HUMIDITY

FLOW

TEMPERATURE

HYGROCHIP
Humidity sensors
LabKit with USB-Interface

Characteristic features

- **PC LabKit with USB-Interface for all HYGROCHIP Humidity sensors**
- **Supports HYT 221, HYT 271 and HYT 939**
- **Measurement of temperature and relative humidity**
- **Calculation of further humidity parameters**
- **Inclusive of plug-in type connection adapter**
- **High accuracy and long term stability**
- **Inclusive of evaluation software RECORDER and PCLOG for Windows**

Typical areas of application

- **Evaluation of digital HYGROCHIP Humidity sensors**
- **Data recording for stabilisation and long cycle investigations**
- **PC-supported humidity and temperature measurement under Windows**

Windows-Software

- **Display of temperature and rel. humidity**
- **Calculation of Dew/Frost point, wet bulb temperature and further parameters**
- **Graphical representation of measured values**
- **Data storage on hard disk**

Description

The Labkit has been developed as a Plug&Play tool for fast evaluation of digital humidity sensors of the HYGROCHIP product series. The scope of supply of the ready-to-use system consists of the PC-adapter with USB connecting lead, a connection adapter with plugs for all product variants, connection cable, as well as an easy to operate, user-friendly WINDOWS software on CD-ROM. The graphical representation and recording of measured values takes place on the PC.

The Software PCLOG provided together enables Online-Visualisation and recording of all measured values as graphics as well as data storage of measured values in a file. With this, it is easily possible to test the behaviour of sensors in the application. In addition, the hx-computer integrated in PCLOG provides the calculation and display of dew point, absolute humidity, vapour pressure, saturated vapour pressure, enthalpy and many other meteorological parameters.

The operating manual for the software and detailed instructions for installation is available on the data media.

Note: The scope of supply of the Labkit does not contain a sensor. Please order it separately.

Technical Data

Sensor-Parameter (HYT 271)	
Humidity measuring range	0 … 100% rH
Humidity resolution	0.02% rH
Humidity accuracy	HYT 271 ±1.8% rH
Temperature measuring range	–40 ... 125 °C
Temperature resolution	0.015 °C
Temperature accuracy	HYT 271 ± 0.3 °C
General	
Sensor connection length	max. approx. 10 m
PC-connection	USB, 1.1 or 2.0 compatible
Interface	Com-Port Emulation with FTDI
Power supply	over USB
Rights reserved for change in technical data!	

INNOVATIVE SENSOR TECHNOLOGY

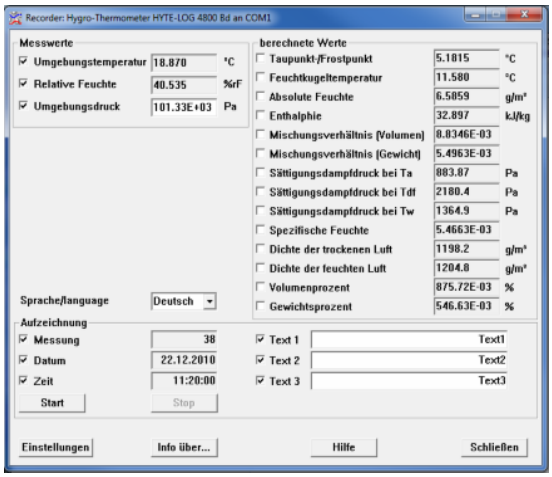
IST AG, Industriestrasse 2, CH-9630 Wattwil, Switzerland, Phone (+)41 71 987 73 73, Fax (+)41 71 987 73 77
e-mail info@ist-ag.com, www.ist-ag.com

HYGROCHIP
Humidity sensors
LabKit with USB-Interface

WINDOWS-Software RECORDER

With the help of this program, which is covered in the scope of supply, the measured values (relative humidity and temperature) can be recorded through the USB-interface and stored on the PC. The stored file in CSV format 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 calculates the dew point, absolute humidity, enthalpy and vapour pressure from the measured values. The calculated parameters can also be stored.



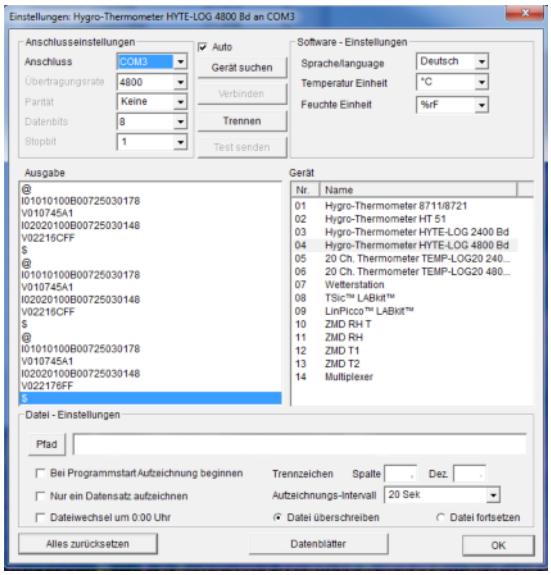
System requirements: WIN 98, WIN 2000, WIN XP or WIN 7, USB-Interface.

