DATALOGGERS

Battery operated recorders of

Temperature | Humidity | Dewpoint | Bar. pressure | CO_2 | Current | Voltage | Pulses | Events

- A solution for every need and every budget – economy and premium dataloggers.
- High quality, accurate and stable sensors
- Built-in battery operated GSM modem in selected models
- Built-in printer

CALIBRATION CERTIFICATE

EXTENDED 3 YEARS WARRANTY

OMET since 1991

Applications

COMET dataloggers are intended to measure physical and electrical quantities. Measured values are recorded in the nonvolatile memory. Alarm limits can be set for individual measured variables. In the case these limits are exceeded, the unit evaluates this situation as critical and indicates the alarm.

Measurement and monitoring

Temperature • Humidity • Dew point • Atm. pressure • CO_2 • Current • Voltage • Counter • Events

DATALOGGERS COMET measure physical parameters such as TEMPERATURE, HUMIDITY, DEW POINT, ATMOSPHERIC PRESSURE and CO_2. Some models have analog input for measuring DC CURRENT or DC VOLTAGE. These allow to measure other physical quantities with third party sensors. Comet system produces also two-state recorders for monitoring the functions of the machine, running of engine, door open/closed, to control technology procedures, etc. These two-state recorders are also available in combination with the measurement above variables, as well as in combination with PULSE counter for monitoring of water, gas and electricity consumption.

The measuring interval can be set up from 1s to 24h. The measured value is shown on LCD display as well as MIN / MAX value.

Record

• Non-cyclic record mode • Cyclic record mode (FIFO) • Recording continuously • Recording at the alarm time

Recording can be performed continuously or at the alarm time only. Measured data can be stored in memory at intervals from 1s to 24h. Logging mode can be adjusted as non-cyclic e.i. when logging stops after filling the memory or cyclic e.i. when the oldest recorded values are overwritten by new ones after memory is full (first in first out). Up to 500 000 values can be stored in memory. The datalogger can also record MIN / MAX values.

Alarm Indication

• Exceeding of alarm limits on the channel • Device failure • Battery condition • Memory occupancy • External power failure

For each measurement channel can be set upper and lower limits. In case the limits are exceeded these alarm is indicated on the display, visually by LED or acoustically. Built-in GSM modem allows to send alarm via SMS as text message. Users can be also informed about device failure, battery and memory state or external power failure. The device also supports latched alarms - every alarm occurring in the device remains active until some operator's action, irrespective of the measurement values (until the time of manual cancel).

DATA transmitting

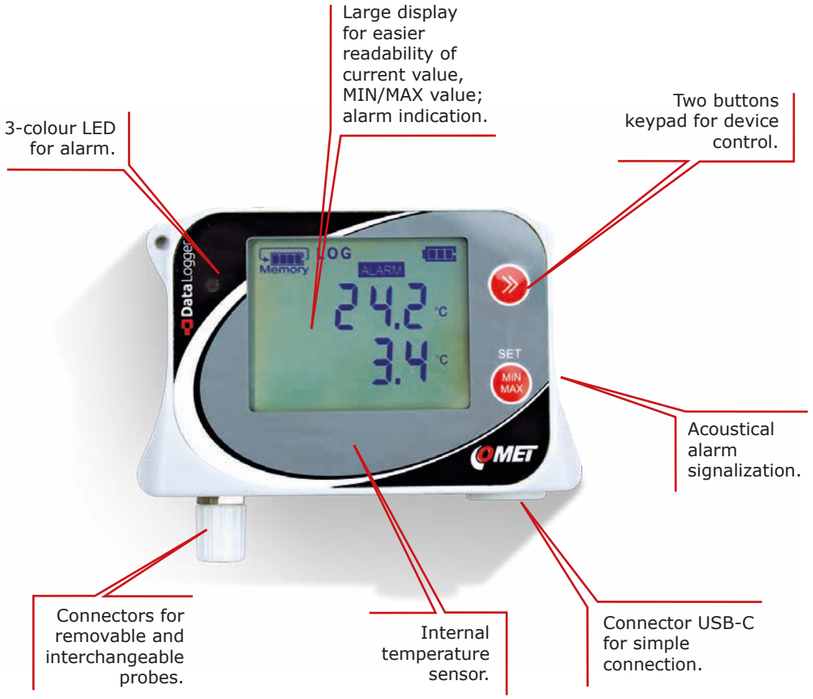
• Simple data downloading via USB cable • Alarm indication via SMS as texts • Still active texts • Data collecting to Comet cloud and software via GSM

The recorded data can be transferred to a personal computer via USB cable. Dataloggers with built-in battery operated GSM modem allows alarm indication and data transmitting. Data can be sent in the shortest interval of 5 minutes to Comet database software or Comet cloud thru data network. For saving battery live there is a function of data buffering to keep GSM modem in the sleeping mode for longer time. Users can also set up still active texts which periodically inform of current state.

Premium dataloggers
Thermometers

The premium datalogger line is developed for temperature monitoring, with a high emphasis on accurate measurements, long life, water resistance and variable alarming.

