

RFID
TELID® system



Documentation

TELID®

Temperature Control

***RFID temperature transponders and data loggers
13.56 MHz closed coupling RFID solution***

Contact/Copyright

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Basic information

The TELID® xT product series

microsensys has been operating for over 18 years in RFID technology as a developer and producer of its own RFID components. Your advantage enjoying with **microsensys** results from extensive experience in the RFID market, customer-specific solutions and the availability of transponders, data loggers, write/read devices and software tools - all from one source.

The new TELID® xT series is based on the iID® 3000 technology. The iID® 3000 technology opens a second new product generation of **microsensys**.

About this documentation

The present document describes the components of the TELID® xT system and offers the operator the necessary skills for a proper and safe use of the system. This document also serves as an instruction manual, which gives indications of possible causes and solutions if Edisturbances occur.

Before working with the TLID xT ® system, you must have read and understood the operating manual! Keep this document, so that it is always available.

Conventions and symbols

Instructions are numbered with a time sequence, grouped in units of action and provided with the appropriate result.

Lists without chronological sequence are shown as point lists.

Safety instructions are marked with pictograms and signal words. It will be named the type and source as well as the consequences of the danger and security information will be given.

The elements of the evaluation software are identified as follows:

Buttons and menus are shown in bold and in square brackets (eg [OK], [Settings])

Menu and option sequences are divided with arrows (eg [Settings] → [Program configuration])

Window names are shown in quotation mark (eg window " Programming TELID")

Used symbols and words

In the operating manual the following symbols and signal words are used for the identification of threats or indications:
(The safety instructions will be shown before each action.)



WARNING!

Indicates a potentially hazardous situation. If it is not avoided, the product or something in its vicinity could be damaged slightly.



ENVIRONMENTAL STATEMENT

Important instructions of environmental protection

Purpose

With the TELID[®] xT system of **microsensys** you can record easily and seamlessly temperature patterns in various application areas. For this you have a complete RFID solution that optimizes your processes and makes it more transparent. The TELID[®] xT system gives you access to the world of RFID: a contactless identification with transponders, data loggers, smart cards or labels as well as the communication via read / write interfaces is possible. The TELID[®] software allows reading, writing and programming of the sensor components. A simple software-assisted evaluation saves you time and lowers your costs.

A summary of all temperature measurement data is possible in a database.

You can use the TELID[®] xT system for example in the following areas:

- food (delicacies, frozen food, ...)
 - Service and maintenance
 - Medical and pharmaceutical industry
 - Process controlling and monitoring
 - Prototyping
- and many more

Examples can be found at the end of this document described in detail on page 46.

Intended Use

The TELID[®] xT system should be used exclusively for monitoring temperature gradients in non-explosive environment. Any other use is considered to be improper! The operator is liable for any resulting damages.

Correct use includes:

- compliance with these operating instructions
- observing legal accident prevention and environmental requirements
- compliance with the maintenance conditions

Illegal and therefore not appropriate for the intended use is particularly the use of TELID[®] xT system outside of the aforementioned applications and with different operating conditions and technical data than written in the operating manual.



WARNING!

The operation of the TELID[®] xT system is prohibited in acids or acidic liquids as well as in hazardous areas!

Also illegal and inappropriately for the intended use is:

- using it in induction or microwave devices
- using it outside the acceptable temperature ranges
- unauthorized changes of components or the evaluation software without prior consultation with microSensys GmbH

Battery life of the TELID® 311 data logger

The sensor transponder TELID® 311 has an integrated battery for the power supply. A replacement or loading of the battery is not possible. To minimize power consumption and therefore extending the life span of the data logger it should be set in the sleep mode for storage. The recommended storage temperature range is +5°C ... +25°C. Storage over 85°C for a longer period may reduce the battery capacity and reduces also the life span.

For proper disposal, please send the data logger back to the manufacturer.

Battery life:
> 5 years (in sleep mode, with no logging)

Battery life depending on the measurement cycle at a temperature of +25°C, sensor transponders in rollover mode:

Measuring cycle:	life:
1 second	> 8 days
1 minute	> 1 year
1 hour	> 4 years

When the data logger operates above 85°C for a long time, this may have a negative impact on the battery capacity and on the life of the data logger. Furthermore it must be noted that at very low temperatures (<-10°C) the entire battery capacity is not available. (reversible)

Accordingly, the lifetime is at most 700,000 measurements for +5°C ... +40°C (relative to the total number of measurements in the continuous logging mode).

It is important to note that these information about battery life in active mode have been assigned with a safety factor. In practical case, a higher life can be achieved.

The RFID communication takes place without energy and therefore it has no effect on lifespan.

Delivery

For the TELID[®] xT solution microsensys provides a standard system for the PC or notebook, running on Windows[®] operating systems. Optionally or as a separate system, a mobile solution for Windows[®] Mobile platforms is available. System partners of microsensys will receive a TELID[®] Library for using it in our own or customer-specific programs.

As TELID[®] Starter and Development Kits following variants can be purchased:

TELID[®] temperature DESKTOP solution iID3411

- 1 x iID[®] DESKTOPsmart USB
- 2 x TELID[®]311
- 1 x TELID[®] Documentation
- 1 x CD-ROM (TELID[®] driver engine, TELIDsoft 5)

TELID[®] temperature DESKTOP solution iID3412

- 1 x iID[®] DESKTOPsmart USB
- 2 x TELID[®]311 +125°C
- 1 x TELID[®] Documentation
- 1 x CD-ROM (TELID[®] driver engine, TELIDsoft 5)

TELID[®] temperature DESKTOP solution iID3413

- 1 x iID[®] DESKTOPsmart USB
- 2 x TELID[®]311 +125°C PEEK
- 1 x TELID[®] Documentation
- 1 x CD-ROM (TELID[®] driver engine, TELIDsoft 5)

A TELID[®] Temperature Bundle is available as follows:

TELID[®] temperature DESKTOP Bundle

- 1 x Etui
- 1 x iID[®] DESKTOPsmart USB
- 2 or 6 x TELID[®]311 +125°C PEEK
- 1 x TELID[®] Documentation
- 1 x CD-ROM (TELID[®] driver engine, TELIDsoft 5)

Safety

Operation and problem resolution

Read the instructions carefully before using the system. Keep the operating manual carefully for future reference. Connect the system only in accordance with the instructions mentioned in the chapter "Initial start". Use only accessories that are recommended by the manufacturer. Different accessory is a danger to the user and can damage the system.

Transport and storage



WARNING!

Environmental influences and condensation can lead to the destruction of individual components! An intermediate storage of the components outdoors is not allowed!

When transporting the components of the TELID® xT system, special care is important to avoid damage caused by force or careless transportation.

During transport, condensation due to large temperature fluctuations and surges should be avoided.

If the TELID® xT system is not connected immediately after delivery, it has to be stored properly in its original packaging to protect it against environmental influences.

Environmental conditions

Protect the TELID® xT system against too low storage temperature. Avoid storing the TELID® xT system outside the recommended storage temperature between +5°C and +25°C.

Use the TELID®311 for harsh environmental conditions.

Please ask microsensys for data loggers and transponders which are resistant to certain chemical compositions.

System Description

General information

With the TELID[®] xT series of microSensys you can easily make a continuous monitoring of temperature trends in various fields. For this a RFID-complete-solution is available for you to optimize your processes and to make them more transparent.

Main components of the TELID[®] xT RFID system are:

TELID[®] transponders and / or data loggers

iID[®] read / write interfaces (read-write devices)

Host computers (PC, Laptop, Industrial Handheld, PDA ...)

