OPERATION MANUAL

Temperature probe with USB interface

Characteristic features

- Temperature measurement by PC
- Direct PC-interface over USB

Typical areas of application

- Applications in laboratories
- Quality assurance
- Meteorological applications
- Temperature measurement system for customised projects, under Windows or Linux

Windows Software

- Calculation and display of minimum, maximum and average value
- Tabular representation of measured values
- Data storage on hard disk

Technical Data

Temperature measurement	
Measuring range	-50...150 °C
Accuracy	±0,3 K von 10 ... 90 °C
Temperatuer Resolution	0,1 K (11 bit)
General	
PC-connection	Plug USB, Typ A, 1 .1 od 2.0 compatible
Electronics temperature range	-10...+60 °C
Power supply	Via USB, approx. 5 mA
Dimensions	Handel approx. Ø 18 x 120 mm
Probe tube	Ø 6 x 110 mm, stainless steel
CE-conformance EMV-noise emission: EMV-noise withstanding:	2014/30/EU EN 61000-6-3:2011 EN 61000-6-1:2007
Scope of delivery	In carry case including PC–Software "RECORDER"
Accessories	See ordering number overview

Description

With this innovative product, the PC or laptop serves as an efficient temperature measuring system. The USB interface is integrated in the handle itself which results in compact dimensions.

The power supply is also from the PC and no additional power supply is required.

A precise Tsic(TM) semiconductor sensor has been used as temperature sensor. The integrated micro controller evaluates the sensor and transfers the measurements over the USB port to PC. The applied sensor guarantees a good resolution, measuring accuracy and long term stability.

The recording and graphical representation of measured values is carried out in the PC. An easy to use Windows based software for measured value display and data recording is covered in the scope of supply. Model is with stainless steel probe tube Ø6 x 110 mm, measuring range –50 ... +150 °C ±0.3 K

Accessories (not in scope of supply): The optional software „PCLOG" offers additional graphical on-line representation of measurement curves. In

addition, the software „PROFILAB "offers extensive processing and regulation functions up to complex control systems, that can be graphically programmed on the PC.

Important application notes: The measuring range is with reference to the probe tip, in which the sensor element is located. The handle and the con-

nection cable of the probe are only suitable up to 60°C continuous application temperature.

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B|B
S E N S O R S

WINDOWS-Software RECORDER

With the help of this program, which is covered in the scope of supply, the measured values can be received through the USB-interface and displayed on the PC. The displayed file is compatible with any desired spreadsheet program, with which it is possible to further process, statistically evaluate or visualise the measurement data In addition, the PC-Software also determines the minimum, maximum and average value from the measured values.
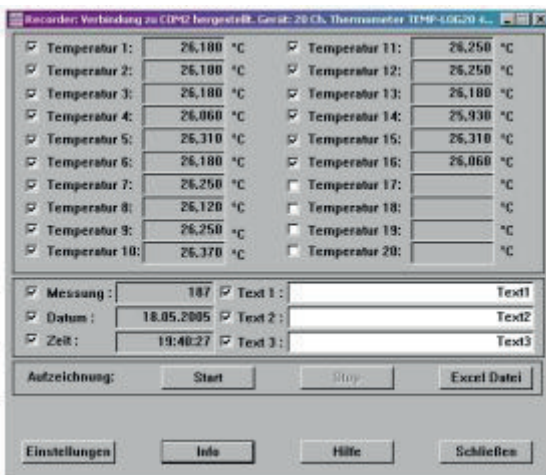
System requirements: Windows 98, 2000 or XP, RS232 or USB-interface. Generally, older PCs are also suitable.

Important hint: First connect the USB-Version to the PC after installing the software. This simplifies driver installation and enables „Plug&Play" feature.

Installation: A detailed installation instruction is provided on the CD, which automatically gets started on inserting the CD (prerequisites: Internet-Explorer 5.0 or higher). Follow these instructions for installation.

Manual Installation: Insert the enclosed CD into your drive and select „Run" in the start-menu and then browse to select the file ‚setup.exe' under the path LW:\software\RECORDER\TEMPLOG\disk1.

Then follow the instructions of the installation program.

First time operation: Connect the temperature measuring system to the USB-interface of a PC.