Dataloggers are produced in several versions. There is an option with internal sensors, or an option with inputs for connecting up to four temperature probes for measuring in the temperature range -90°C to + 260°C.

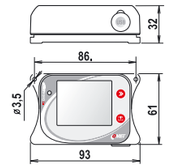


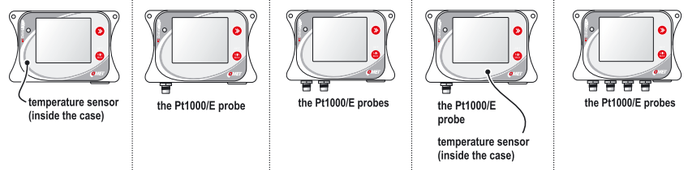
Analytic and configuration software
COMET Vision 2.0

- device settings
- download recorded data
- analyse data in chart or table
- present data
- print out reports

... see page 18.

measured values			temperature				
datalogger model			U0110	U0111	U0121	U0122	U0141
temperature	internal	range	-30 °C to +70 °C	-		-30 °C to +70 °C	-
		accuracy	±0.4 °C			±0.4 °C	
	external	range	-	-90 to +260 °C			
		accuracy *		±0.2°C			
typical battery life			6 years				



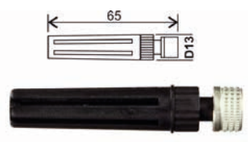


* accuracy of device w/o probe in measuring range of -90 to 100 °C (in range +100 to +260 °C is accuracy ±0,2 % of measured value)

EXTERNAL TEMPERATURE PROBES

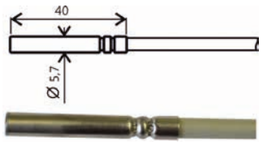
Temperature probes on the cable are designed to measure the temperature in specific applications. Probes are supplied in lengths of 1, 2, 5 and 10 meters. To maintain high accuracy measurements it is not recommended to use probes with lengths greater than 20 meters. Probes are manufactured in accuracy of class A, unless stated otherwise.

Fast accurate air probe with fast response time without protection against moisture.



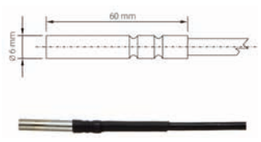
200-80/E
(-30°C to +80°C)

Multi-purpose watertight probe with IP67.



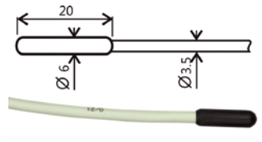
Pt1000TG8/E
(-80°C to +200°C)

Universal temperature watertight probe with IP68 for long-term monitoring of temperature in the liquid.



Pt1000TG68/E
(-80°C to +200°C)

Inexpensive probe with plastic housing, slow response and with IP67.

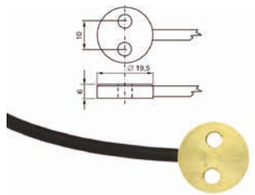


Pt1000TR160/E
(-30°C to +80°C)

Strap-on probe for pipe mounting and flat surfaces. Class of protection - IP65.

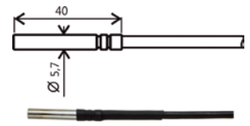
PTS350A/E
(-30°C to +130°C)

Brass probe for surface temperature measurements. Probe is not resistant to moisture.



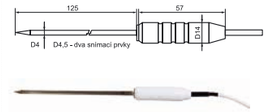
Pt1000TG7/E
(-30°C to +200°C)

Low cost multi-purpose watertight (IP67) probe.



Pt100TGL40/E
(-30°C to +80°C)

Hand-held pointed tip probe for food industry with teflon handle and silicon cable. Class of protection - IP67.



2061-200/E
(-30°C to +200°C)

Other probes are available on the website www.cometsystem.com

Premium dataloggers
Thermometer hygrometer datalogger

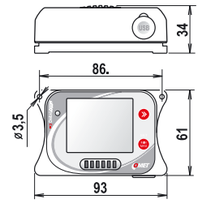
The instruments are designed for measuring and recording of the ambient temperature, relative humidity, the dew point and atmospheric pressure. Measuring temperature and humidity sensors are integrated into the body of device or on a cable. The cable probes are interchangeable without calibration to a specific device and regardless of the length of cable. The length of cable can be 1, 2, 5, 10 and 15 metres.

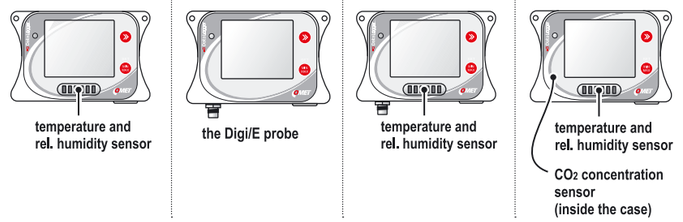
Analytic and configuration software
COMET Vision 2.0

- device settings
- download recorded data
- analyse data in chart or table
- present data
- print out reports

... see page 18.

