

4 CHANNEL TEMPERATURE MEASURING WITH USB-INTERFACE



Ordering. No. 50 21 99
CON-TSIC-LABKIT-RS232



Characteristic features

- ▶ **PC LabKit with RS232-interface**
- ▶ **Up to 4 Temperature measuring points – 50 ... 150 °C**
- ▶ **Simple, three wire connection for the sensors**
- ▶ **Over 10 meter lead length possible**
- ▶ **0.1 °C resolution with TSic 106/206/306**
- ▶ **0.034 °C resolution with TSic 506**
- ▶ **Up to 0.01 °C resolution with TSic™ 706VHA**
- ▶ **High accuracy and long term stability**
- ▶ **Scope of supply inclusive of Windows-Software**

Typical areas of application

- ▶ **Own product development**
- ▶ **Applications in laboratory**
- ▶ **Quality assurance**
- ▶ **Temperature measuring systems for customised projects, under Windows or Linux**

Windows-Software

- ▶ **Calculation and display of minimum, maximum and average values**
- ▶ **Tabular representation of measured values**
- ▶ **Recording of data on hard disk**

Description

The temperature Labkit is an innovative solution for precise measurement of up to four temperature channels over the RS232 interface of PC. The system is meant for direct connection of digital TSic™ Temperature sensors.

The innovative lab set was developed as a plug&play tool for fast and efficient development of temperature sensors applications. It is an efficient tool to develop PC or micro-controller based applications in the shortest possible time.

The scope of supply of the operating system consists of the PC-adapter with connection cable, a TSic™ connection cable with 3-pin plug as well as an easy to use Windows-software. The recording and graphical representation of measured values is through the PC.

The included Windows-software enables simultaneous display of the current measurements of up to four connected sensors, representation of minimum, maximum, and average values as well as data recording of the measurements in a file, for example, to visualise as temperature - time diagram with the help of EXCEL.

Note: The TSic™ sensors are not included in the scope of supply and should be ordered separately.



Technical data

Temperature measurement	
Temperature measuring range	As per Sensor Type, e.g. –50 ... 150 °C with TSic 206
Temperature resolution	As per Sensor 0.1 K to 0.01 K, e.g. 0.1 K with TSic 306
Accuracy	As per Sensor, e.g. ±0.3 K from 10 ... 90 °C with TSic 306
Channel numbers	1-4
General	
Sensor connection length	Max. approx. 10 - 50 m
Communication Sensor	ZACWIRE Protocol, unidirectional
PC-connection	RS232 interface
Communication interface	RS232: 9600 Bd, 8N1
Temperature range	Electronics 0 ... 60 °C
Power supply	External power supply 12V
Dimensions	80 x 40 x 23 mm
EMV-compatibility	89 / 336 / EWG
Noise emission:	EN 61000-6-3:2001
Noise immunity:	EN 61000-6-2:2001
Scope of supply	In carry case including PC-Software „RECORDER“
Accessories	See ordering number overview
Rights reserved for change in technical data!	

HYGROSENS INSTRUMENTS GmbH Postfach 1054 D-79839 Löffingen Tel: +49 7654 808969-0 Fax: +49 7654 808969-9

Rights reserved for change in technical data!

Released 03/2008



4 CHANNEL TEMPERATURE MEASURING SYSTEM WITH USB-INTERFACE

CON-TSIC-LABKIT-USB



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 RS232-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.

Recorder: Verbindung zu COM2 hergestellt. Gerät: 20 Ch. Thermometer TEMP-LOG20.4...

<input checked="" type="checkbox"/> Temperatur 1: 26,180 °C	<input checked="" type="checkbox"/> Temperatur 11: 26,250 °C
<input checked="" type="checkbox"/> Temperatur 2: 26,180 °C	<input checked="" type="checkbox"/> Temperatur 12: 26,250 °C
<input checked="" type="checkbox"/> Temperatur 3: 26,180 °C	<input checked="" type="checkbox"/> Temperatur 13: 26,180 °C
<input checked="" type="checkbox"/> Temperatur 4: 26,060 °C	<input checked="" type="checkbox"/> Temperatur 14: 25,930 °C
<input checked="" type="checkbox"/> Temperatur 5: 26,310 °C	<input checked="" type="checkbox"/> Temperatur 15: 26,310 °C
<input checked="" type="checkbox"/> Temperatur 6: 26,180 °C	<input checked="" type="checkbox"/> Temperatur 16: 26,060 °C
<input checked="" type="checkbox"/> Temperatur 7: 26,250 °C	<input type="checkbox"/> Temperatur 17: °C
<input checked="" type="checkbox"/> Temperatur 8: 26,120 °C	<input type="checkbox"/> Temperatur 18: °C
<input checked="" type="checkbox"/> Temperatur 9: 26,250 °C	<input type="checkbox"/> Temperatur 19: °C
<input checked="" type="checkbox"/> Temperatur 10: 26,370 °C	<input type="checkbox"/> Temperatur 20: °C

Messung : 187 Text 1 : Text1
 Datum : 18.05.2005 Text 2 : Text2
 Zeit : 19:40:27 Text 3 : Text3

Aufzeichnung: Start Stop Excel Datei

Einstellungen Info Hilfe Schließen

System requirements: Windows 98, 2000 or XP, RS232 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 RS232-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". 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 RS232 cable connection to the PC. Further information on debugging is available under FAQ's 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 interface works on a data rate of 4800 Baud, 8 Data bits, No parity and one Stopbit. Further information on data protocol can be downloaded from our homepage.

Further application areas

Although the product is primarily intended as a Evaluation Kit for the innovative temperature-sensors TSic™, it also represents as a fully featured and efficient multiple channel temperature measuring system which can also provide valuable services in the laboratory applications.

4 CHANNEL TEMPERATURE MEASURING SYSTEM WITH USB-INTERFACE

CON-TSIC-LABKIT-USB



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 EXCEL™) 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

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, scribes 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, LED's, instruments etc. The software also enables compilation of the project into an EXE-file, which can run without "Profilab".

Relay Cards

The output of control information is given by the WINDOWS software "PCLOG " or "PROFILAB" over the LPT-Port as switching signal. The relay cards, available as accessories, are needed for giving connection for heavier loads like heater valves, servomotors or signal generators. The switching status of output is indicated through LEDs. The relay boards can also be used for many other applications.

Ordering number catalogue for Sensors	
TSic 206 Temperature sensor, TO92 Housing, -50...+150 °C	TSIC206-TO92
TSic 306 Temperature sensor, TO92 Housing, -50...+150 °C	TSIC306-TO92
TSic 206 Temperature sensor, SO8 Housing, -50...+150 °C	TSIC206-SO8
TSic 306 Temperature sensor, SO8 Housing, -50...+150 °C	TSIC306-SO8
3-core Connection cable, 1.5 m	TSIC-KAB-1M5
Software	
Windows-Software PCLOG	18 30 30
Windows-Software PROFILAB EXPERT	18 30 44
Relay cards	
8 Relays for mains voltage, with RS232-interface	15 65 32
Accessories for USB Products	
RS232 to USB Adapter	ADA-USB-RS232
Power supply 12V / 670 mA	NG-12V-670MA
Items prefixed with * mark are not available through CONRAD-ELECTRONIC. Please directly contact HYGROSENS	

Released 03/2008
Rights reserved for change in techTechnische Änderungen vorbehalten!
HYGROSENS INSTRUMENTS GmbH Postfach 1054 D-79839 Löffingen Tel: +49 7654 808969-0 Fax: +49 7654 808969-9