Application software tools (TELID[®]soft 5)

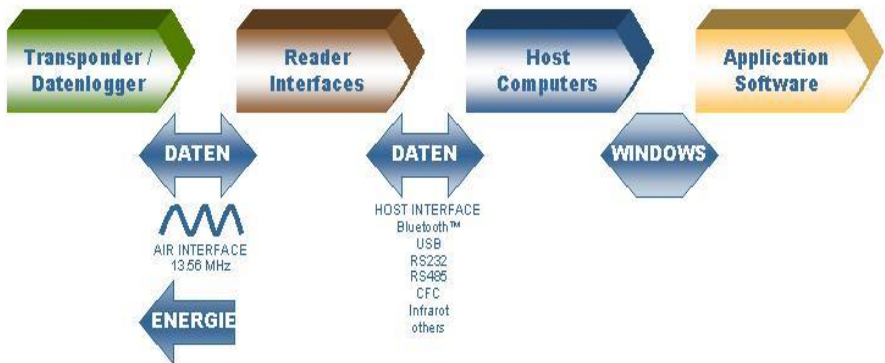


Illustration: TELID[®] xT RFID-system – overview

Passive sensor- transponders

TELID[®] 211, TELID[®] 211special

The series 210 of the TELID[®] xT series combines passive sensor-transponders. This means that a temperature value can be read only during the RF communication. These transponders are only operational in a HF field.

In an internal memory, the measured temperature value with associated date and time associated can be stored. The memory can also be used for user-specific data.

Semi-passive sensor data loggers

TELID[®] 311, TELID[®] 312, TELID[®] 314, TELID[®] 316

Semi-active sensor data loggers belong to the series 310 in the TELID[®] xT series.

A constant function is ensured by an internal lithium battery. The data loggers can be programmed in different modes and store measurements in an internal memory.

Communication takes place by passive RFID technology. Thus, a communication with the transponder and data logger is possible even with an empty battery.

Read / write interface (read-write device)

For communication between a TELID[®] data logger and a HOST (for displaying, programming and evaluating temperature data) you need a read-write device.

That is why **microsensys** offers different types for the data transfer. Which interface (USB, Bluetooth™, RS-232 or CFC) is the best, depends on how flexible you want to be during the communication.

HOST computers

Usually the user uses his own technology. In the area of mobile application **microsensys** offers PDAs or smart phones with preinstalled software.

Application software and drivers

microsensys provides complete solutions for a stationary or a mobile use. Also a connection to new or existing in-house systems is possible with the TELID[®] engine driver.

System requirements for PC software

The **TELID[®] soft 5** has to be installed on a PC / Notebook / laptop with following minimum requirements:

Processor

Intel Pentium (recommended: > 1GHz)

Operating system

Win98SE, Win2000, Windows XP, Windows Vista (32bit)

Graphic

Resolution: 800x600 (small fonts)

Disk drives

CD-ROM

Main memory

Recommended: > 512 MB

Pointing device

Mouse

Driver software for Read/Write Interfaces

General

To communicate with the RFID interface microsensys you need to install the hardware device driver for the read / write interface. During installation the driver is copied into the Windows system directory.

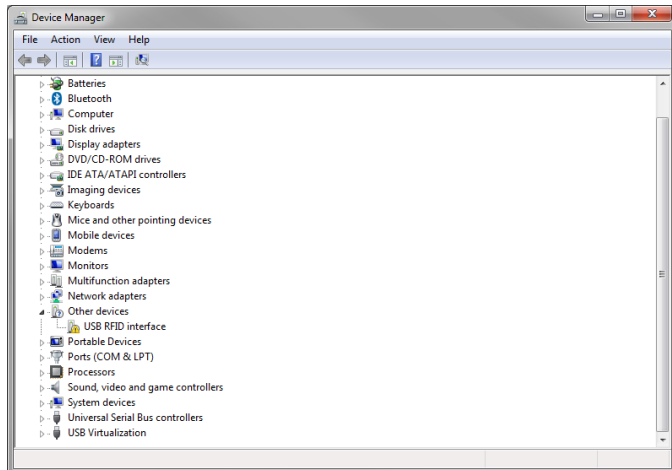
Installation Instructions for USB RFID Read / Write interfaces under Windows

Perform the installation of the hardware device driver as follows:

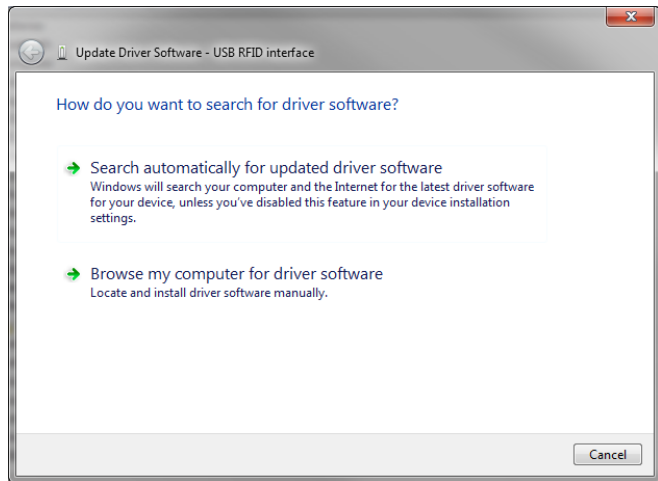
1. Turn on your PC and then wait for Windows to start up.
2. Before starting the setup procedure, please ensure that you have the microsensys USB driver available from one of the following sources:
3. <CDROM:> \USBDriver\ Microsensys USB devices driver CDM20602 or on the Internet at:
4. http://download.microsensys.de/CDContent/USBDriver/Microsensys_USB_devices_driver_CDM20602.zip
5. Connect the RFID reader via the USB port on the PC.
6. If you plug in the read-write device for the first time at a designated port of the PC, Windows will display the following dialog box that a new hardware (in this case, the read-write device) was found.

If this dialog box does not automatically start, please call up the Windows Control Panel. From the menu item **[System and Maintenance]** and **[System]** you can call up the **[Device Manager]**.

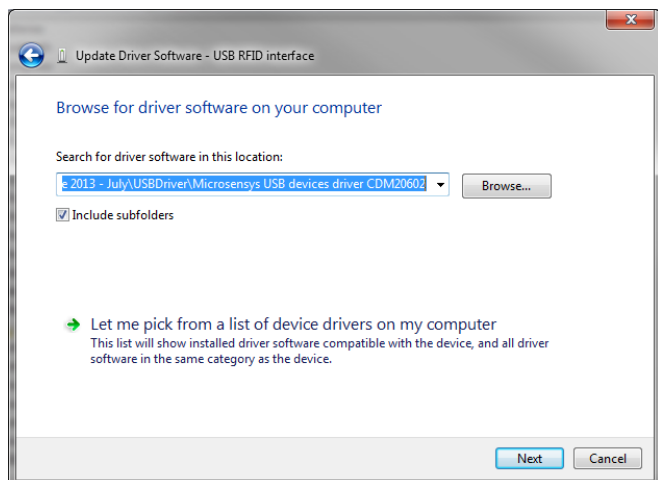
In Device Manager, the "USB RFID interface" will be displayed with a yellow exclamation mark. Please click with the right mouse button on the entry and select **[Update Driver Software ...]** from the menu.



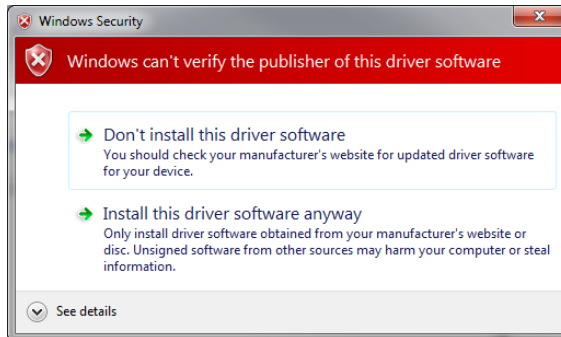
In the following dialog box, select **[Browse my computer for driver software]**.