measured values			temperature, relative humidity			temperature, relative humidity, bar. pressure
datalogger model			U3120	U3121	U3631	U4130
temperature	internal	range	-30 to +70 °C	-	-30 to +70 °C	-30 to +70 °C
		accuracy	±0.4 °C		±0.4 °C	±0.4 °C
	external	range	-	-	-90 to +260 °C	-
		accuracy *			±0.2°C	
relative humidity**		range	0 to 100 %RH	according to the probe	0 to 100 %RH	0 to 100 %RH
		accuracy ***	±1.8% RH		±1.8% RH	±1.8% RH
dew point accuracy ****		accuracy	±1.5 °C		±1.5 °C	±1.5 °C
bar. pressure		range	-	-	-	600 to 1100 hPa
		accuracy				±1.3 hPa
typical battery life			6 years			
class of protection of case with electronics			IP 67			



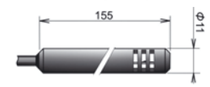


* accuracy of device w/o probe in measuring range of -90 to 100 °C (in range +100 to +260 °C is accuracy ±0,2 % of measured value)
** from 0 to 90 %RH at 23 °C
*** accuracy of sensing element
**** at ambient temperature T<25°C and RH>30%

External temperature/ humidity probes

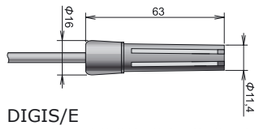
The probe is interchangeable with calibration certificate. The probe line wire must not exceed 30 m.

Ultra thin digital probe.



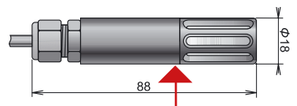
DIGIH/E
(-10 to +60 °C; 0 to 100% RH)

Low cost probe without filter mesh.



DIGIS/E
(-10 to +60 °C; 0 to 95% RH)

Probe with interchangeable protection filter.

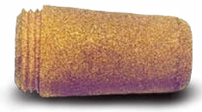


DIGIL/E
(-30 to +105 °C; 0 to 100% RH)

External probe accuracy of sensing element is ±1.8% RH

Sensor covers for external probes

F5300 - Teflon (PTFE) sensor cover (white colour), with increased resistance against splashing water, non-absorbent surface, does not rust. Porous size 25µm.



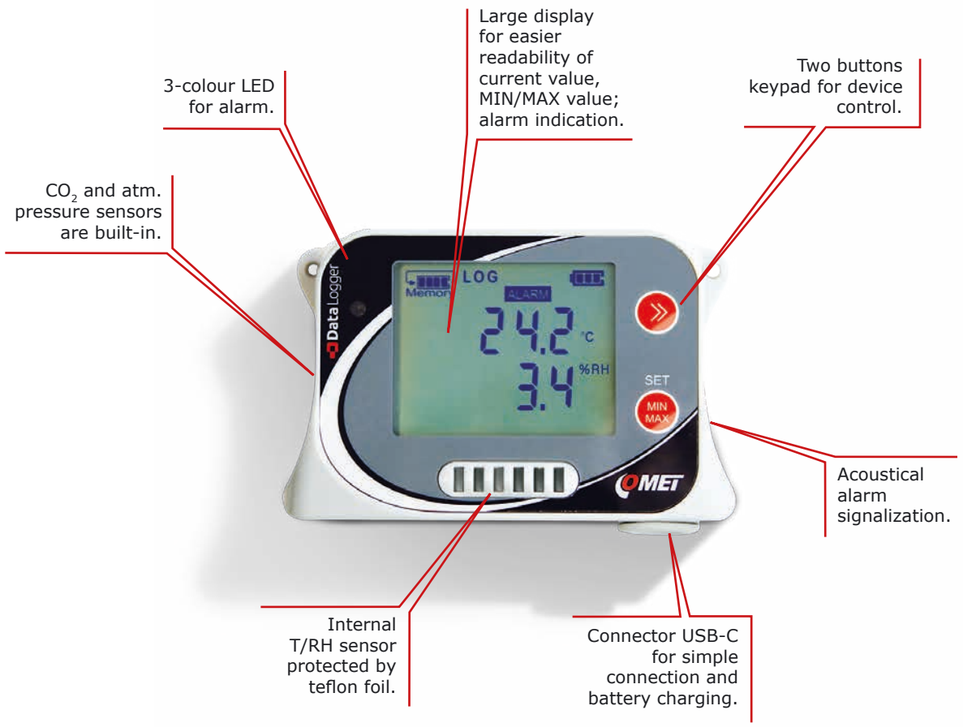
F0000 - sintered bronze sensor cover for moderate aggressive environments.
Filtering ability 0.025mm.

F5200B - sensor cover with filter from stainless steel mesh, suitable for moderately dusty environment.

Premium dataloggers
CO_2 dataloggers

Dataloggers are designed for measurement of carbon dioxide concentration in a building interior. Additionally temperature, humidity or atmospheric pressure can be measured.

The CO_2 concentration is measured using the dual wavelength NDIR sensor with multiple point adjustment. The dual wavelength NDIR CO_2 sensing procedure compensates aging of the sensing element and offers maintenance free operation and outstanding long term stability.



