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Ethernet Multilogger M1322 - thermo-hygro-CO2 meter with 2 MiniDIN and 2 Terminals

code: M1322
Universal datalogger with 4 hardware inputs and internal CO2 sensor.
Multilogger can be installed permanently to Ethernet network or work as portable device.
Included is traceable calibration certificate in accordance with EN ISO/IEC17025.

The device is designed for measuring and recording temperature, humidity, CO2 (internal sensor) with adjustable recording intervals from 1 second to 24 hours.
Datalogger can be connected to Ethernet. Then measured values can be viewed on a web browser, as well as stored and downloaded for later analysis.

- on-line monitoring
- recording of data
- alarm warnings

Included in delivery:
- M1322 Multilogger with internal sensor of concentration CO2
- 3x rechargeable battery AA, power adapter, wall holder, USB cable
- Quick start manual
- Traceable calibration certificate
- Technical support at discussion forum

Features

MiniDIN	Temperature probes Pt1000 (serie xxx/M)	Temperature/relative humidity probes with digital output - DigiS/M, DigiL/M	
	The probes are interchangeable without calibration to a specific device and regardless of the length of the cable. The length of the cable can be 1, 2, 5, 10, 15 meters.		
Termininals	Devices with two-state output (monitoring of machine run, door open/close, etc.)	Device with pulse out (gas and water meters, counter pieces on a production line, etc.)	Sensors of physical quantities with voltage output 0-10V (0-5V, 0-1V) or current output 0-20 mA (4-20mA)
	Sensors with voltage output	**Range** 0 V to 10 V	**Accuracy** ± 10mV
	Sensors with current output	**Range** 0 mA to 20 mA	**Accuracy** ± 20 µA
	Two-state signal As the two-state may be used only input 3 and 4.	**Pulse signal** As the pulse may be used only input 4.	**Potential-less contact**
			Voltage signal 0-30 V
Internal sensor	**CO_2**	**Range** 0 to 2000 ppm*	**Accuracy** ± (50 ppm + 2% of MV) at 23 °C and 1013 hPA
	* custom range 10.000 ppm		

Evaluation of up to 16 variables

Up to 16 values can be calculated from 4 connected sensors/signals. This is the sum of measured and calculated values. E.g. dew point temperature, absolute humidity, specific enthalpy, inter-channel conversion (difference between two connected temperature sensors).

COMMUNICATION

- To communicate with a PC and other systems, the device is equipped with a USB port (located on the side of the device), RS232 and Ethernet.
- The multilogger comes with a USB and Ethernet interface. For WiFi communication the multilogger can be connected to a TP-LINK WiFi router.

ETHERNET interface allows you to

• send e-mail if the Multilogger is in an alarm state. The Multilogger can also be connected to Local Are Network and comes with a web browser. COMET also supply a SQL Database that allows the customer to store, download and view historical data in detail for full analysis.

• in case of connection failure, use DATALINK for upload values to COMET Database
• third-party applications to read the actual measured values using universal protocols SNMPv1 and XML

Output ALARM OUT

- Output can be used for controling other devices when alarm is launched, such as external buzzer, telephone dialer etc.

Type of output	open collector transistor
Max. switching current	100 mA
Max. voltage on output	24 V

Auxiliary voltage at terminal	+5 V (only when the mains supply is present)

- Users can receive alarms if the values go outside the paramters set. Alarms are indicated through an internal buzzer , 3 LEDs or email alerts via Ethernet port.

POWER SUPPLY

- Power supply is provided from the 5V DC AC adapter and operation of the device (except Ethernet interface) is backed up by replaceable batteries.
- The device can be used permanently installed or as portable device with the option to charge batteries directly using the AC adapter or using standard alkaline batteries size AA.

SOFTWARE:

• **Comet Database**
Complex solution for data acquisition, analysing and sending SMS or email alarms. Easy to use and high flexible database software for all Comet Data Loggers and Transmitters.
• **Comet Vision**
Free configuration software for Comet Multiloggers.

FEATURES:

Temperature, humidity, barometric pressure and CO_2

Multilogger is designed to measuring from external temperature and humidity sensor and internal pressure sensor. High precision capacitive polymer sensor ensures excellent calibration long term stability, inertia against water and condensation. Multilogger is designed for use in non-aggressive environment. Degrees Celsius and Fahrenheit are user selectable.

