Multilogger

Universal 16-channel datalogger with Ethernet interface

- On-line monitoring
- Recording of Data
- Alarm Warnings

Temperature •
Humidity •
Barometric pressure •
CO_2 •
Sensors with output 0-20 mA, 0-10 V •
Two-state inputs •
Pulse counter •

Stationary

Portable

Multi LOGGER

Ethernet interface • May be configured using the keypad • Battery or mains powered •
Graphical display with backlight • Traceable calibration certificate
in accordance with EN ISO/IEC 17025

Multilogger

The device is designed for measurement and recording of physical and electrical quantities with adjustable recording intervals from 1 second to 24 hours.

4 inputs

All models have 4 input connectors for external probes or signals. These may be supplemented by an internal atmospheric pressure transducer and / or CO_2 sensor.

Evaluation of up to 16 variables

Up to 16 variables may be calculated from the four connected probes / sensors. (This is the sum of the measured and calculated values). The calculated values can be:
- a further expression of moisture (dew point temperature, absolute humidity, specific humidity, mixing ratio, specific enthalpy)
- the result of inter-channel conversions (eg. the difference of two connected temperature probes)

Alarm limits

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 two 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.

Power supply

Power is provided from an external 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. Battery life is several months.

Types of connectors

Ethernet interface allows you to:

- send an email when an alarm state starts or ends
- use DATALINK: display current values or download values from device memory to your PC
- view current measured values using your web browser
- third-party applications to read the actual measured values using universal protocols SNMPv1 and XML
- send data to COMET DATABASE software which contains many useful tools for data analysis - graphs, tables, statistics, etc.

Nine models of MULTILOGGER

Model	Input 1	Input 2	Input 3	Input 4	Internal sensor	
M1140	MiniDIN	MiniDIN	MiniDIN	MiniDIN		
M1200	Thermocouple	Thermocouple	Thermocouple	Thermocouple		
M1220	MiniDIN	MiniDIN	Thermocouple	Thermocouple		
M1320	MiniDIN	MiniDIN	Terminals	Terminals		
M1321	MiniDIN	MiniDIN	Terminals	Terminals	Barometric pressure	
M1322	MiniDIN	MiniDIN	Terminals	Terminals		CO_2
M1323	MiniDIN	MiniDIN	Terminals	Terminals	Barometric pressure	CO_2
M1300	Terminals	Terminals	Terminals	Terminals		
M1440	Ext. probe of CO_2	MiniDIN	MiniDIN	MiniDIN		

Specification of internal sensors

Internal barometric pressure sensor

Range	600 hPa to 1100 hPa
Accuracy	± 1.3 hPa at 23 °C

Capable of conversion to sea-level pressure.

Internal CO_2 concentration sensor

Range	0 to 2000 ppm*
Accuracy	± (50 ppm + 2% of MV) at 23 °C and 1013 hPa

* Custom range 10 000 ppm.

ALARM output

Output can be used when an alarm is indicated, such as an external buzzer, telephone dialer etc.

Type of output	open collector transistor
Max. switching current	100 mA
Max. voltage on output	12 V
Auxiliary voltage at terminal	+5 V (only when the mains supply is present)

Specification of inputs

Input MiniDIN allows connection of:

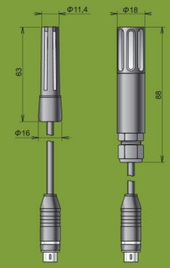
- temperature probes Pt1000 with built-in configuration memory (serie xxx/M)

Range	-200 to 600 °C
Accuracy	±0.2 °C up to 100 °C and ±0.2 %MV above 100 °C (without probe)

- temperature/relative humidity probes with digital output (serie DIGI)

Type of probe	DigiS/M	DigiL/M
Temperature measurment range	-10 to 60 °C	-30 to 105 °C
Temperature measurment accuracy	± 0.4 °C	± 0.4 °C
Relative humidity measurment range (without condensation)	0 to 95 %RH	0 to 100 %RH
Relative humidity measurment accuracy	± 2.5 %RH	± 2.5 %RH

The probes are supplied with a calibration certificate and are offered in a short version with connector for direct connection to a device or with cable lengths of 1, 2, 5, 10, 15 metres.



Thermocouple input allows connection of:

- thermocouple probes (J, K, S, B, T, N)

Type of thermo-couple	**K**	**J**	**S**	**B**	**T**	**N**
Range	-200 to 1300 °C	-200 to 750 °C	-200 to 1700 °C	-100 to 1800 °C	-200 to 400 °C	-200 to 1300 °C
Accuracy	±(3 % of MV +1.5 °C)	±(3 % of MV +1.5 °C)	±(3 % of MV +1.5 °C)	±(3 % of MV +1 °C)	±(3 % of MV +1.5 °C)	±(3 % of MV +1.5 °C)

- direct input of bipolar voltages with range up to -60 to +140mV

Sensors with voltage input		
Range	-60 to 140 mV	-18 to 18 mV
Accuracy	± 100 uV	± 20 uV

Removable terminal block allows connection of:

- sensors with voltage output

Range	0 V to 10 V
Accuracy	± 10 mV

- sensors with current output

Range	0 mA to 20 mA
Accuracy	± 20 uA

- two-state signal

Two state signals may only be applied to input 3 and 4.