Analytic and configuration software
COMET Vision 2.0

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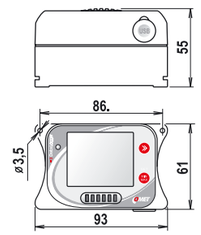
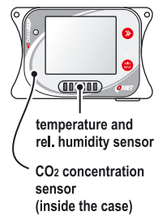
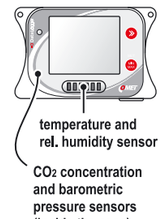
... see page 18.

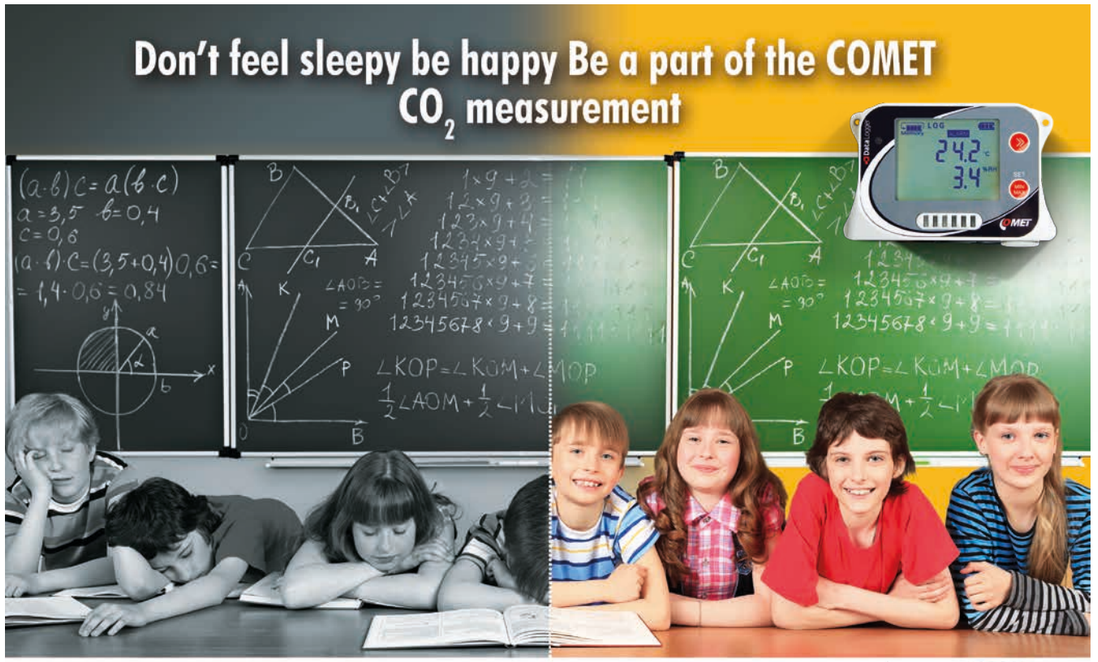
measured values		temperature, relative humidity, CO_2	temperature, relative humidity, CO_2 bar. pressure
datalogger model		U3430	U4440
temeprature	range	-20 °C to +60 °C	-20 °C to +60 °C
	accuracy	±0.4 °C	±0.4 °C
relative humidity*	range	0 to 100 %RH	0 to 100 %RH
	accuracy **	±1.8% RH	±1.8% RH
dew point accuracy	accuracy ***	±1.5 °C	±1.5 °C
CO_2	range****	0 to 2000 ppm	0 to 2000 ppm
	accuracy	±(50ppm+2% MV)	±(50ppm+2% MV)
bar. pressure	range	-	600 to 1100 hPa
	accuracy at 23 °C		±1.3 hPa
typical battery life		up to 1 year	
class of protection of case with electronics		IP 20	







* from 0 to 90 %RH at 23 °C
** accuracy of sensing element
*** at ambient temperature T<25°C and RH>30%
**** optional measuring range 10 000 ppm



Although carbon dioxide is invisible and odorless, an increased CO_2 content in the indoor air leads to fatigue and reduced concentration for humans. In rooms with high occupancy, such as school rooms, the negative effects on humans becomes all the more evident. High concentrations of CO_2 are used for instance in the agriculture, refrigeration or beverage industry, whereby leakages can be dangerous for the living beings and require special safety measures.