Now you will be prompted to specify the location of the driver software. To do so, click **[Browse ...]** and specify the main folder of the USB driver. This can be found either on the microSensys CD or when downloading from the internet in your self-selected directory. Please note if you have downloaded the driver as a zip file from the internet, you must extract that file first. Confirm this process with **[Next]**.

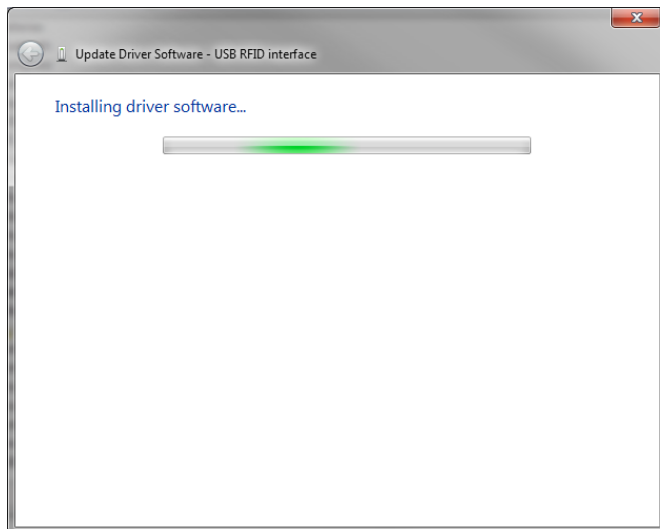


On Windows 7 systems, there may be a security warning before installation. Please select here **[Install this driver software anyway]**.

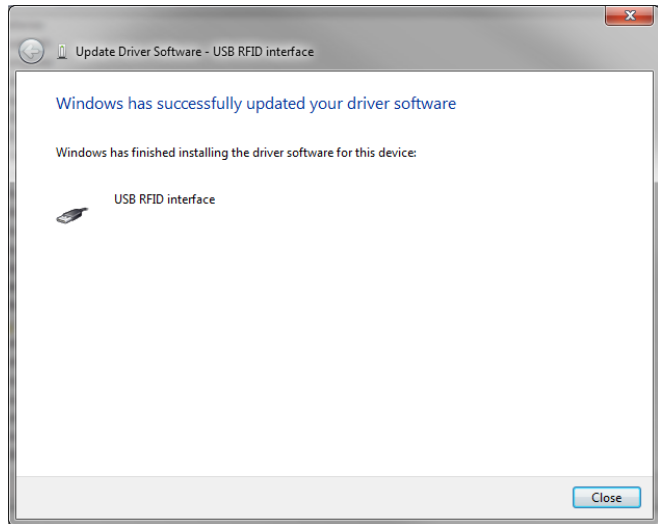


If you have problems when installing the driver on Windows 8, we offer a special description. This is available for download on our website or simply speak to our support.

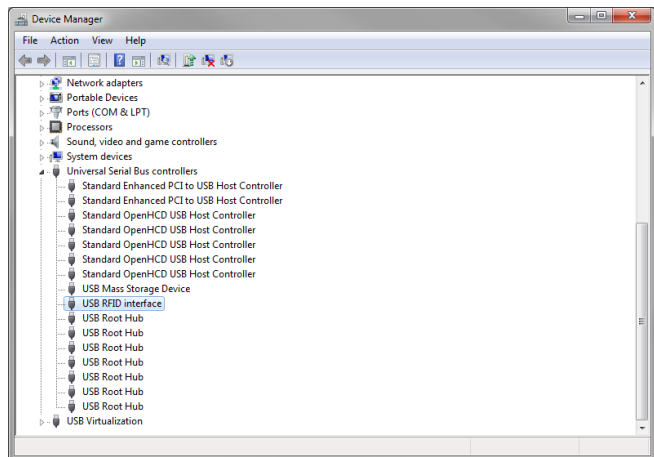
The driver software will now be installed, this can take a few minutes.



Once the installation is complete, you receive a warning message.



On successful completion of the installation, the device will be listed in the section USB controller.



The USB read / write interface (e.g. iID[®] DESKTOP Reader) can now be used.

Reader Connection Tool

General

You need the iID® Reader Connection Tool to connect the RFID interface with your PC. As a rule you only need to perform this process once. After that, the RFID interface is automatically detected by your system. When you want to use another RFID interface type (for example, Bluetooth rather than USB), you must connect it to your PC with the Reader Connection Tool.

Installation

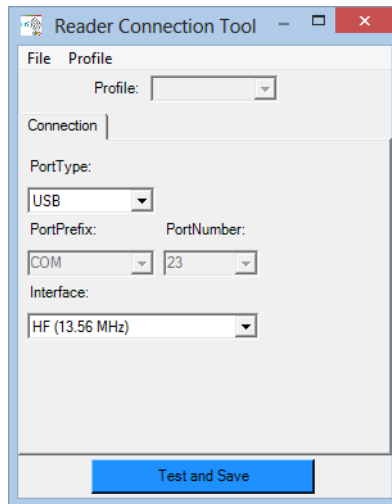
Perform the installation of the software as follows:

1. Turn on your PC and then wait for Windows to start up.
2. Go to Windows Explorer. Select in the CD-ROM drive in the directory "Install" the folder "iID® reader connection tool" and run the installation file "*Setup.exe*" by double-clicking.
3. Follow the instructions on the screen.

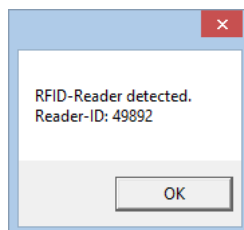
The **Reader Connection Tool** is now available on your PC.

Use

After starting the iID® Reader Connection Tool opens with the interface displayed below. To connect the RFID reader, please make the appropriate adjustments. If you use the TELIDxT system, you usually use a USB Desktop Reader. For this reader set **[Port Type]** to "USB" and **[Interface]** to "HF (13.56MHz)". Then, confirm the settings with **[Test and Save]**.



If the reader is correctly connected, you will receive a confirmation with the corresponding reader ID.



Analysis software TELID®soft 5

General

The **TELID®soft 5** has been developed to communicate with various readers. The stored data of TELID® data loggers and iLD® Read-write devices can be imported and analysed and exported for further processing.

In this manual, the software version current at the time of publication of this manual is described. For the latest information on developments / updates, please visit our website www.microsensys.de or contact our support team via email at info@microsensys.de

Depending on the operating system (Windows version), the software images shown may vary from those on the screen.

Uninstall and updates



Warning!

If you overwrite an existing version during installation (in the same program path), data sets already created may be lost. Prior to installation back up the data in the directory "Database" in your program directory. A backup is also recommended when you uninstall.

Installation

Perform the installation of the software as follows:

1. Turn on your PC and then wait for Windows to start up.
2. Insert the supplied CD into your CD-ROM drive. The installation program will start automatically.

Note:

If the installer does not start automatically, please open Windows Explorer. Select in the CD-ROM drive in the directory "*Install*" the folder "*TELID®soft*" and run the installation file "*Setup.exe*" by double-clicking.

3. Follow the instructions on the screen.
4. Reboot your computer if needed.

The **TELID®soft 5** is now available on your PC.

Description of the screen interface

After starting the **TELID®soft 5** the main window opens on the screen. From the main window you can start and use all the important features.

An overview of these functions is given below, for an accurate description refer to the chapter "Operation".

