**DATALOGGERS**

Battery operated recorders of:

- Temperature
- Humidity
- Dewpoint
- Bar. pressure
- CO₂
- 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
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 • CO₂ • Current • Voltage • Counter • Events

DATALOGGERS COMET measure physical parameters such as TEMPERATURE, HUMIDITY, DEW POINT, ATMOSPHERIC PRESSURE and CO₂. 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.
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.

For more information visit 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.

For more information visit www.cometsystem.com
Premium dataloggers

CO₂ dataloggers

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

The CO₂ concentration is measured using the dual wavelength NDIR sensor with multiple point adjustment. The dual wavelength NDIR CO₂ sensing procedure compensates aging of the sensing element and offers maintenance free operation and outstanding long term stability.

Table of measured values

<table>
<thead>
<tr>
<th>Datalogger Model</th>
<th>Temperature, Relative Humidity, CO₂</th>
<th>Temperature, Relative Humidity, CO₂</th>
<th>Bar. Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>U3430</td>
<td>Range: -20 °C to +60 °C</td>
<td>Range: -20 °C to +60 °C</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Accuracy: ±0.4 °C</td>
<td>Accuracy: ±0.4 °C</td>
<td></td>
</tr>
<tr>
<td>U4440</td>
<td>Range: 0 to 100 %RH</td>
<td>Range: 0 to 100 %RH</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Accuracy: ±1.8% RH</td>
<td>Accuracy: ±1.8% RH</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Range: 0 to 2000 ppm</td>
<td>Range: 0 to 2000 ppm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Accuracy: ±(50ppm+2% MV)</td>
<td>Accuracy: ±(50ppm+2% MV)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Range: 600 to 1100 hPa</td>
<td>Accuracy at 23 °C</td>
<td>±1.3 hPa</td>
</tr>
</tbody>
</table>

Analytic and configuration software

COMET Vision 2.0

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

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Although carbon dioxide is more biologically inactive, an increased CO₂ content in the indoor air leads to fatigue and reduced concentration for humans. In rooms with high occupancies, such as hotel rooms, the negative effects on humans becomes more evident. High concentrations of CO₂ are used for instance in the agriculture, refrigeration or beverage industry, where leakage can be dangerous. For the tasting rooms and require special safety measures.

For more information visit 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 US141 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 programatically assigned to a physical unit measured quantity.

Table of measured values and accuracy:

<table>
<thead>
<tr>
<th>Datalogger Model</th>
<th>Temperature</th>
<th>Voltage</th>
<th>Current</th>
<th>Two-state Input</th>
</tr>
</thead>
<tbody>
<tr>
<td>U541</td>
<td>-90 to +260 °C</td>
<td>±0.2°C</td>
<td>±10 mV</td>
<td>Voltage at open contact 3 V</td>
</tr>
<tr>
<td>U841</td>
<td>-10 to 10 V</td>
<td>±10 mV</td>
<td>±20 uA</td>
<td>Voltage signal input range 0 to 30 V</td>
</tr>
<tr>
<td>U6841</td>
<td>-10 to 10 V</td>
<td>±10 mV</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>U7844</td>
<td>-10 to 10 V</td>
<td>±10 mV</td>
<td>-</td>
<td>200 Hz</td>
</tr>
</tbody>
</table>

Typical battery life: up to 6 years (regarding to datalogger setting)

Class of protection of case with electronics: IP 20

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.
# 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
- Software via GSM

### COMET Vision 2.0
- Device settings
- Download recorded data
- Analyse data in chart or table
- Present data
- Print out reports