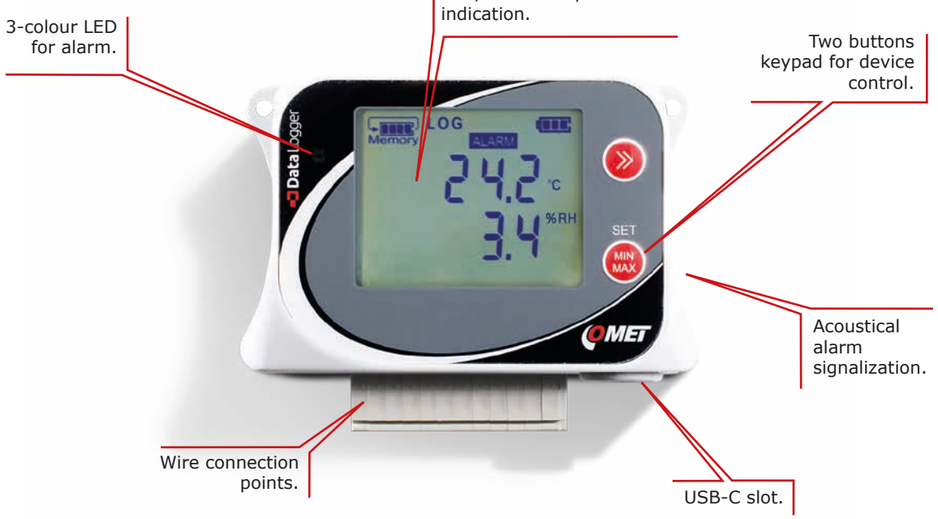
www.cometsystem.com

Premium dataloggers

Dataloggers for monitoring of current, voltage, events, pulses and temperature

Voltage and current dataloggers are designed to measure and record signals from up to three sensors with current output 0 - 20 mA or voltage output of 0 - 10 V. At the same time the status of the binary signal can be recorded. The datalogger can be controlled (turned on and off) by external binary signal. Values of voltage and current can be assigned a value and physical unit just measured quantity. Datalogger U5141 can measure two voltage signals and two temperatures.

Datalogger U7844 for monitoring of pulses and two-state signals are designed for monitoring the functions of the machine, running of engine, door open / closed, to control technology procedures, etc. It is possible to monitor up to four two-state signal or let up to two dedicated for monitoring of pulses. Value of pulse counter can be also programmatically assigned to a physical unit measured quantity.



Analytic and configuration software COMET Vision 2.0

- device settings
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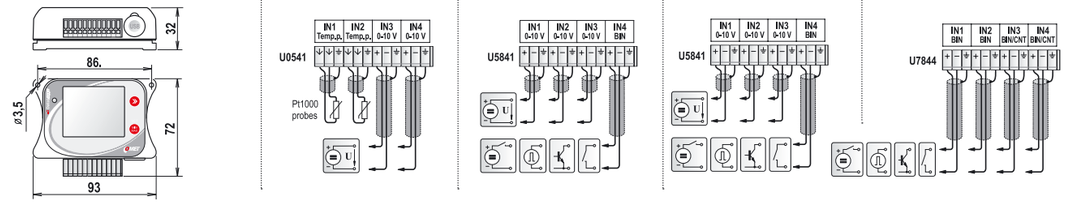
... see page 18.

measured values		temperature, voltage	voltage, two-state inputs	current, two-state inputs	two-state inputs
datalogger model		U0541	U5841	U6841	U7844
temeprature	range	-90 to +260 °C	-	-	-
	accuracy *	±0.2°C			
voltage	range	0 to 10 V	0 to 10 V	-	-
	accuracy	±10 mV	±10 mV		
current	range	-	-	0 to 20 mA	-
	accuracy			±20 uA	
two-state input	dry contact	-	voltage at open contact 3 V		
	voltage signal		input voltage range 0 to 30 V		
counter maximum pulse frequency	dry contact	-	-	-	200 Hz
	voltage signal				5 khz
typical battery life		up to 6 years (regarding to datalogger setting)			
class of protection of case with electronics		IP 20			



* accuracy of device w/o probe in measuring range of -90 to 100 °C (in range +100 to +260 °C is accuracy ±0,2 % of measured value)

Mobile dataloggers
Battery operated GSM modem

Built-in battery operated GSM modem allows alarm indication and data transmitting. Data can be sent in the shortest interval of 5min to Comet database software or Comet cloud thru data network. For saving battery live there is a function of data buffering to keep GSM modem in the sleeping mode for longer time. Users can also set up still active texts which periodically inform of current state.

Data transmitting via GSM

- Alarm indication via SMS as texts
- Still active texts
- Data collecting to Comet cloud and software via GSM

COMET Vision 2.0

- device settings
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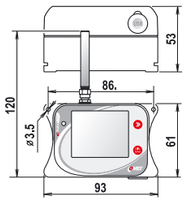
... see page 18.

measured values			temperature		temperature, relative humidity			temp., humidity, CO_2, bar. pressure	temperature, two-state input	two-state inputs, counters	current
datalogger model			U0110M	U0141M	U3120M	U3121M	U3631M	U4440M	U0843M	U7844M	U6841M
temperature	internal	range	-20 to +60°C	-	-20 to +60°C	-	-20 to +60°C	-20 to +60°C	-	-	-
		accuracy	±0.4°C		±0.4°C		±0.4°C	±0.4°C			
	external	range	-	-90 to +260°C	-	according the probe	-90 to +260°C	-	-90 to +260°C	-	-
		accuracy*		±0.2°C			±0,2°C		±0.2°C		
relative humidity**		range	-	-	0 to 100 % RH		-	0 to 100 % RH	-	-	-
		accuracy ***			±2.5 %RH			±2.5 %RH			
dew point accuracy		accuracy ****			±1.5 °C		±1.5 °C	±1.5 °C			
CO_2*****		range	-	-	-	-	-	0 to 2000 ppm	-	-	-
		accuracy						±(50ppm+2% MV)			
bar. pressure		range	-	-	-	-	-	600 to 1100 hPa	-	-	-
		accuracy						±1.3 hPa			
current (3x input)		range	-	-	-	-	-	-	-	-	0 - 20 mA
		accuracy									± 20 uA
two-state inputs / (counter)			-	-	-	-	-	-	2	4*	1
typical battery life			> 6 months to several years, according to the device setting and number of messages sent								
IP protection class			IP67					IP20			



External probe accuracy of sensing element is ±1.8% RH

For more details see page 7.