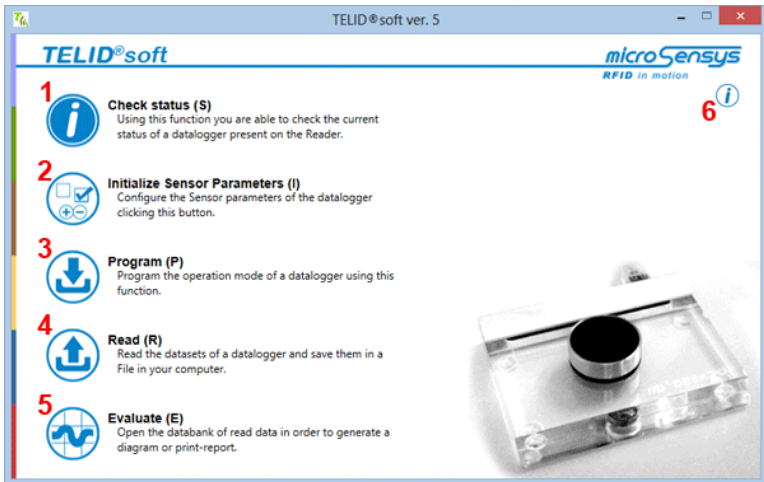


Figure: Main Menu

- | | |
|---|------------------------------|
| 1 | Check Status |
| 2 | Initialize Sensor Parameters |
| 3 | Program |
| 4 | Read |
| 5 | Evaluate |
| 6 | Information and settings |

(1) Check Status

Check with the help of this function the status of a TELID® data logger lying on the Read / Write Interface.

More detailed information can be found on page 27.

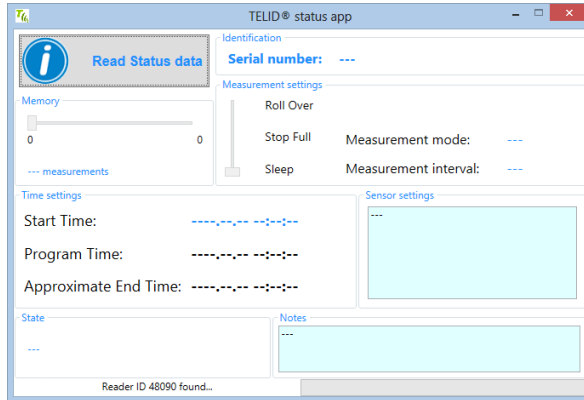


Figure: Display of status information

(2) Initialize Sensor Parameters

Use this function to read and display statistical data stored on the TELID® data logger in the form of a histogram.

More detailed information can be found on page 28.

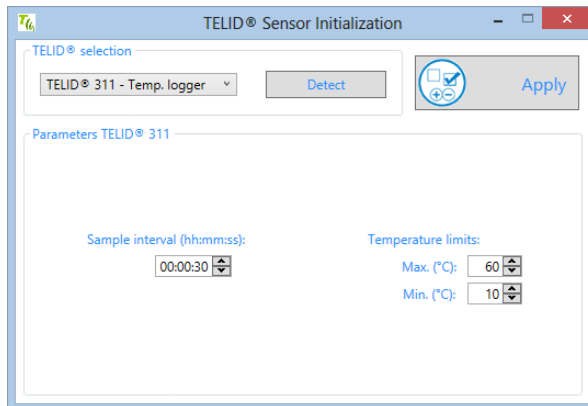


Figure: Initialise sensor parameters

(3) Program

By calling the function **[Program logger]**, the "Programming" window is called up.

By pressing the button **[Advanced]** a further parameter settings window can be opened.

More detailed information can be found on page 29.

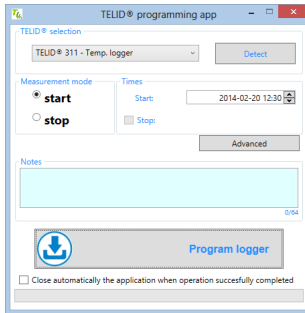


Figure: Programming

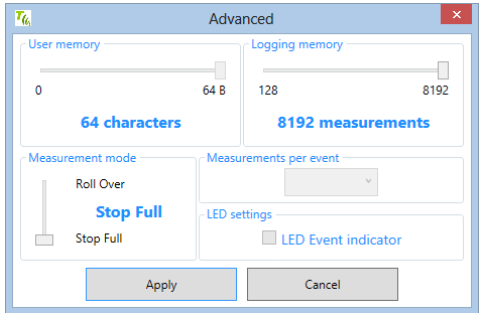


Figure: Advanced settings

(4) Read

Use this function to read the readings stored on the TELID® data logger. The records are saved according to your settings.

More detailed information can be found on page 33.

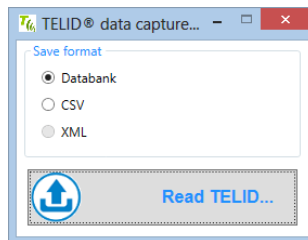


Figure: Reading

(5) Evaluate

The "Evaluate" function opens a database view that allows analysis of already-read data. For example, you can display the data in a chart as well as use a report function.

More detailed information can be found on page 34.

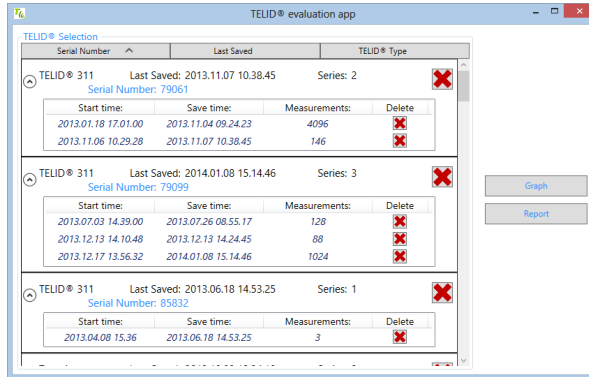
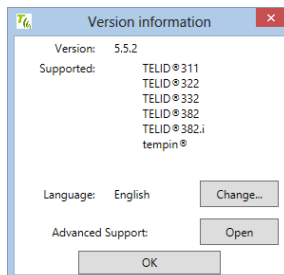


Figure: View of the analysis

(6) Information and Settings

With this button you can display information about the program version. In addition, the language settings can be changed here.

More detailed information can be found on page 39.



Figures Information

Operation

Start TELID®soft 5

In Windows XP, Vista or 7, click on the Windows start button **[Start]** → **[Programs]** → **[TELID®Soft]** → **[MICROSENSYS TELID®Soft 5]**.
With Windows 8, go into the tile display, call up all the apps and start in the folder **[Microsensys]** the **[TELID®soft 5]**.

Alternatively you can start the program by double clicking on the program icon on the desktop.

Furthermore, there is also (depending on the selection during installation and the settings of your system) a shortcut in the Quick Launch bar of Windows to launch the software.

5. Interface setting

How to connect your reader correctly with the system is described in on page 18 and 19.

6. Positioning of the TELID®s

For positioning the TELID® Transponder and / or data logger take the following guidelines into consideration:

TELID®211 centered to the Read / Write Interface

TELID®311 label side down, centered to Read / Write Interface

TELID®312 label side up, centered to Read / Write Interface

TELID®316 label side up, centered to Read / Write Interface

Check Status

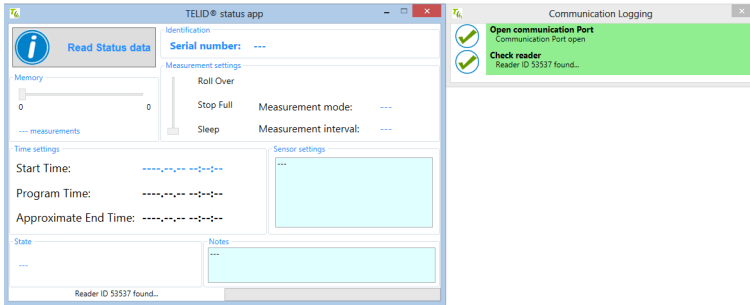


Figure: Home screen - Check status

The "Check Status" function shows the current status of the data logger. In contrast to the option "Evaluate" not all the stored data in the data logger is read, but only the data of the so-called status block.