After first time run of the software, go to menu option „settings" and select device type as „TSIC-LABKIT" and also select the type of interface to be used under „connections" (Note: For USB-version, mention the virtual COM-port specified during driver installation). The remaining settings (Data rate, Parity, Start and Stop bit) are automatically selected and need not be changed. If the connection is established, the data communication appears on the terminal window. Then select „Close". The current settings will be stored.

If you are not able to establish data link between PC and the measuring probe, then first please check the USB cable connection to the PC. Further information on debugging is available under FAQs on the CD or at our Homepage under SUPPORT.

Data recording: First activate all the hooked up measurement channels that are to be recorded. In ‚Text 1' and ‚Text 2', you can enter a description, which has to appear as heading on the top of data file. The data is recorded in a file, which is declared as path in the ‚Start' button. The recording begins with the ‚Start' button.

EXCEL™: The created file is compatible with CSV-Format. In order to display the measured data, you can use graphic tools, for example, the diagram-assistant. However, other programs can also be used to graphically represent or evaluate the measured data.

Internal data transfer

The communication between PC and measuring probe takes place serially by means of a COM port emulation. Therefore, it is very simple to link the measurements to our own software, programming knowledge presupposed.

For the used USB UART FTDI 232, drivers are available for Linux, MAC or even PDAs. Further information is available on website of the manufacturer www.ftdichip.com.

The interface works on a data rate of 4800 Baud, 8 Data bits, No parity and one Stopbit.
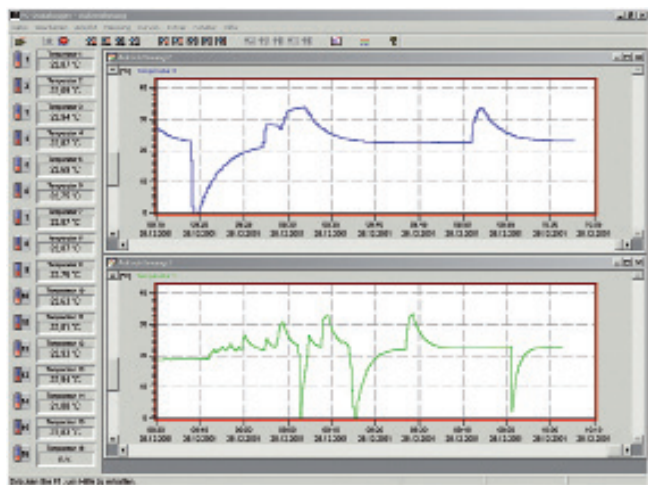
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Accessories (Optional)

Software PCLOG

Besides storing data on hard disk, the software offers a very important feature of graphical representation of all measured and recorded channels in the form of temperature Vs time chart (on-line scriber function). By means of Drag & Click, the window section can be enlarged and the time or temperature axis can be scaled as desired. Besides the graphic view, representation is also possible in the form of a table. The in-between space is used for capturing measured data series into a spreadsheet program (for example EXCELTM) or for word processing. All tables and graphic representations can be printed out in colour. In addition, simple monitoring and regulation functions are also integrated in the software. Limits can be set for each channel. An acoustic signal (Wave file) is given out when the values are exceeded. Control of up to eight external users is possible by a relay card, which is to be attached at the parallel port.

Software Profilab

The driver for USB-measuring probe is directly integrated in Profilab. With this software, professional measurement projects can be carried out in a simple, graphical development platform. You can simply draw the wiring diagram of the measurement circuit and do the project design. Without any knowledge of programming, the measurement values of temperature and humidity can be easily used in the measurement circuit. Arithmetic and logical components take care of linking and processing of the measured values. Modules like impulse generators, timers and relay cards etc. provide extensive possibilities for control and regulation. Various instruments, scribers and tables serve as the storage and representation of measured values and you can monitor the measurement system with display and control elements. The system is operated through a self designed front panel, on which you can arrange switches, potentiometers, displays, LEDs, instruments etc. The software also enables compilation of the project into an EXE-file, which can run without "Profilab".

Ordering numbers accessories

Ordering number catalogue	
USB temperature probe	TLOG-USB-SET
USB humidity temperature stainless steel probe	HYTELOG-USB-SET2
USB humidity temperature plastic probe	HYTELOG-USB-SET1
Software	
Windows-Software PCLOG	PCLOG-TLOG
Windows-Software PROFILAB EXPERT	PROFILAB

Attention

Please avoid extreme mechanical and inappropriate exposure.

The device/product is not suitable for potential explosive areas and medical-technical applications.

Technical changes reserved
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