Method of CO_2 sensor multipoint calibration leads to an excellent accuracy measurements of CO_2 in the entire of operating temperature range. With this sensor is the device able to meet the demanding requirements for outdoor use. The measurement principle is based on the NDIR principle with dual wavelength, which automatically compensates for aging of the sensor. The sensor is resistant against the pollution and provides maintenance-free operation and excellent long-term stability.

Dew point and computed quantities

Measured values are also converted to other humidity interpretation: dew point temperature, absolute humidity, specific humidity, mixing ratio and specific enthalpy. User can select one of these interpretation.

Large graphical LCD with backlight option

Large LCD for simultaneous display of temperature, relative humidity or other calculated humidity interpretation is an advantage. Displayed values are user selectable.

Ethernet interface

10Base-T/100Base-TX Ethernet interface via standard RJ45 connector. IP address can be obtain automatically from DHCP server or set manually. Internet protocol version 4 is supported only.

WWW server

Actual measured values are accessible via powerful embedded web server. Web pages are ready for access from mobile devices like smartphones and tablets. Device configuration via web pages is possible too. The device allows you to user customize the design of web pages.

Alarms

It is possible to set two independent alarm limits for each channel (ie. measured or calculated value) which can be configured either as an upper and lower limit or who limits exceeding in a consistent direction. Alarm signalization can be acoustic (built-in beeper), optical (3 LEDs), alarm output or sending an e-mail alert.

Email

Warning email are sent when measured value exceed selected limits. Emails are also send when values returns back into safe range. SMTP authentication is supported, but SSL not. Domain name for SMTP server address is supported.

Actual values via XML

XML protocol for actual measured values reading. This protocol is suitable for device integration into 3rd party SCADA systems.

SNMP protocol

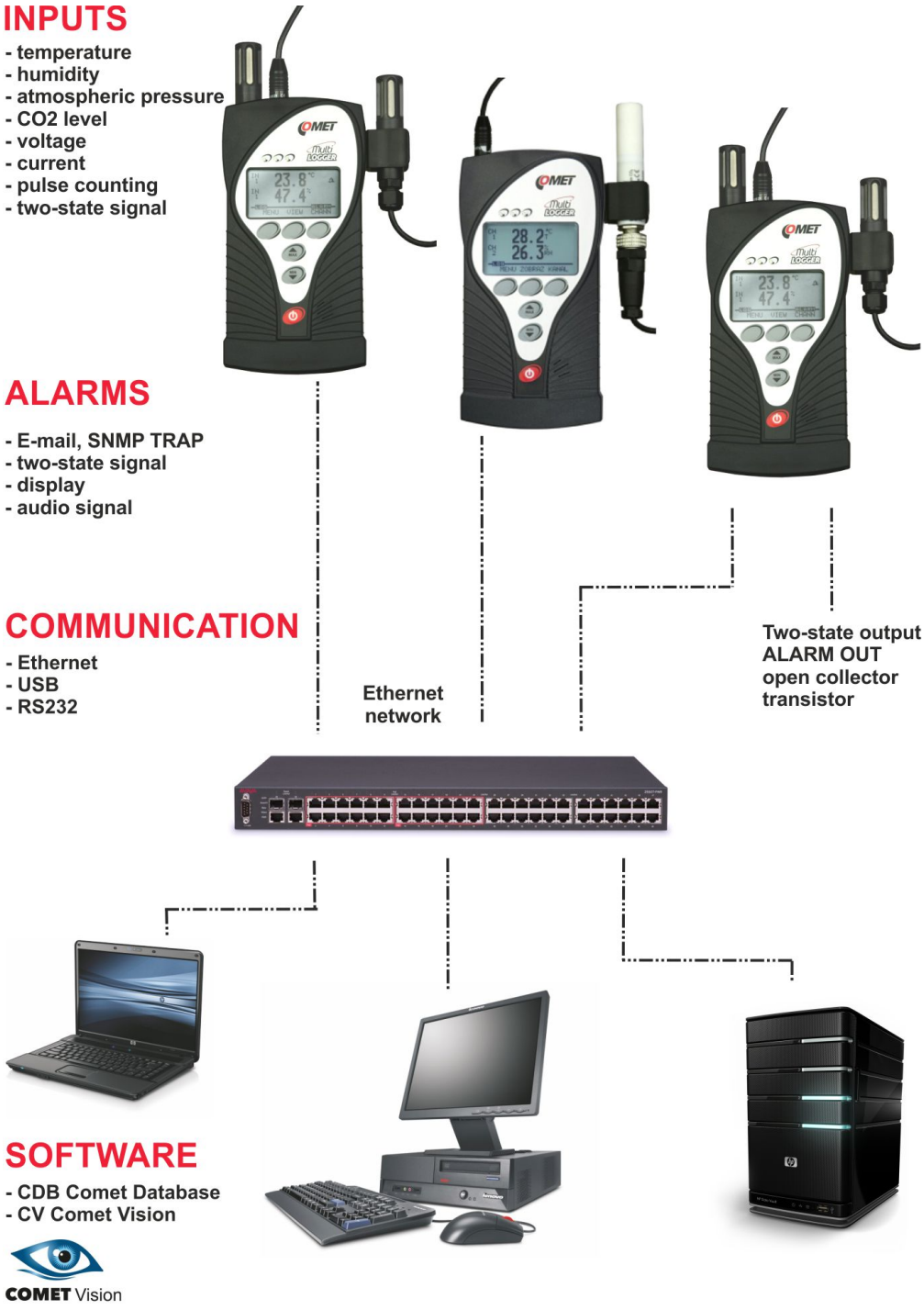
SNMP version 1 protocol for IT infrastructure. Using SNMP protocol you can read actual measured values, alarm status and alarm parameters. MIB tables with OID description are available.