This function quickly and clearly shows the most important information about the current TELID® data logger, for example, compliance with the temperature limits.

When the menu is opened, it first checks whether the reader is properly connected. This is displayed in the status display in the "Communication Logging" window.

With a click on the button [read status data] the various parameters of TELID®s are read and displayed directly.

In the window "Communication Logging" you see again the steps that are performed to read the parameters.

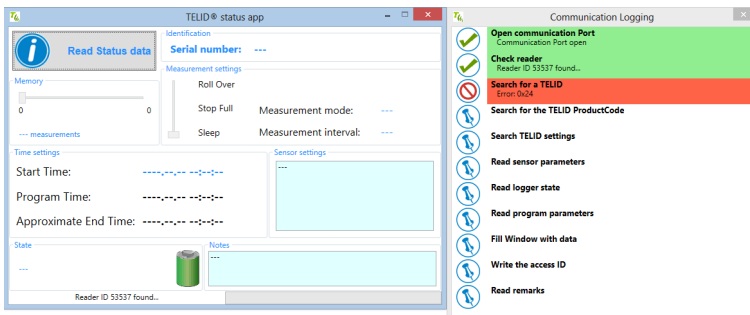


Figure: Status information not read successfully

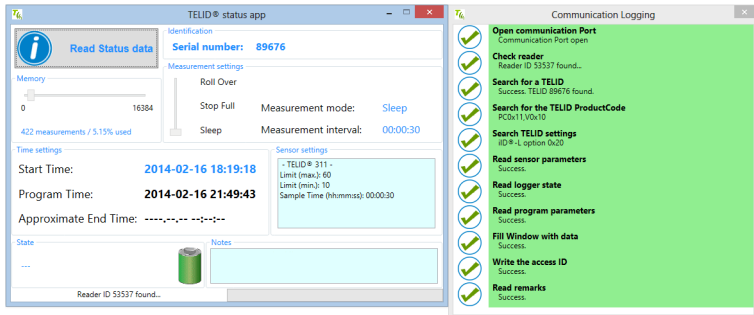


Figure: Status information read successfully

Identification

Displays the serial number of TELID®

Memory

Displays the number of recorded or maximum set values

Measurement settings

Indicates the programming mode (Sleep, Stop Full or Roll Over) and the measurement interval in minutes

Time settings

Displays programming time, start time and expected end time

Sensor settings

Displays the defined minimum and maximum temperature

Status

Indicates whether the sample group is active or terminated and the approximate charge state of the internal battery

Notes

Shows more notes that have been saved on the TELID® data loggers during programming

Initialize Sensor Parameters

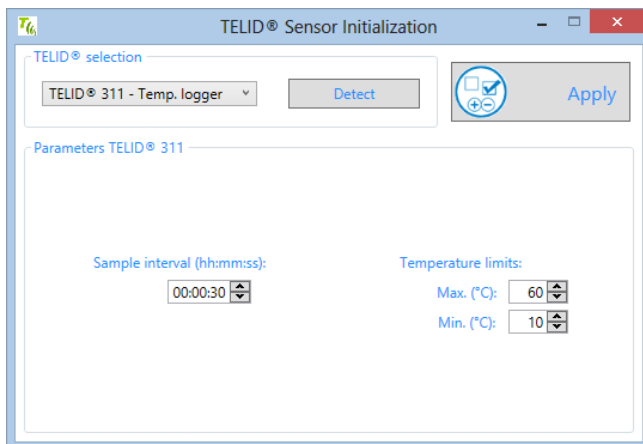


Figure: Initialize Sensor Parameters

In this menu item you can set the measurement interval, which lies between two measurements. The time interval can be set in minutes or seconds. If you want a measurement interval in minutes, simply select the desired time in minutes. Setting in seconds is not taken into account in programming. However, if you want to measure in seconds, set the value to 00 minutes, and select the corresponding second value. The maximum time interval of TELID®311 is 4 hours and 41 minutes.



Please note that the setting of very small measurement intervals in the seconds range has a negative impact on battery life. We also recommend the TELID® is always put into sleep mode after you have finished your measurement.

You can also specify maximum and minimum temperature limits. Please note that this setting has no effect on the measuring behaviour. The set temperature limits are only displayed in the analysis.

Program

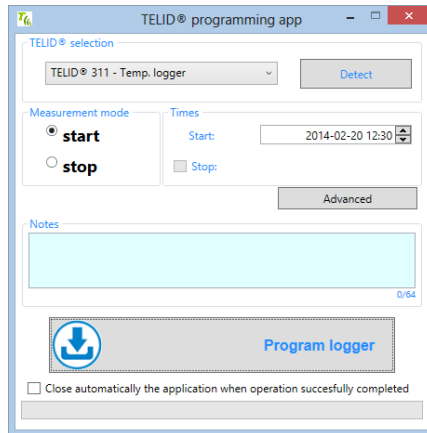


Figure: Home screen - Programming

Click on the button **[Program]** and a window for programming a TELID® data logger opens. This window is divided into the following areas:

TELID® Selection

Selection of TELID® Types automatically from on the list by pressing the button **[Detect]**

Measurement mode

Start or end programming (measurement)

Times

Insert here the date and start time

Extended

Gets the dialog box with the advanced settings (see next paragraph)

Notes

Filing of comments with maximum 64 characters, paragraphs can be inserted by pressing **[ENTER]**

Program Logger

This button starts the defined programming of the appropriate TELID® data logger

Close automatically

A tab set at the foot of the programming window automatically closes the window after successful programming of the TELID[®] data logger.

Advanced settings

Click on the button **[Advanced]** to call up a window with additional programming settings.

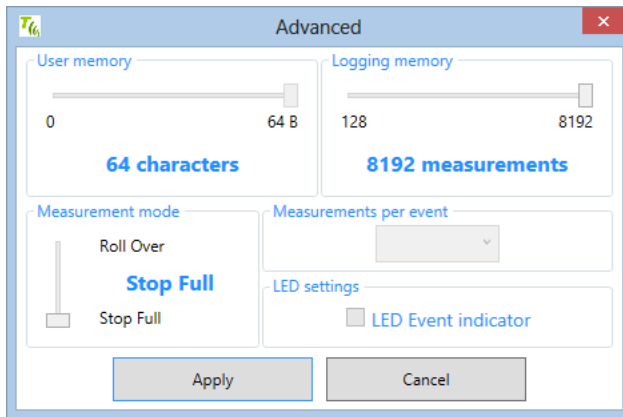


Figure: Advanced settings

User memory

Here you can specify how many characters of the memo field are available. For the TELID[®]311 there are 64 characters that cannot be changed.

Logging memory

According to the measurement interval, the number of measured values is adjusted. For a TELID[®]311 there are between 128 and 8192 readings available.

Measurement mode

Here the modes "Roll Over" and "Stop Full" are available. In the "rollover" mode after reaching the number of measured values set in advance, there is a rollover to the memory. Measurement values after the roller over are again stored at the beginning of the memory so that the first measured values are overwritten. This mode allows the analysis of the last X values.

A TELID[®] data logger, which was programmed in the "Stop Full" mode, terminates the series of measurements after reaching the set

number of readings and thus sets itself automatically in "Sleep" mode (power saving mode).

Measurements per event

This setting is inactive in the TELID[®]311 since it is used only for the microsensys Event Logger.

LED setting

The LED settings are also inactive in the temperature logger and can only be set in TELID[®] Types with built-in LEDs.

Start or stop measurement

Please make sure first that the correct TELID[®] type is selected. You can do this via the selection box in the "TELID[®] selection" setting itself or let the system recognise it via the button **[Detect]**.