Important hint: First connect the USB-Version to the PC after already installing the software. This simplifies driver installation and enables "Plug&Play" feature. Under windows 7, the required drivers are automatically installed.

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\Deu. Then follow the instructions of the installation program.

First time operation: Connect the Labkit to the USB-interface of the PC. After first time run of the software, go to menu option "settings" and select device type as "HYTELOG 4800" and also select the type of interface to be used under "connections" (Note: 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 FAQ´s on the CD.

Data recording: First activate the checkbox of all the measurement channels that are to be recorded. In 'Text 1' and 'Text 2', you can enter a description, which will appear in header of the file. The data is recorded in the file, which is declared as path under settings. The recording begins with the 'Start' button.

EXCEL™: The stored 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 measurement data.

INNOVATIVE SENSOR TECHNOLOGY
IST AG, Industriestrasse 2, CH-9630 Wattwil, Switzerland, Phone (+)41 71 987 73 73, Fax (+)41 71 987 73 77
e-mail info@ist-ag.com, www.ist-ag.com

HUMIDITY

FLOW

TEMPERATURE

HYGROCHIP
Humidity sensors
LabKit with USB-Interface

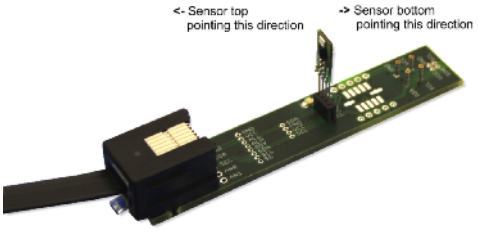
Hardware correct installation

Plug the HYT sensors into the sensor adapter as shown in the illustration.

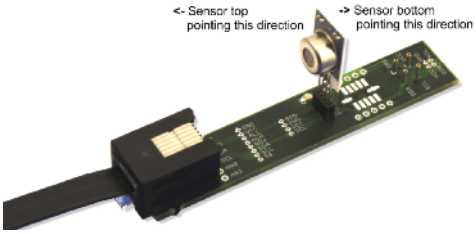
Please take care of the correct plug direction and ensure that the pins are correctly inserted into socket! Don't touch the sensor surface while plugging in!

Sensor connection

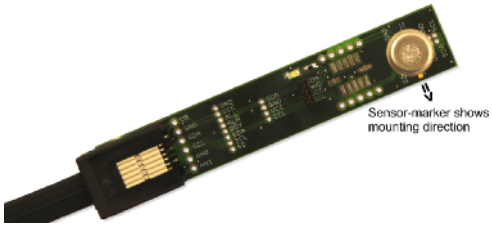
Applicable for HYT 271:



Applicable for HYT 221:

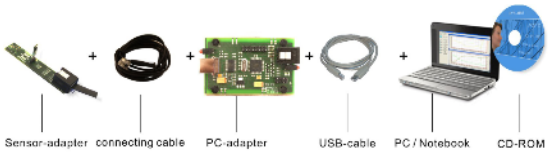


Applicable for HYT 939:



Place the sensor as described above into the adapter board and then connect it with the help of connection leads provided with the PC-adapter.

Then connect the PC-Adapter through the USB-cable to the PC or your Notebook.



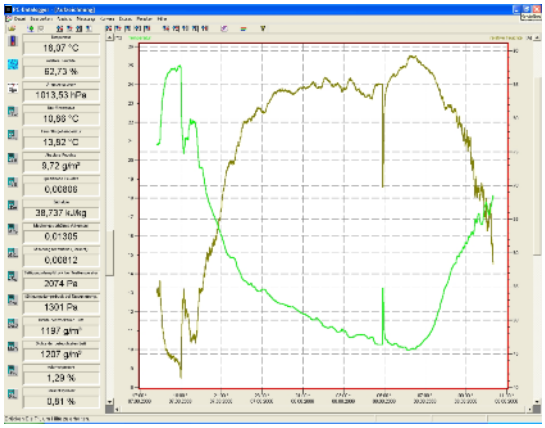
Internal Data transfer

The communication between PC and measuring probe takes place serially by means of a COM port emulation. Therefore, it is very easily possible to link the measurements to your own software. (Programming knowledge presupposed).

For the USB UART FTDI 232 used, 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. Further information on data protocol can be downloaded from our homepage www.hygrochip.com.

