The COMBILOG 1022 is a data logger with compact design, combined with integrated LC-display and memory slot suitable for SD cards. This data logger was developed for meteorological, hydrological and environmental measuring systems, but it is equally suitable for countless further applications in industrial production. The COMBILOG 1022 features high performance, compact design (SMD components) and low power consumption.

DESCRIPTION

The data logger is equipped with 8 analogue and 6 digital measuring channels; further channels for numeric calculation may be configured. Four serial interfaces USB, Ethernet, RS232 and RS485 are built-in, featuring communication via ASCII, PROFIBUS or MODBUS. Supply voltage ranges 10…28 V DC. Data storage is achieved by internal Flash (7 MB) or SD memory card (up to 2 GB), optionally.

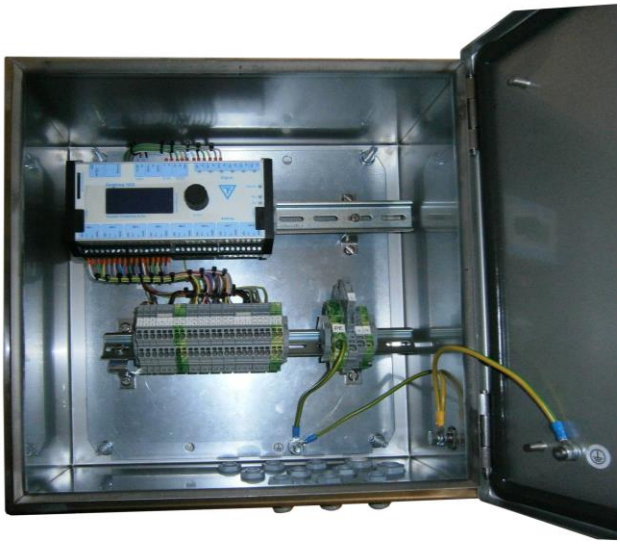
”SELECT” switch and 4-line LCD on the front panel allow to enter or modify a number of different modes and functions, such as scan rate and averaging time, as well as offset or gain for mathematical adaption of certain measuring parameters. Similarly, date and time, baud rate etc. are set. The data logger’s operating status is indicated by the two LED’s ”RUN” and “ERR”. The digital I/O ports are equipped with yellow LED’s, indicating the individual status of each channel’s signal level.

The COMBILOG 1022 can easily be mounted on a 35 mm standard rail using its “snap-in” clamp, and is therefore suitable for control cabinet installation, or similar. All connections are featured by plug in terminal bars, each bar representing an individual functional group.

Thanks to its low power consumption, battery supplied systems for a 3 weeks continuous measuring period are possible, This period may be extended by the use of a solar panel, with charge regulator.

For applications like outdoor use there is a version with stainless steel housing available, as well as various other accessories.

Configuring of the data logger is accomplished by means of an easy to handle WINDOWS 7/8/10 software.



COMBILOG 1022, built in
Stainless Steel Housing Type 9930.1000

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TECHNICAL DATA

Power supply:	+10...28 V DC
Operating temperature:	40…+85 °C* (* Display LCD only -20…+60 °C)
Interfaces:	1 x USB, 1 x Ethernet, 1 x RS232, 1 x RS485; each ASCII, PROFIBUS or MODBUS compatible, baud rate max. 38,400 Bit/s, data rate 400 Kbit/s
Analogue inputs:	8, isolated from processor core no isolation between channels
Data storage:	SD Memory Card; resp. 7 MB internal RAM
Display:	LCD, 4 x 16 characters, contrast adjustable
Digital inputs/outputs:	6 (direction configurable)
A/D-conversion.:	Delta-Sigma, precision app.16 Bit
Scan rate:	0.25, 1, 2, 3, 4, 5, 10, 20, 30 sec. 1, 2, 3, 4, 5, 10, 20, 30, 60 min.
Averaging interval:	1, 2, 3, 4, 5, 10, 15, 20, 30 sec. 1, 2, 3, 4, 5, 10, 15, 20, 30 min. 1, 2, 3, 4, 6, 8, 12h

AS VOLTAGE INPUT

Types of measurement:	Single-ended, differential
Ranges:	±10 V, ±5 V, ±2.5 V, ±1.25 V, ±625 mV, ±100 mV, ±25 mV, ±6.25 mV

AS CURRENT INPUT

Types of measurement:	Single-ended
Ranges:	25 mA, 12.5 mA, 6.25 mA, 3.125 mA, 1 mA, 250 µA, 62.5 µA

AS RESISTANCE INPUT

Types of measurement:	2-,3- and 4-wire
Ranges:	20 kΩ, 10 kΩ, 5 kΩ, 2.5 kΩ, 1.25 kΩ, 625 Ω, 312.5 Ω, 200 Ω

AS DIGITAL INPUT

Function:	State, frequency, counter, 8-bit Graycode receiver

AS DIGITAL OUTPUT

Function:	State, process output

HOUSING

Material:	Aluminium and ABS
Dimensions:	187 x 97 x 73 (WxHxD)
Weight:	approx. 720 g
Protection class:	IP 20

SOFTWARE

1. CONFIGURATION

The COMBILOG 1022 can completely be configured by means of the COMBILOG.EXE program. A manual data transfer can be stored in a LOG file in text format. This program is included with the delivery of the COMBILOG and is supplied on a CD Rom.

2. DATA TRANSFER AND DATA EVALUATION

COMGRAPH32 (type 1029.3002) is a software, that allows the retrieval and analysis of all measured data stored in the COMBILOG.