To start a TELID[®]311 data logger in the "Start" field, enter the desired time and date. Click on the button **[Program logger]** transfer the values set to the TELID[®]. When programming, you can already pre-select a specific stop time. To activate the entry of stop time, select the check box in front of the word "Stop". Now, the time and date field in which you can make your setting is visible. If you do not choose a stop time, access the settings for the "measurement mode" from the "Advanced Settings" ("Stop Full" and "Rollover").



Please note that when you start the stored temperature values on the TELID[®] are deleted.

The additional window "Communication Logging" shows the individual steps that are processed in programming. In addition, you will receive at the end of programming a summary of the values that have been transferred to the TELID®.

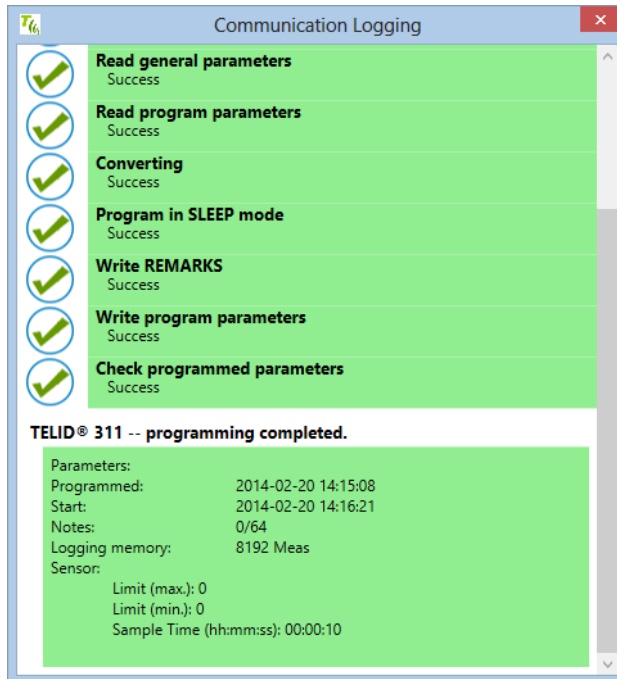


Figure: Programming with summary

If a TELID® data logger is set to "Sleep" mode, this occurs via the selection "end" in the field "measurement mode".

Read

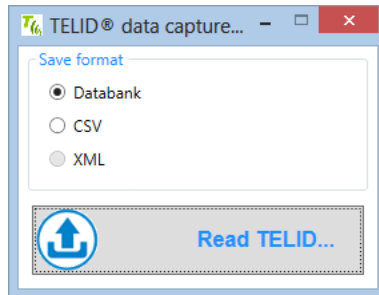


Figure: Home screen - analyse

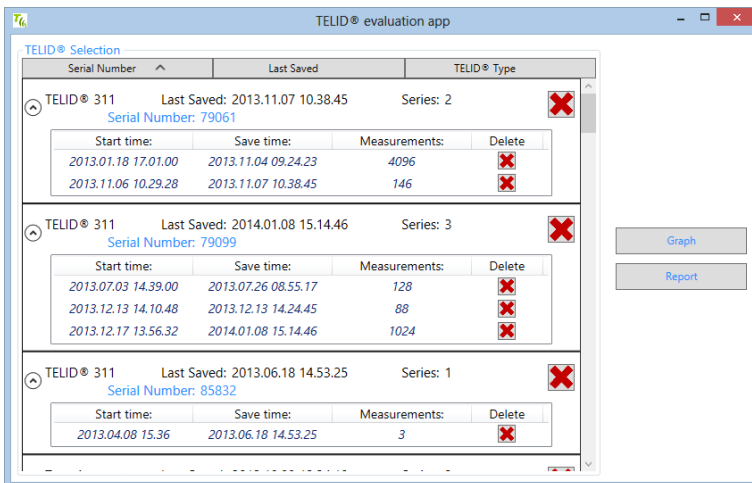
In the "Read" menu, you can read the temperature values stored on the TELID. As target format, you can select if the data is only written in the TELIDsoft database **[Databank]** or if it is additionally to be saved as a CSV file **[CSV]**. By clicking on the button **[Read TELID...]** you start the reading. It will read all the values stored up to that point. If you have selected the destination format CSV, a window opens at the end of the selection procedure in which you can select a folder to save the file and a file name. Close the process by pressing the **[Save]** button.



If the TELID® was not stopped, the logger continues to record values. The reading does not stop the recording process and does not delete any data on TELID®.

Evaluate

In the analysis field a convenient database is implemented. The main part of the window provides a list of all existing read TELID® data loggers.



The screenshot shows the 'TELID® evaluation app' window. It features a 'TELID® Selection' section with a table listing three data loggers. Each logger entry includes its serial number, last saved time, series number, and a table of measurements with start and save times. A 'Delete' button with a red 'X' icon is next to each entry. To the right of the table are 'Graph' and 'Report' buttons.

Serial Number	Last Saved	TELID® Type
TELID® 311 Serial Number: 79061	Last Saved: 2013.11.07 10.38.45	Series: 2
Start time:	Save time:	Measurements:
2013.01.18 17.01.00	2013.11.04 09.24.23	4096
2013.11.06 10.29.28	2013.11.07 10.38.45	146
TELID® 311 Serial Number: 79099	Last Saved: 2014.01.08 15.14.46	Series: 3
Start time:	Save time:	Measurements:
2013.07.03 14.39.00	2013.07.26 08.55.17	128
2013.12.13 14.10.48	2013.12.13 14.24.45	88
2013.12.17 13.56.32	2014.01.08 15.14.46	1024
TELID® 311 Serial Number: 85832	Last Saved: 2013.06.18 14.53.25	Series: 1
Start time:	Save time:	Measurements:
2013.04.08 15.36	2013.06.18 14.53.25	3

Figure: Presentation of the database field for analyses

The view in the database is divided into the different data loggers. In the data logger field you the information on TELID® type, serial number, the last save time and the stored measurement series. The measurement series are laid out with the start time, the save time and the number of readings. A new, unread series of measurements is indicated by the fact that it will be in bold.

Note: The term "(cal)" behind the TELID® Type indicates that it is a calibrated data logger.

TELID® 311 (cal) Letz
Seriennumm

To find a certain TELID[®] or series of measurements faster, you can sort the view in the head area. By clicking on the respective box, you can sort the view according to the serial number, the last save time and TELID[®] type. Just click on the appropriate label field, according to which criterion you want to sort the view. By repeatedly clicking on the field you select whether to sort in ascending or descending order. The symbol Δ or ∇ indicates which criterion is being used to sort and whether sorting is in ascending or descending order.

TELID[®] Selection

Serial Number Δ	Last Saved	TELID [®] Type
------------------------	------------	-------------------------

Figure: Sorting options

To view the series of measurements you can use the two buttons **[Graph]** and **[Report]**. Simply select the series of measurements, which you want to view. When you click on the measurement series, it turns blue and can now be displayed as a graph or report.




Start time:	Save time:	Measurements:	Delete
2013.07.03 14.39.00	2013.07.26 08.55.17	128	
2013.12.13 14.10.48	2013.12.13 14.24.45	88	
2013.12.17 13.56.32	2014.01.08 15.14.46	1024	

Figure: Selected series of measurements

If you want to delete an entry from the database view (and thus also its data from the database), this can be done by clicking on the red cross. If the red cross behind a series of measurements is clicked, only this series of measurements will be deleted. When the larger red cross at the level of the TELID[®] description is clicked, however, the whole TELID[®] is deleted from the database.



Deleting a TELID[®] data logger from the database cannot be undone!

Graphic analysis

In the graphic analysis, the saved values are displayed graphically in a clear format.