* accuracy of device w/o probe in measuring range of -90 to 100 °C (in range +100 to +260 °C is accuracy ±0,2 % of measured value)
** accuracy of sensing element
*** from 0 to 90 %RH at 23 °C
**** at ambient temperature T<25°C and RH>30%
****** optional measuring range 10 000 ppm

For more information visit **www.cometsystem.com**

Economy dataloggers

Recorders with integrated sensors for measuring temperature and humidity.

Temperature and relative humidity recorders are designed for measuring in standard applications such as monitoring during transport, in warehouses, museums, galleries, etc. The data loggers are also very durable and temperature dataloggers have a high protection against moisture, so they are suitable for usage in extreme conditions. They can be placed directly in the refrigerators or freezers.

Temperature dataloggers demonstrated their toughness during long-term monitoring of climate in caves. As well as measurement accuracy and high durability, this application needed extra emphasis on battery life which reached also up to 6 years.

Case of sensor is made of ABS which is very resistant to mechanical damage.

Sealing lid protects electronics from dust and splashing water – IP67.

Long battery life up to 6 years.

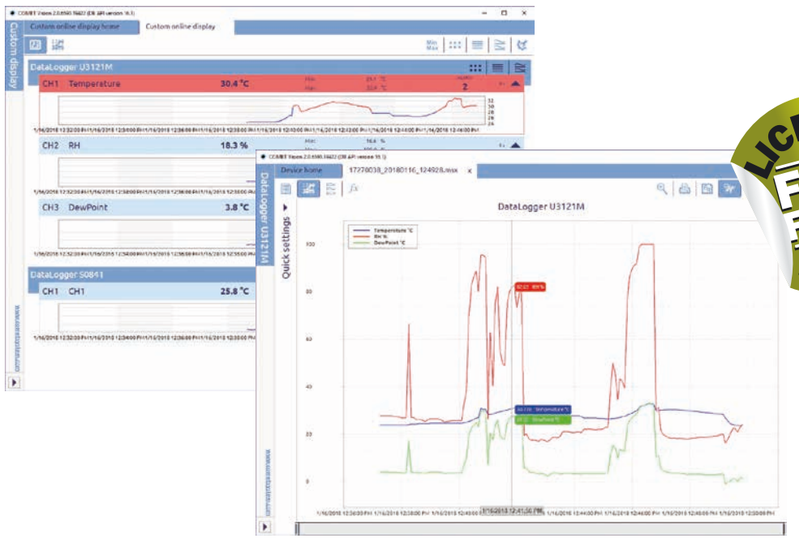
S0110E

COMET VISION 2.0

Comet Vision software 2.0 allows setting of device and simple data analysis.
The recorded data can be transferred to a PC via USB cable for further analysis. Obtained values can be displayed in the form of a table or graph, data and reports can be printed or exported for further processing of spread sheet software.

... see page 18.

Online display



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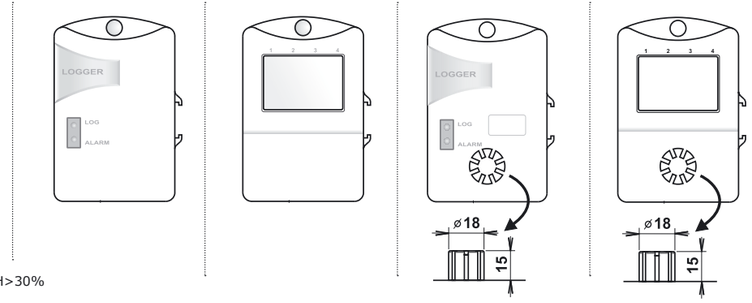
Graphs by channels

measured values		temperature		temperature, relative humidity	
datalogger model		R0110E	S0110E	R3120E	S3120E
temeprature	range	-30 to +70 °C			
	accuracy	±0.6 °C for T < +30 °C ±0.8 °C for T > +30 °C			
relative humidity	range	-		0 to 100 %RH	
	accuracy *			±3% RH from 5 to 95 %RH at 23 °C	
dew point accuracy	accuracy **			±2 °C	
display		x	✓	x	✓
typical battery life		6 years			
class of protection of case with electronics		IP 67		IP 30	

S3120E

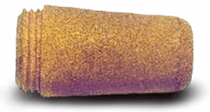


* from 5 to 95 %RH at 23 °C
** at ambient temperature T<25°C and RH>30%

F9000 - wall holder secure datalogger against unauthorized removal. Standard key - 3 pieces.

