control message indicates that there is a problem with the connection between the Titrand system and the 825 Lab Link Server PC.

If this message appears and the status of the network connection between the 825 Lab Link Server PC and the 825 Lab Link hardware is shown as *not available* on the PC then first check this connection as described in Section 4.2.1.

The following points should only be checked if the network connection between the PC and 825 Lab Link is shown as *connected*:

Faulty RS 232 connection of 825 Lab Link

The interface on the USB RS 232 Box which has been selected at the Touch Control in the PC/LIMS configuration must be used for the serial connection between the 825 Lab Link and the USB RS 232 Box (see Section 2.4). A null modem RS 232 cable must be used (Metrohm number 6.2134.040).

Faulty connection of USB RS 232 Box to Titrand

The USB RS 232 Box must be connected to a USB connection of the Titrand by using the 6.2151.030 USB Cable.

In the menu *System / Device manager* of the Touch Control check whether the USB RS 232 converter is included in the list.

Incorrectly configured Port 0 of the 825 Lab Link hardware

The RS 232 parameters at Port 0 of the 825 Lab Link have been set incorrectly. Check this configuration as described in Section 4.1.2. The Port 0 configuration must be "(19200,N,8,1,N)".

Incorrect PC/LIMS configuration at Touch Control

Check whether the communication mode on the Touch Control has been set to “*Ext. system access*” under *System / Device manager / PC/LIMS [Edit]*, and that the selected RS 232 interface is the same as that which is actually being used. After a configuration alteration the Touch Control must be restarted.

Touch Control has been started before the 825 Lab Link Server program

Start the Touch Control only after the 825 Lab Link Server has been started.

4.3 Technical data

4.3.1 Interfaces

MSB (Metrohm Serial Bus)

Titrande connection cable 8-pin, 50 cm, mini-DIN plug

Connectors Connection for Metrohm instruments with MSB plug (dosing devices, stirrers, Remote Box).

RS 232 (serial connection to Titrande via USB RS 232 Box)

RS 232 DTE 9-pin, sub-D plug

Network connection

TCP/IP-Ethernet 10 BT, RJ 45, min. 10 MBit/s

4.3.2 Ambient temperature

Nom. working range +5 °C...+45 °C (at max. 85% humidity)

Storage -20 °C...+60 °C

Transport -40 °C...+60 °C

4.3.3 Power supply

Voltage 5 V DC \pm 5%

Power consumption 200 mA at 5 V DC

4.3.4 Dimensions

Housing material Aluminum

Width 106 mm


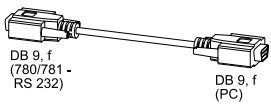
Height 32 mm

Depth 123 mm

Weight 320 g

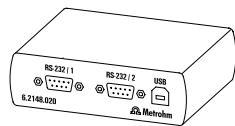
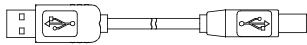
4.4 Standard equipment

The **2.825.0010** Lab Link is supplied with the following accessories:

No.	Order No.	Name	
1	1.825.0010	825 Lab Link	
1	6.2134.040	Cable RS 232 connection 825 Lab Link — USB-RS 232 Box	
1	A.704.000x	Titrande CD-ROM Release x = 2 or higher, contains 825 Lab Link Server software, etc.	
1	8.825.1001	Instructions for Use for 825 Lab Link and 825 Lab Link Server	

4.5 Essential accessories

The following accessories are required for operating an 825 Lab Link with a Titrande system:

No.	Order No.	Name	
1	6.2148.020	USB RS 232 Box (RS 232 Box USB) for connecting instruments with a serial RS 232 interface to the USB connection of the Titrande	
1	6.2151.030	USB Cable for connecting the USB RS 232 Box to the Titrande USB A – USB B (30 cm)	

4.6 Warranty and conformity

4.6.1 Warranty

The warranty on our products is limited to defects that are traceable to material, construction or manufacturing error which occur within 12 months from the day of delivery. In this case the defects will be rectified in our workshops free of charge. Transport costs are to be paid by the customer.

For day and night operation the warranty is limited to 6 months.

Glass breakage in the case of electrodes or other parts is not covered by the warranty. Checks which are not a result of material or manufacturing faults are also charged during the warranty period. For parts from outside manufacturers, insofar as these constitute an appreciable part of our instrument, the warranty stipulations of the manufacturer in question apply.

With the regard to the guarantee of accuracy the technical specifications in the instruction manual are authoritative.

Concerning defects in materials, construction or design as well as the absence of guaranteed features the purchaser has no rights or claims except those mentioned above.

If damage of the packaging is evident on receipt of a consignment or if the goods show signs of transport damage after unpacking, the carrier must be informed immediately and a written damage report demanded. Lack of an official damage report releases Metrohm from any liability to pay compensation.

If any instruments and parts have to be returned then the original packaging should be used if at all possible. This applies above all to instruments, electrodes, buret cylinders and PTFE pistons. Before embedment in wood shavings or similar material the parts must be packed in a dustproof package (for instruments the use of a plastic bag is essential). If open assemblies are included that are sensitive to electromagnetic voltages (e.g. data interfaces, etc.) then these must be returned in the associated original protective packaging (e.g. conductive protective bag). (Exception: assemblies with a built-in voltage source belong in non-conductive protective packaging).