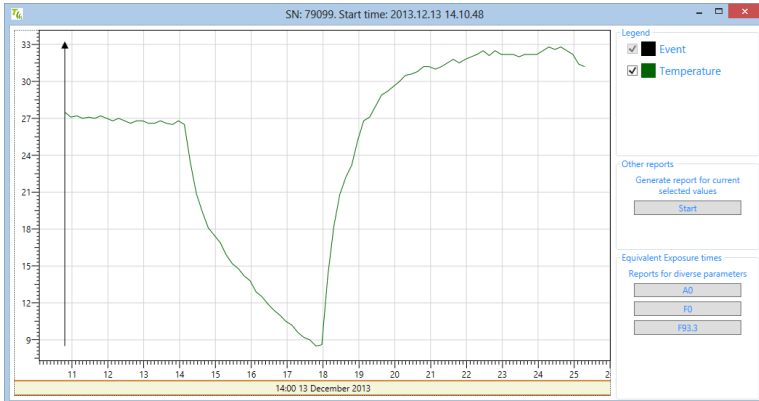


Figure: Graphic analysis of a series of measurements

To view measurement ranges more accurately in the graphic analysis, you can adjust the resolution of the coordinate system. With the keys "+" and "-" or the scroll wheel on your mouse you can zoom in and zoom out on the graph.

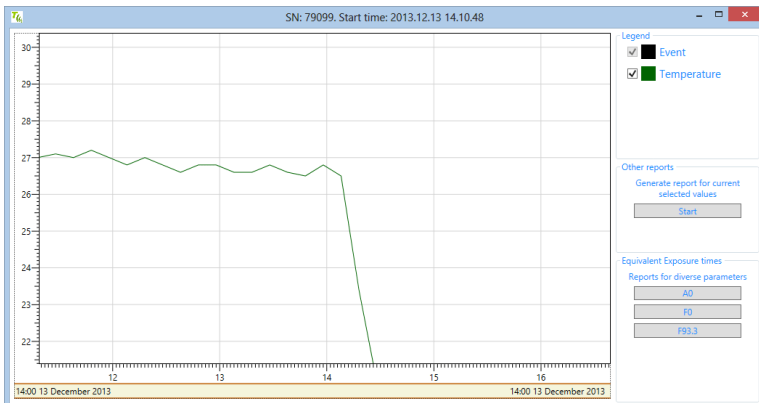


Figure: Graphic analysis of a series of measurements, zoom

In certain cases, you don't need the complete temperature-running, but only a short section for a relevant evaluation. To select a section, hold the STRG-key and select the area with the mouse. When you release the mouse button, only the selected area will be displayed in the chart. With the button [Start] you can generate a PDF report of the selected values.

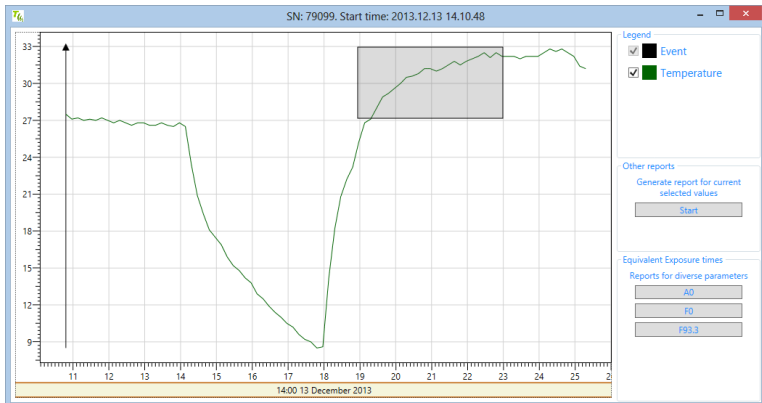


Figure: Graphic analysis of a series of measurements with context menu

If you click on the chart area with the right mouse button, you call up the context menu. Here you can customise the view to the window size with "Fit to view". Additionally, you can copy a screenshot of the chart to the clipboard with "Copy screenshot" or save it directly as an image with "Save screenshot".

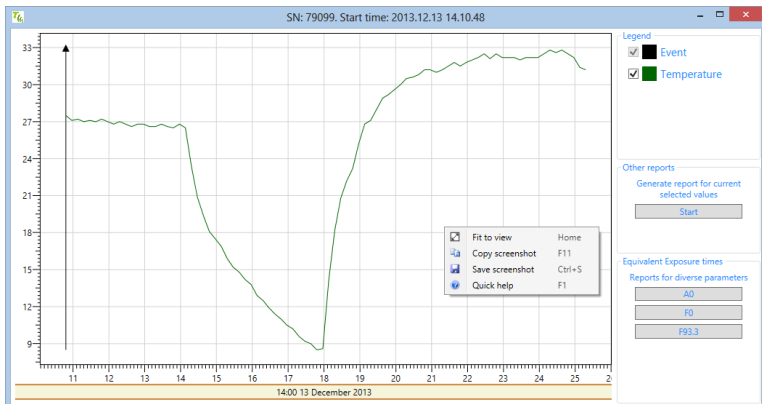


Figure: Detailed information on mouse over

To represent the exact values in the graph, put your cursor directly on the line. With the Mouse over function you will see the exact value with the time stamp.

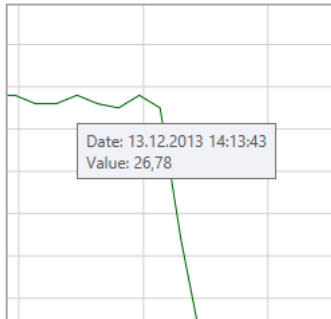
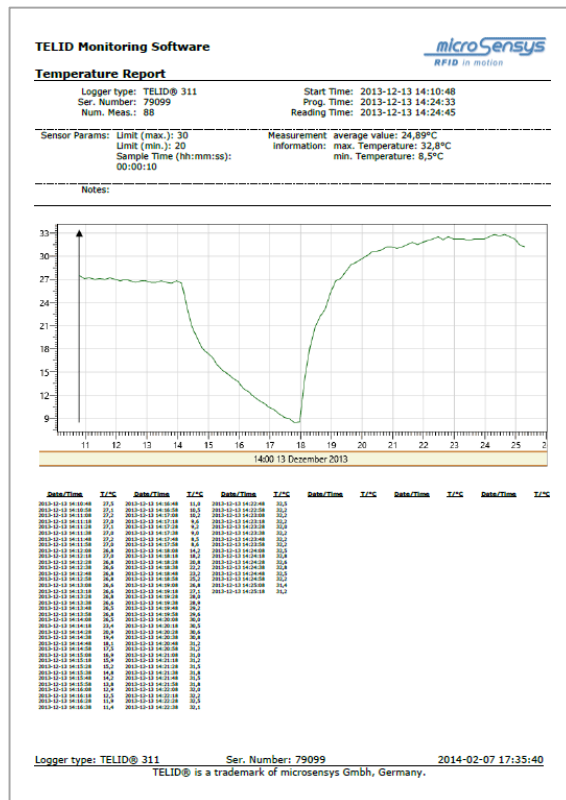


Figure: Detailed information on mouse over

Report

The report function provides a comprehensive analysis in a printable format. The report contains in a concise form, all relevant data, such as logger information, times, sensor parameters, average values, the graphic chart and the individual measured values. The TELIDsoft creates the report in PDF format, so it can be saved and printed with Adobe Acrobat Reader. Each report produced is also automatically saved in the following Windows user directory:

Documents\MICROSENSYS\TELID®\Soft 5\TELIDReport



Information and Settings

Information

This button **(i)** in the main menu displays information about the program version and the supported TELID[®] types. In addition, the language setting can be changed here and you have access to the Extended Support.