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## Measured Values

<table>
<thead>
<tr>
<th>Measured Values</th>
<th>Temperature</th>
<th>Temperature, Relative Humidity</th>
<th>Temp., Humidity, CO2, Bar. Pressure</th>
<th>Temperature, Two-State Input</th>
<th>Two-State Inputs, Counters</th>
<th>Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>Datalogger Model</td>
<td>U011DM</td>
<td>U0141M</td>
<td>U3121M</td>
<td>U3631M</td>
<td>U4440M</td>
<td>U0843M</td>
</tr>
<tr>
<td>Temperature</td>
<td>Internal</td>
<td>Range: -20 to +60°C</td>
<td>±0.4°C</td>
<td>-20 to +60°C</td>
<td>±0.4°C</td>
<td>-20 to +60°C</td>
</tr>
<tr>
<td></td>
<td>External</td>
<td>Range: -90 to +260°C</td>
<td>±0.2°C</td>
<td>-90 to +260°C</td>
<td>±0.4°C</td>
<td>-90 to +260°C</td>
</tr>
<tr>
<td>Relative Humidity**</td>
<td>Range: 0 to 100% RH</td>
<td>According to the probe</td>
<td>±2.5%RH</td>
<td>±1.5°C</td>
<td>±1.5°C</td>
<td>±1.5°C</td>
</tr>
<tr>
<td>Dew Point Accuracy**</td>
<td>Range: ±1.3°C</td>
<td>±1.5°C</td>
<td>±1.5°C</td>
<td>±1.5°C</td>
<td>±1.5°C</td>
<td>±1.5°C</td>
</tr>
<tr>
<td>CO2****</td>
<td>Range: 0 to 2000 ppm</td>
<td>±(50ppm+2% MV)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Bar. Pressure</td>
<td>Range: 600 to 1100 hPa</td>
<td>±1.3 hPa</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Current (3x Input)</td>
<td>Range: 0 - 20 mA</td>
<td>±20 uA</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Two-State Inputs / (Counter)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Typical Battery Life

> 6 months to several years, according to the device setting and number of messages sent

### IP Protection Class

| IP67 | IP20 |

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*Accuracy of device w/o probe in measuring range of -90 to 100°C (in range +100 to +260°C it is accuracy ±0.2% of measured value)
**Accuracy of sensing element
*** from 0 to 90% RH at 23°C
**** at ambient temperature 70°C and RH: 30%
***** optional measuring range 10 000 ppm

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For more information visit www.cometsystem.com
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.

**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.

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**Economy dataloggers**

**measured values**

<table>
<thead>
<tr>
<th>datalogger model</th>
<th>temperature</th>
<th>temperature, relative humidity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>range</td>
<td>±0.6 °C for T &lt; +30 °C, ±0.8 °C for T &gt; +30 °C</td>
</tr>
<tr>
<td></td>
<td>accuracy</td>
<td>±3% RH from 5 to 95 %RH at 23 °C, ±2 °C</td>
</tr>
</tbody>
</table>

**display**

<table>
<thead>
<tr>
<th></th>
<th>S0110E</th>
<th>S3120E</th>
</tr>
</thead>
<tbody>
<tr>
<td>typical battery life</td>
<td>6 years</td>
<td></td>
</tr>
</tbody>
</table>

**class of protection of case with electronics**

|               | S0110E | S3120E |
|               | IP 67  | IP 30  |

**Online display**

**Graphs by channels**

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FS300 - 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.

**Solution for recording of temperature 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

<table>
<thead>
<tr>
<th>T-print model</th>
<th>Temp. range</th>
<th>Temperature, 2 x two-state input</th>
</tr>
</thead>
<tbody>
<tr>
<td>G0221E</td>
<td>-90 to +260 °C</td>
<td>x</td>
</tr>
<tr>
<td>G0241</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>G0841</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>G0841W</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>G0841M</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>G0841MW</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

* 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)
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.

Storage place for all COMET devices

COMET CLOUD and Database software

- 24-hour supervision
- unlimited data storage
- simple and clear access to your measured values
- single repository for all devices COMET
- alarm SMS texts and e-mails
- acoustic and visual signalization of alarms

For more information visit www.cometsystem.com
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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