COMGRAPH32 runs on Windows 7/8/10 and supports data retrieval by serial interface -also virtual serial ports-, modems as well as Ethernet. In addition, importing data from ASCII files or CSV files or from SD cards is possible.

Each data logger is managed as a independent project. The data itself is stored as a SQLite3 database and optionally in a text file and can be made available to other applications via export functions, e.g. ASCII files.

An Automatic mode makes the automatic data retrieval from dataloggers at definable time periods possible.

Simple data analysis functions are possible. Data of any time period can be selected. For the selected time period a report is generated which summarizes the measured values to mean values, extreme values, sums etc. Data sets can be edited, added or deleted. Each parameter can be displayed graphically.

In addition, statistics for hourly values, monthly statistics, annual statistics and even wind statistics with an indication of wind classes can be generated and printed.

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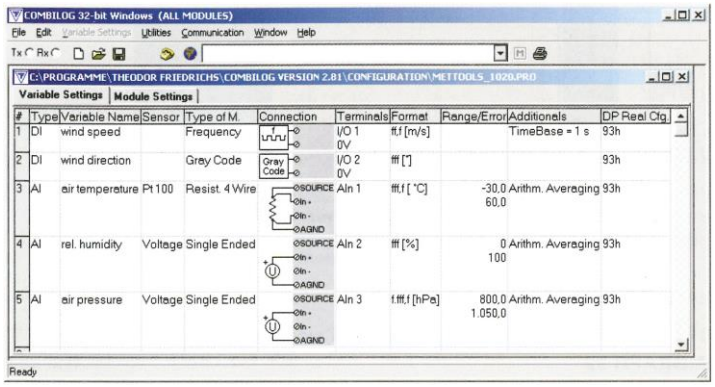
Configuration

Configuration the COMBILOG is accomplished by means of a WINDOWS® 95 up to WINDOWS10 based PC-software.
Hereby the channel layout for all inputs is supported by a data base, comprising data of all common sensors.
Configuration and connection is displayed and stored and printed out, if required.
Next to analog and digital inputs, mathematical adaptations as well as control- and alarm functions may be realized.
The configuration carried out on a PC is directly transmitted to the COMBILOG via RS232, resp. RS485 interface, and is similarly accessible in reverse direction. Measuring values of all channels can be displayed simultaneously.
For use with different applications, a number of configurations can easily be created and entered to the COMBILOG correspondingly.

Type No.

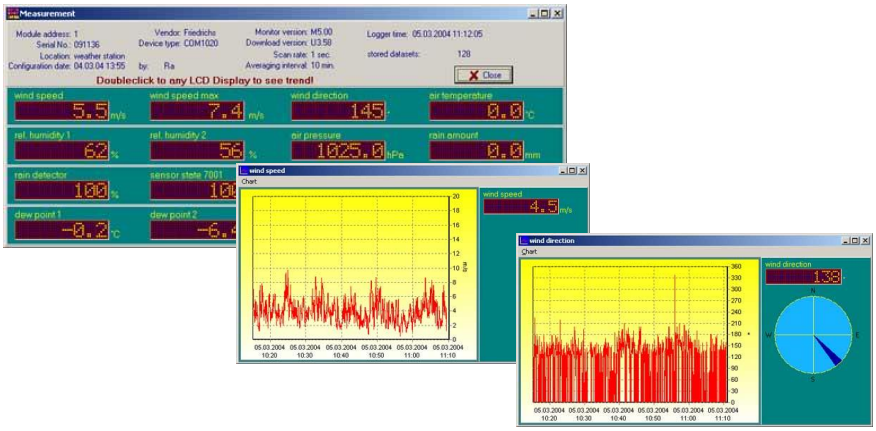


Example for configuration:
Measuring system for waste treatment plant

Thanks to its WINDOWS based menu, The configuration table can easily be created or changed by the user. Each field within the matrix can be activated by Mouse click, thus opening a window, showing all options available. Further mouse click will activate the chosen option.
The complete matrix can be printed as a screen hardcopy and can be used as a hardware connection plan, as well.

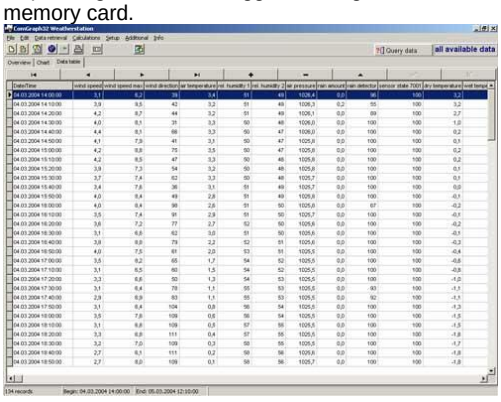
Display Software COMVIEW 32 — 1029.2000

Software for numerical and graphical data display, for all COMBILOG's, suitable for WINDOWS® 95 up to WINDOWS10.
Data transfer via serial interface, optionally via modem.
Next to the instantaneous values, all data from 1 hour past are accessible in a graphic mode



Data transfer and evaluation software COMGRAPH 32 — 1029.3000

This WINDOWS® 95 up to WINDOWS10 based program enables transfer of all data, stored in a COMBILOG data logger.
Depending on the data logger's configuration, the data are either transferred via the serial interface to a PC or stored in the memory card.



The program supports management of several data loggers, creating an individual table of data storage for each logger. Data storage is accomplished within a data base; export of data to ASCII code is possible, thus featuring further data processing by common programs, such as MS EXCEL®. The processed data are displayed as numerical or graphical schemes and can be printed out, upon requirement.