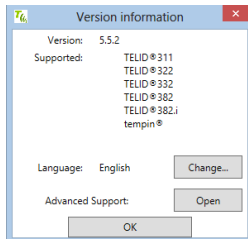


Figure: Information

Language setting

The current language setting appears in the information screen. Click on the button **[Change...]** to call the language menu. Select the desired language and confirm with the button **[OK]**. For the selected language to be active, it is necessary to close the TELIDsoft and restart. Currently the languages German, English, Spanish and Dutch are available.

Advanced support

You can use "Advanced Support" if you're having trouble with a TELID[®] data logger. Here the complete memory of the TELID[®] is read and saved in a ZIP file. This file can then be sent by email to the microsensys Support Team. With the detailed information, we can help you specifically and so ensure rapid and efficient support.

Use the TELID[®] together with an RFID interface and start the process by clicking the button **[Start Reading]**.

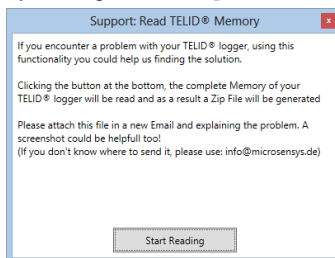


Figure: Advanced support

Elimination of problems

Please note the warning and error messages while the reading.
Correct occurring errors as follows:

ERROR Opening USB port

Possible cause:

Driver for the hardware is not installed

Elimination:

Inlay the CD-ROM and install the driver

ERROR during interface identification

Possible cause:

You have selected the wrong port in "Interface settings"

Elimination:

Choose different port

No TELID[®] in the reception area

Possible cause:

You have not programmed the TELID[®]

Elimination:

Program the TELID[®]

'Serial Port Not Open' when opening the serial port

Possible cause:

Have you chosen an interface that does not exist on your computer?
Is the interface blocked by another device or a driver? Are both applications active simultaneously?

Elimination:

If necessary, choose different port

Error when accessing the interface after executing a command

Possible cause:

Is the device properly connected to the computer?

Elimination:

If necessary, restart the Programm

No data found for TELID[®]

Possible cause:

Data from TELID[®] have not been read

Elimination:

Read data from TELID[®]

ERROR during TELID[®] operations

Possible cause:

Is the TELID[®] in the functional area of the Read/Write Interface? Do you have the access rights for the TELID[®]? Is the adjustment settings / peripheral settings compliant with your device?

Elimination:

Check settings and if necessary, contact the Support Team of *microsensys*!

Unexpected errors during program execution

Possible cause:

Possible conflict with another software

Elimination:

Contact service of *microsensys*!

License interface is not activated

Contact service of *microsensys*!

If a TELID[®] is placed on a Read/Write Interface and is not displayed by the software (TAG serial number), it is assumed that this TELID[®] is not supported. In this case it should be examined whether an appropriate plug-in for this TELID[®] is available.

For questions regarding the program execution, please contact *microsensys*.

contact:

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Deutschland

phone: +49 (0) 361 5 98 74-0
fax: +49 (0) 3 61 5 98 74-17
e-mail: info@microsensys.de
web: www.microsensys.de

Maintenance and care of the system TELID® xT

Inform yourself about software releases on the website of microsensys: www.microsensys.de.

Use the function mode "Sleep mode", when you do not use the TELID® data logger. So you conserve the battery.

With potentially defective TELID® transponders, data loggers or Read/Write Interfaces please inform microsensys regarding possible warranty claims, repair and / or exchange requests.

Disposal instructions



ENVIRONMENTAL STATEMENT

To protect our environment and our health please dispose electrical and electronic devices according to the established rules (ENVIRONMENT PROTECTION - DIRECTIVE 2002/96/EC).

The disposal of packaging and used components has to be done in accordance with the provisions of the country in which the system was installed. You can send back the used components to microsensys.

Application examples

Targets of the system

microsensys has a complete RFID system solution with the TELID® product line for measuring and monitoring of temperature gradients.

Many logistics processes are subject to strict temperature requirements, whose observance is laid down by statutory regulation. Especially during the transportation of perishable goods such as foodstuffs, plants or medicines, a proof of compliance with temperature limits can be provided by using the TELID® product line.

The sensor transponders and data loggers also can be used for an effortless temperature control during production processes or in prototype developments. But also during the maintenance and repair of installations under safeguards, the use of the TELID® system solution is possible.

Sectors that use our TELID® product line successfully are laundries, catering services and canteen kitchens, pharmaceutical manufacturers and laboratory institutions, food markets and logistics centers, plant breeders and suppliers, manufacturers of white goods and many more.

The simple, software-assisted analysis saves you time and lowers your operating costs. Your processes are optimized and made more transparent.

Food industry



In the food industry legal frameworks for temperature control and product traceability are determined by the HACCP requirements (Hazard Analysis Critical Control Point). For compliance with the Food Hygiene Regulation (FHR) an efficient quality control for many companies is essential.

microsensys offers a system solution for quality assurance in the catering sector and in canteen kitchens. Also compliance with certain temperature values in refrigerators has to be checked.

For the passive temperature measuring TELID®211 RFID temperature sensors are used. The measured temperature is read with the POKETmini interface and stored in the onboard memory of the read-write device with a time stamp.

Because the TELID®211 is fixed in the interior of the refrigerator, the inspection of the interior also can be included in the report. The data collected in the POKETmini are transferred via Bluetooth or the USBmini interface to a PDA and then analyzed promptly with installed software.

Also, the TELID® data loggers provide a continuous temperature monitoring during the transport and storage of food. By the use of the TELID® product line you improve your quality management, thus ensuring higher customer satisfaction.

Plant transports

Another example of application is the use of TELID®311 for monitoring temperature during the transport of plants.

Even in the countries of origin, the kennels are equipped with programmed TELID®311 by farmers. During the entire transport the temperature is measured in a predefined time interval and the individual measurement values are written on the integrated memory.

At the destination, you read the so-called Pucks and can understand right away if and when the permitted transport temperature range may be exceeded or fallen below. All data will be exported to EXCEL and immediately sent via e-mail to all parties for final analysis. After the evaluation, the TELID® data loggers will be sent back to the farmers for a new use.

Textile cleaning



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In the textile cleaning data loggers are used for monitoring processes and optimizing business processes. Active and passive TELID® solutions enable new ways of logistic processes in the washing and finishing technology and also in the organization from the preparation to the customer.

By target-oriented presorting by using transponders, capacities of following processes will be planned and utilized much better. In addition, of course, the quality assurance also plays an important role.

Medical and Pharmaceutical industry



Temperature control with the TELID® product line is also feasible in other sectors, for example in the pharmaceutical industry and sample management: here, the DIN EN ISO 15189 standard dictates transport temperature ranges for certain types of samples. In the production, storage and transportation of medical and pharmaceutical products a transponder-based control of the cold chain is of crucial importance. Vaccines, blood components and blood bottles must not be stored or transported above or below the prescribed temperature values at any time.

Service and maintenance



A wide field of application of transponders is the autarkic control of inspection requiring equipment during maintenance and repair. In this application field the temperature can be measured without a contact, e.g. in the diagnosis of device systems in pump stations, in electric motors, electrical devices or in computer systems.

Especially facilities that are in a continuous operation and exposed to high temperatures by self-heating have to be checked and monitored regularly. Parts which have to be checked are, for example, electric motors, pumps and gearboxes. The TELID®s are attached to easily accessible places, programmed and read out mobile on demand.

Due to its special design, the TELID®211 can also be mounted and used in metal environment. For industrial applications, the use of a CFC reader in conjunction with a hand-held computer would be of advantage. The RFID technology allows users to store data directly on the identified object in electronic form. Because of that, in the maintenance, the service staff can mark assets with this electronic type label and hold available additional object data such as maintenance histories.

microsensys gladly inform you about feasibility and RFID system solutions for temperature measurement and control with the TELID® product line.

First information about our entire product portfolio, you can catch up on our corporate web site at www.microsensys.de.

[illegible]