LP003 –USB adapter for communication with personal computer via USB port.

F5300 - teflon sensor cover with increased resistance against splashing water. Cover is not suitable for applications with risk of condensation. Filtering ability 0.025mm.



F0000 - sintered bronze sensor cover for moderate aggressive environments. Filtering ability 0.025mm.

F5200B - sensor cover with filter from stainless steel mesh, suitable for moderately dusty environment. Filtering ability 0.025 mm.

F5200 - grey version of sensor cover.

F8000 - multiplate meteorological shelter for humidity and temperature dataloggers. Solar radiation shield for devices with T+RH probe.

For more information visit **www.cometsystem.com**

Solution for recording of temeprature during transport

Built-in printer

The instrument is designed for temperature measurement and record from up to two external temperature probes and two binary signals (except G0221E) from external contacts (it records time of monitored event, e.g. door opening/closing). Measured temperature value from both channels and actual binary inputs states are displayed on dual line illuminated LCD display and are recorded in adjustable time interval to internal, nonvolatile memory.

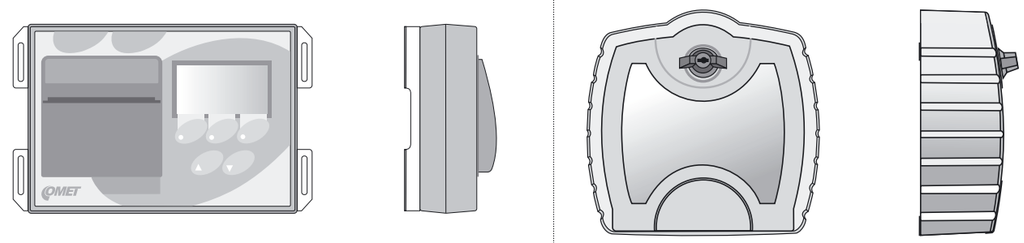
Logging interval user selectable from 1 min to 60 minutes.
Recorder is equipped with alarm function.
Limit exceeding is indicated on the LCD display, by the red LED and acoustically.

Measured values recorded in recorder memory (can be printed out in table or graph format on built-in printer or transferred by means of USB communication cable to personal computer for evaluation.
Some of devices (see the table) are equipped with internal GPRS modem and can be optionally equipped with radio sender for wireless alarm unit G9000.

Main benefits:

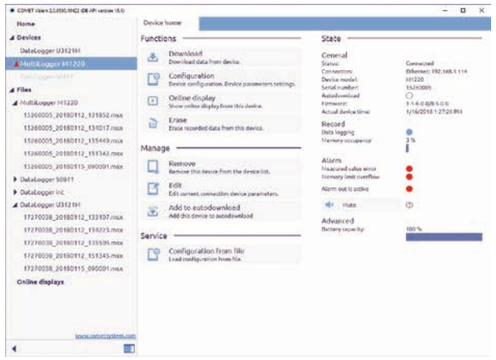
- designed for external installation on semi-trailers (models G0841,G0841W) and for installation in driver´s cabin (models G0221E, G0241)
- fifteen selectable languages
- record from one or two temperature probes
- delivery Ticket, Journey Ticket and Multi Day printouts
- indication of temperature exceeding by LED and acoustically
- record of actual or average values
- calculated MKT - mean kinetic temperature for storing of pharmaceuticals in the PC program

measured values		Temp.	Temperature, 2 x two-state input				
T-print model		G0221E	G0241	G0841	G0841W	G0841M	G0841MW
temeprature	range	-90 to +260 °C					
	accuracy	±0.2°C *					
wireless alarm unit for driver´s cabin		x	x	x	✓	x	✓
built-In GPRS modem		x	x	x	x	✓	✓
power		9 to 32Vdc, protected against alternator load shedding+internal Lithium battery					
class of protection of case with electronics		IP20	IP65				



* accuracy of device w/o probe in measuring range of -90 to 100 °C (in range +100 to +260 °C is accuracy ±0,2 % of measured value)

Analytic and configuration software
COMET Vision 2.0

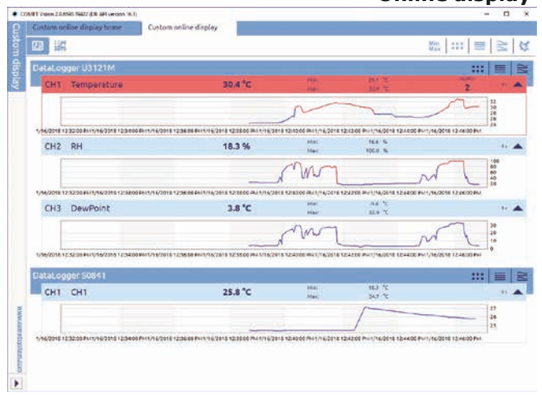


Data analysis

The recorded data can be transferred to a PC via USB cable or via GSM network for further analysis. Obtained values can be displayed in the form of a table or graph, data and reports can be printed or exported for further processing of spread sheet software. Comet Vision software 2.0 allows setting of device and simple data analysis. Comet database software allows collecting data from unlimited numbers of Comet devices and displaying measuring channels from unlimited number of devices on one screen. Comet cloud supports easy online access to measured data.