For damage which arises as a result of non-compliance with these instructions no warranty responsibility whatsoever will be accepted by Metrohm.

4.6.2 EU Declaration of Conformity



EU Declaration of Conformity

The company Metrohm AG, Herisau, Switzerland, certifies herewith, that the following instrument:

825 Lab Link

meets the CE mark requirements of EU Directives 89/336/EEC and 73/23/EEC.

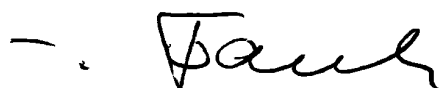
Source of specifications:

- EN 61326 Electrical equipment for measurement, control and laboratory use – EMC requirements
- EN 61010-1 Safety requirements for electrical equipment for measurement, control and laboratory use

Description of apparatus:

Web server for connecting a Titrand system with Touch Control to the Ethernet.

Herisau, October 30, 2002



Dr. J. Frank

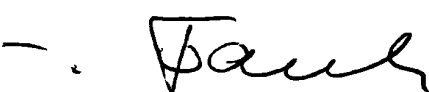

Development Manager



Ch. Buchmann

Production and
Quality Assurance Manager

4.6.3 Certificate of Conformity and System Validation

Certificate of Conformity and System Validation	
<p>This is to certify the conformity to the standard specifications for electrical appliances and accessories, as well as to the standard specifications for security and to system validation issued by the manufacturing company.</p>	
Name of commodity:	825 Lab Link
System software:	Stored in ROMs
Name of manufacturer:	Metrohm Ltd., Herisau, Switzerland
<p>This Metrohm instrument has been built and has undergone final type testing according to the standards:</p> <p><i>Electromagnetic compatibility: Emission</i> IEC 61326, EN 55022 / CISPR 22</p> <p><i>Electromagnetic compatibility: Immunity</i> IEC 61326, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-11, IEC 61000-4-14</p> <p><i>Safety specifications</i> IEC 61010-1, UL 3101-1</p> <p>It has also been certified by the Swiss Electrotechnical Association (SEV), which is member of the International Certification Body (CB/IEC).</p> <p>The technical specifications are documented in the instruction manual.</p> <p>The system software, stored in Read Only Memories (ROMs) has been validated in connection with standard operating procedures in respect to functionality and performance.</p> <p>Metrohm Ltd. is holder of the SQS-certificate of the quality system ISO 9001 for quality assurance in design/development, production, installation and servicing.</p>	
<p>Herisau, October 30, 2002</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>Dr. J. Frank Development Manager</p> </div> <div style="text-align: center;">  <p>Ch. Buchmann Production and Quality Assurance Manager</p> </div> </div>	

5 Index

A

- Accessories 29
- Advanced 13
- Ambient temperature 28
- Arrangement 2

B

- Basic settings 8
- BOOTP Client..... 22, 23
- busy..... 21

C

- CE-Zeichen 31
- Configuration
 - Lab Link software 8
 - Touch Control 7
- Conformity 32
- connected 21
- Connection..... 7, 16
- Connection active 16
- Connection status 21
- Connections
 - Overview 3
 - Technical data 28
- Contents..... 1

D

- Default root path..... 9
- Description..... 2
- Dimensions 28
- Disconnect..... 16

E

- E-Mail 18
- E-Mail defaults..... 9
- Error message 011-105... 26

F

- failed ICMP before
 - disconnect 15
- File name check..... 12
- Functions 2

G

- Gateway 23

I

- ICMP delay after transfer .. 15
- ICMP timeout..... 14
- inactive 21
- Installation
 - Hardware 4
 - Software 8
- Interfaces
 - Overview 3
 - Technical data 28
- Introduction 2
- IP address 5
- IP-Address..... 23

L

- Log-File level 13

M

- Mail Server address..... 18
- Mode 17
- MSB..... 28
 - Connection..... 3
 - Technical data 28

N

- Name 17
- Network connection
 - Technical data 28
- Network settings 22
- not available 21

O

- Operation 21

P

- periodic status test 14
- Power supply 28
- Preferences 8

R

- Receiver E-Mail address .. 10, 18

- Receiver E-Mail name 10, 18
- Reconnect 16
- request timeout 15
- RJ45
 - Connection..... 3
- Root path 17
- RS 232
 - Connection..... 3
 - Technical data..... 28
- RS 232 Box USB 29
- RS 232 parameters 23

S

- Sender E-Mail address 10, 18
- Sender E-Mail name ... 10, 18
- Setting up a connection ... 16, 20
- Settings..... 16
- SMTP Mail Server address 10
- Standard equipment 29
- Status..... 17, 19
- Subnet Mask..... 23
- System 11
- System requirements 4

T

- TCP/IP address 5, 17
- TCP/IP configuration 23
- Technical data..... 28
- Terminal connection..... 5
- Transport damage 30
- Troubleshooting 25

U

- USB Cable..... 29
- USB RS 232 Box 29

W

- Warranty 30
- Windows write protection... 11