Potential-less contact
Voltage signal 0 - 30 V

- pulse signal

The pulse signal may only be applied to input 4.

External probe of CO_2 for M1440

Range	0 to 10000 ppm
Accuracy	± (110 ppm + 2 % of MV) at 23 °C and 1013 hPa

RH - relative humidity
MV - measured value

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Power supply

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Types of connectors

4 inputs

Alarm indication by LEDs or graphical display.

Measured values are stored internally in non-volatile memory.

Battery and mains power supply.

Internal atmospheric pressure and / or CO_2 concentration sensors.

Measured values are shown on the graphical screen with backlight option and the ability to change the size of displayed digits.

The device can be set from the keypad. You can set a password to prevent unauthorized access to the device settings.

Built-in audio alarm.

Supported probes and input signals

Temperature probes Pt1000 (serie xxx/M)	Temperature/relative humidity probes with digital output (serie DIGI)	
Thermocouple K, J, S, B, T, N	Sensors with bipolar output voltage and a range of - 60 to + 140 mV (heat flux sensors, etc.)	
Devices with two-state output (monitoring of machine run, door open/close, etc.)	Device with pulse output (gas and water meters, counter pieces on a production line, etc.)	Sensors of physical quantities with voltage output 0-10 V (0-5 V, 0-1 V) or current output 0-20 mA (4-20 mA)

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 metres.

Thermocouple inputs with cold junction compensation.

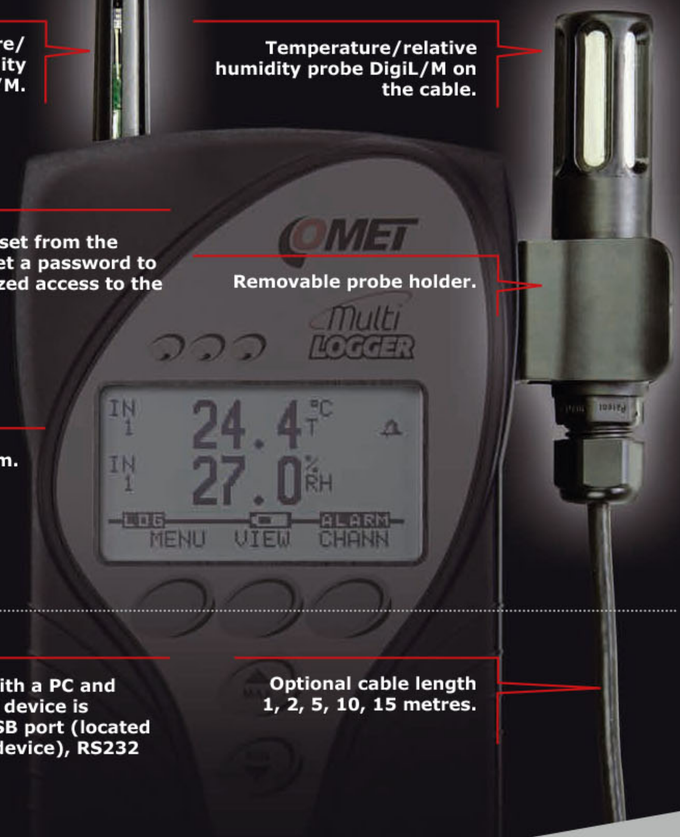
Measured values can be directly recalculated in the device by linear conversion for transfers, for example from 4-20 mA current loop to a specific temperature range.

Voltage or current output sensors must be powered from an external source .

Temperature/ relative humidity probe DigiS/M.

Temperature/relative humidity probe DigiL/M on the cable.

Removable probe holder.



Optional cable length 1, 2, 5, 10, 15 metres.

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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.

Communication interface:

USB, RS232 and Ethernet
Only one of these interfaces can be active at the same time.
Ethernet interface operates only in the presence of an external power supply.

Memory capacity:

noncyclic record approx. 1 000 000 values

cyclic record approx. 600 000 values

Operating conditions:

temperature	-10 °C to +60 °C
humidity	5 % to 85 %RH, without condensation

Mounting position:

stationary - inputs upwards
portable - any position

Mechanical properties:

Height	178 mm without attached cables
Width	95 mm
Depth	37 mm
Weight	380 g batteries included
IP protection	IP 20

Mounting possibilities:

holder for hanging the device on the wall
holder for hanging the device on the wall, lockable

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