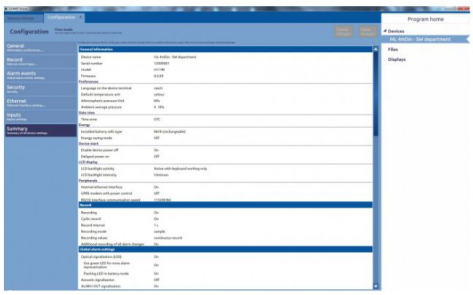
MIN/MAX memory

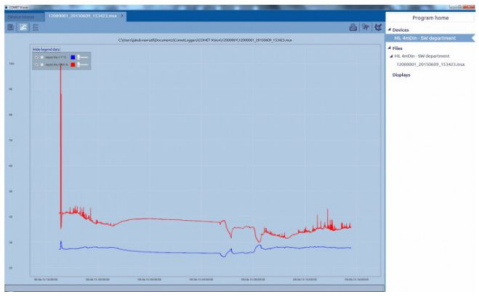
Memory for minimum and maximum values. Memory is independent on values in history memory. Minimum and maximum values can be cleared according user requirements.

APPLICATIONS:

- **Server rooms monitoring**
  Temperature/humidity monitoring of the server rooms, SNMP monitoring, alert by email and Syslog
- **Building HVAC management**
  Temperature/humidity monitoring of buildings, history data to Comet Database, alert by email or SMS
- **Warehouses**
  Temperature/humidity monitoring of storage, history data to Comet Database
- **Museums, archives, galleries**
  Temperature/humidity is requested for rooms where old valuable documents are stored, history data to Comet Database, alert by email or SMS
- **Factories and manufacturing**
  Temperature/humidity monitoring for food processing industry, pharmaceutical industry, aerospace industry, etc.
- **Air-conditioned rooms**
  Temperature rising indicates cooling fault, alert by email







Technical Data

Technical parameters	Value
Temperature operating range	-10 to +60°C

Humidity operating range	5% to 85%RH, without condensation
Temperature compensation of the humidity sensor	all temperature range
Measuring interval	1s to 24 hours
Available temperature units	degrees Celsius, degrees Fahrenheit
Computed values	dew point, absolute humidity, specific humidity, mixing ratio, specific enthalpy
Memory capacity (approx.)	1 000 000 values (noncyclic record), 600 000 values (cyclic record)
IP protection	IP20
Communication interface	Ethernet, USB, RS232
Ethernet communication protocols	WWW, SNMPv1, XML, DATALINK
Alarm protocols	E-Mail
Configuration	Comet Vision, WWW configuration
Power	AC adapter 230Vac/5Vdc (neccessary for Ethernet interface)
	NiMH rechargeable batteries 3x 1.2V AA (backup or portable application) or Alkaline batteries 3x 1.5V AA (for portable applications)
Power connector	co-axial, diameter 5.5 x 2.1mm
Dimensions	178 x 95 x 37mm (W x H x D), without attached cables