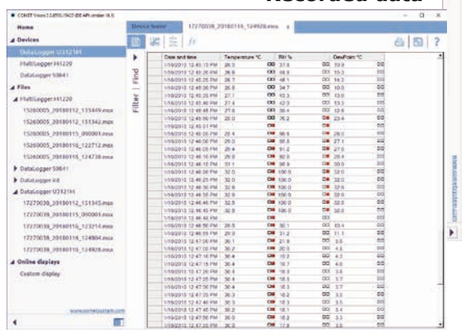
Device list and device panel

Online display



COMET Vision

Recorded data

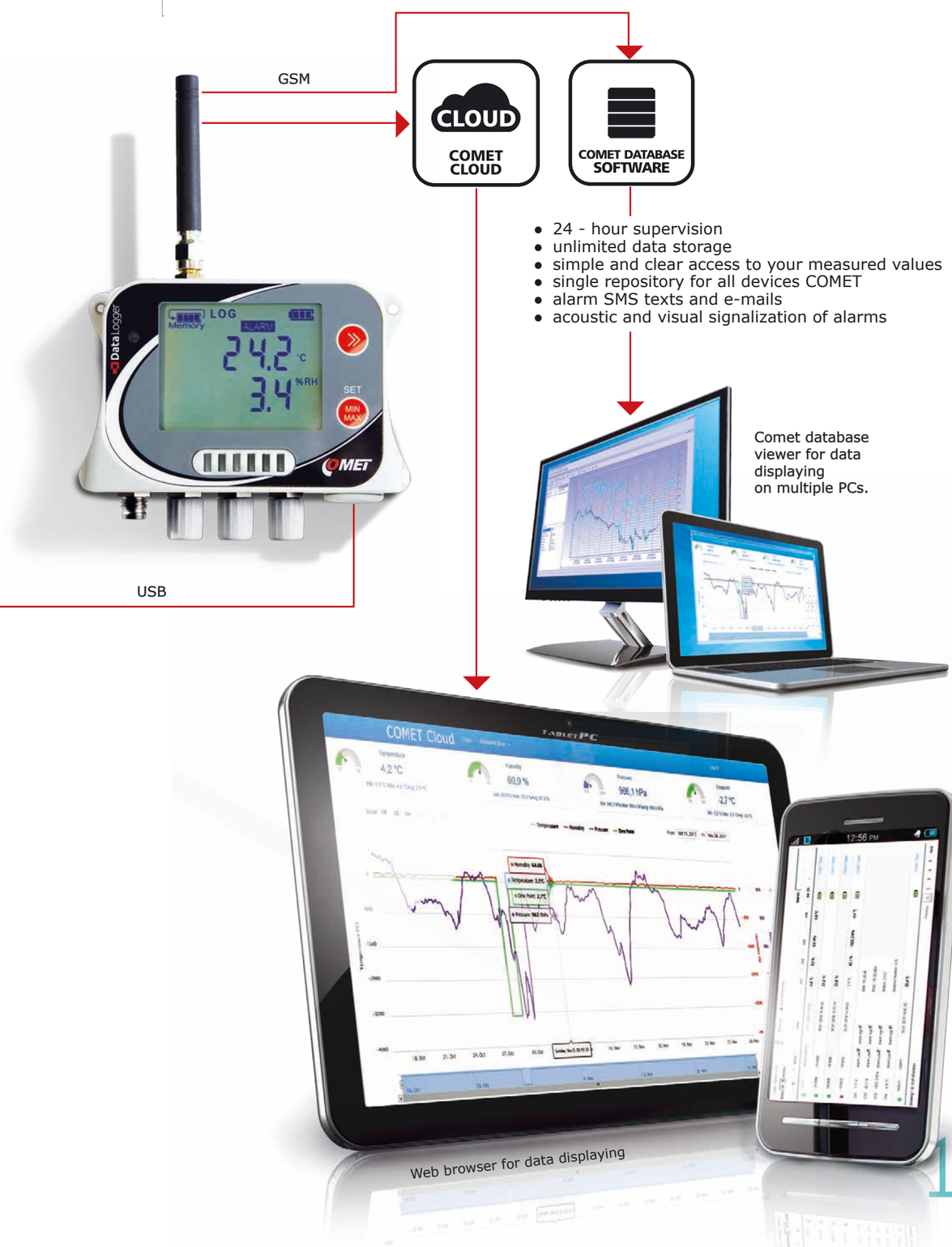


Graphs by channels

- download
- analyse
- present data
- print out reports

LICENSED FOR FREE SOFTWARE

Storage place for all COMET devices
COMET CLOUD and Database software



DATALOGGERS

Battery operated recorders of

Temperature | Humidity | Dewpoint | Bar. pressure | CO_2 | Current | Voltage | Pulses | Events

The COMET System, s.r.o. company is continuously developing and improving its product. COMET System, s.r.o. reserves the right to carry out technical changes in equipment or product without any previous notice.

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