Software PCLOG



INNOVATIVE SENSOR TECHNOLOGY

IST AG, Industriestrasse 2, CH-9630 Wattwil, Switzerland, Phone (+)41 71 987 73 73, Fax (+)41 71 987 73 77
e-mail info@ist-ag.com, www.ist-ag.com

HUMIDITY

FLOW

TEMPERATURE

HYGROCHIP
Humidity sensors
LabKit with USB-Interface

Characteristic features

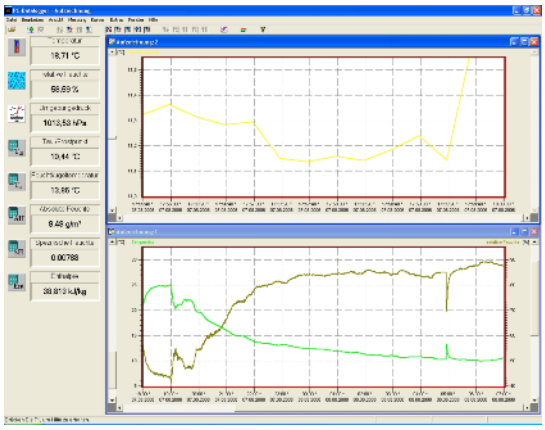
- **Numerical display of current measured values and further calculated parameters**
- **Graphical representation of measured values as ongoing process (Online-Visualisation)**
- **Recording of measured values in a file**
- **Limit monitoring with visual and acoustic alarm signal**
- **Switch signal output over relay cards**
- **Conversion of physical units**
- **Integrated formula editor**
- **Integrated hx-computer for calculation and display of Dew point, Absolute humidity, Vapour pressure, Saturated vapour pressure and as well as further meteorological parameters**
- **Extensive configuration possibilities, options and settings**

Typical areas of application

- **Higher end measuring technique for scientific applications, laboratories, research and for inspection and testing set-ups**
- **Industrial instrumentation, in storehouse, production and in Quality assurance**

Visualisation and documentation

The important feature of the software is the graphical visualisation of all measured and recorded channels as y/t chart (Online scriber function). By means of Click & Drag, the window section can be enlarged and the time or temperature axis can be scaled as desired. Multiple recording windows can be opened simultaneously. Moreover, multiple physical parameters can be represented in each window in which the axis definition, colour scheme, channel description, icons and many other options can be freely configured. The clipboard serves as the export function for transfer of measured data series into a spreadsheet calculation with the help of user friendly wizards. All tables and graphic representations can be plotted or printed in colour.



Installation of Software PCLOG

The Software PCLOG is covered in the scope of supply. Start the file “setup.exe“ in path ...\Software\PCLog\deu' on the enclosed CD. Please follow the installation instruction. The Software is installed automatically.

INNOVATIVE SENSOR TECHNOLOGY

IST AG, Industriestrasse 2, CH-9630 Wattwil, Switzerland, Phone (+)41 71 987 73 73, Fax (+)41 71 987 73 77
e-mail info@ist-ag.com, www.ist-ag.com

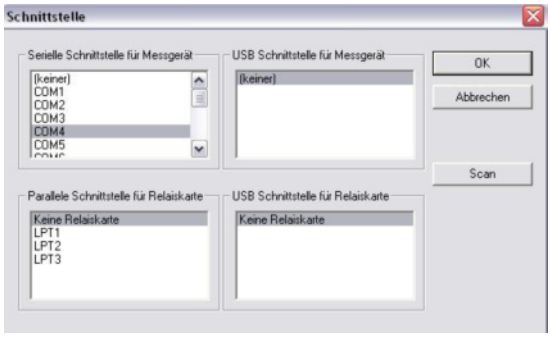
HYGROCHIP
Humidity sensors
LabKit with USB-Interface

Configuration of Software PCLOG

Then start the software PCLOG and open the option "Extras" in menu and click "Activation" there. The following dialogue box opens:

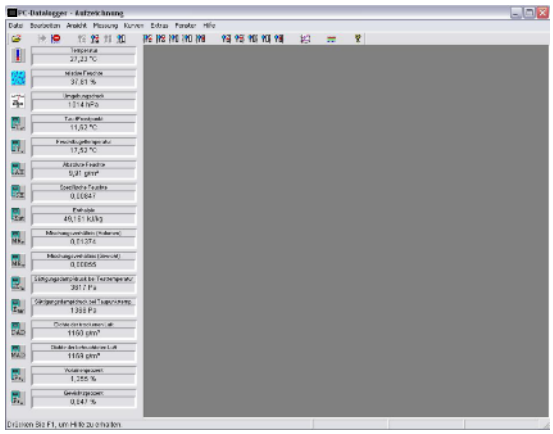
Now for the "Device", select the device driver "14 Hygro-Thermometer HYTE-LOG 4800 BD". The activation code will be registered automatically. Confirm the dialogue with 'OK'.

Now open the option "Extras" in menu and then go to the sub-menu "Interface". Put in the corresponding interface.



The used interface – if not known – can be determined in the device manager under Windows. (Control panel → System → Hardware → Device Manager → Connections)

The PCLOG start screen appears. The measured values of the sensors are displayed on the left side.



The measurement begins in menu with “Measurement” → “Start recording”. Confirm the window selection with OK.

Now click on the thermometer icon and the icon with the water drops in the left side panel. The corresponding measuring curves are displayed.

INNOVATIVE SENSOR TECHNOLOGY
IST AG, Industriestrasse 2, CH-9630 Wattwil, Switzerland, Phone (+)41 71 987 73 73, Fax (+)41 71 987 73 77
e-mail info@ist-ag.com, www.ist-ag.com