

WUNTRONIC

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



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 • 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.

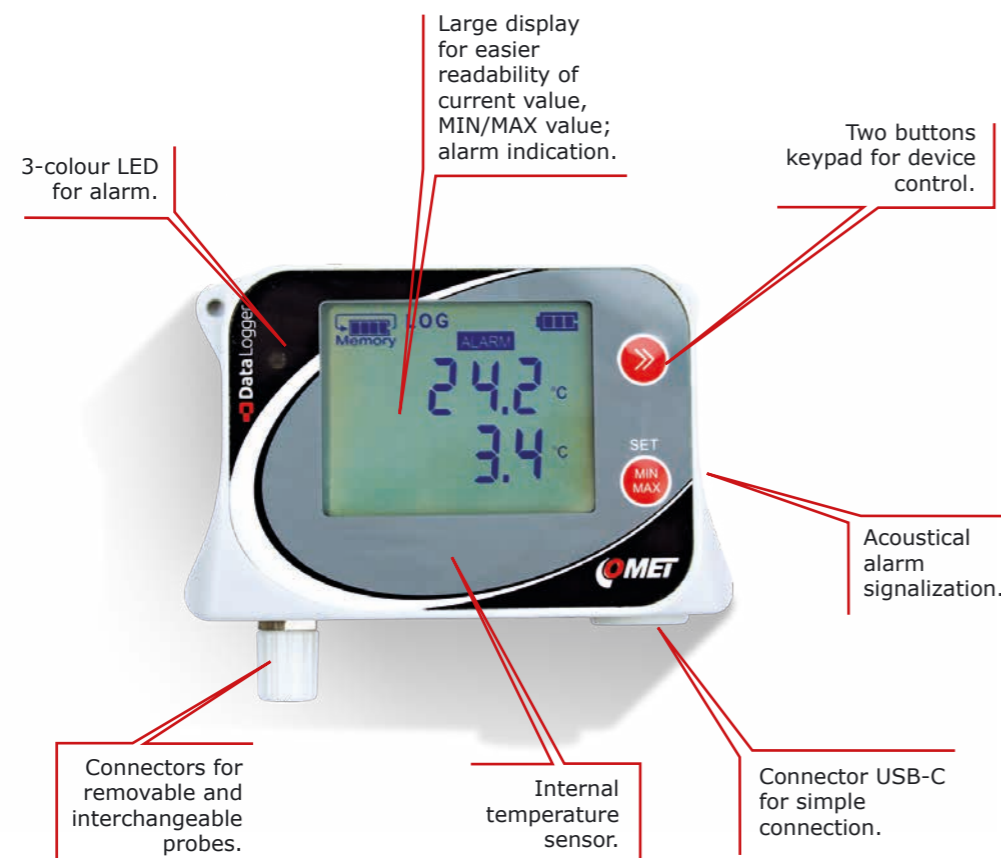




Premium dataloggers Thermometers

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.

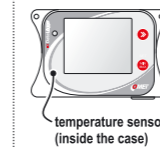
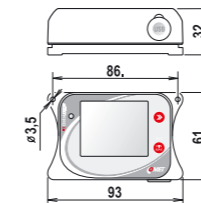


Analytic and configuration software COMET Vision 2.0

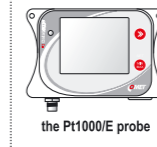
- device settings •
- download recorded data •
- analyse data in chart or table
- present data
- print out reports

... see page 18.

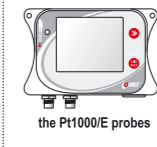
measured values			temperature				
Order no.			W23-503-101	W23-503-110	W23-503-120	W23-503-210	W23-503-220
datalogger model			U0110	U0111	U0121	U0122	U0141
temperature	internal	range	-30 °C to +70 °C	datalogger model -		-30 °C to +70 °C	-
		accuracy	±0.4 °C			±0.4 °C	
	external	range	-	-90 to +260 °C			
		accuracy *		±0.2°C			
typical battery life			6 years				



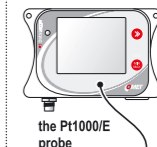
temperature sensor (inside the case)



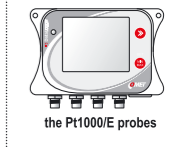
the Pt1000/E probe



the Pt1000/E probes



the Pt1000/E probe



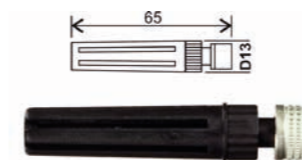
the Pt1000/E probes

* 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

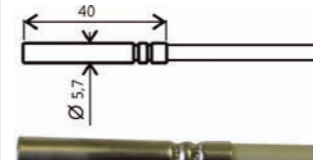
Temperature probes on the cable are designed to measure the temperature in specific applications. Probes are supplied in lengths of 1, 2, 5 and 10 meters. To maintain high accuracy measurements it is not recommended to use probes with lengths greater than 20 meters. Probes are manufactured in accuracy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

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



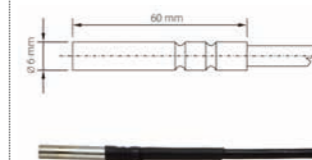
200-80/E
(-30°C to +80°C)

Multi-purpose watertight probe with IP67.



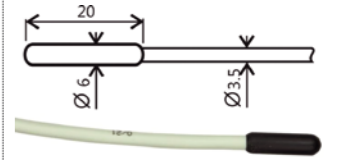
Pt1000TG8/E
(-80°C to +200°C)

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.



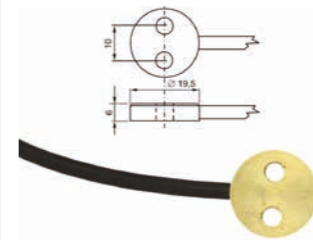
Pt1000TR160/E
(-30°C to +80°C)

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



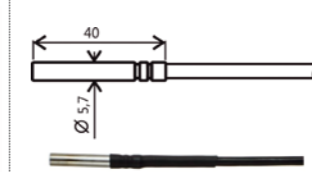
PTS350A/E
(-30°C to +130°C)

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



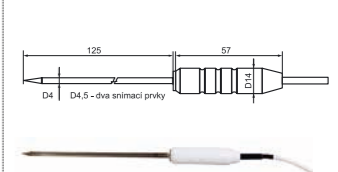
Pt1000TG7/E
(-30°C to +200°C)

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.



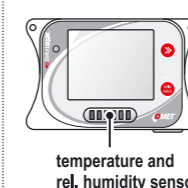
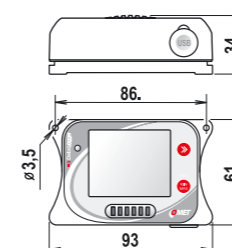
Analytic and configuration software

COMET Vision 2.0

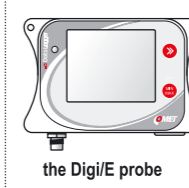
- device settings •
- download recorded data •
- analyse data in chart or table
- present data
- print out reports

... see page 18.

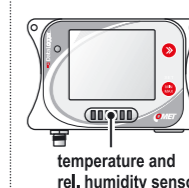
measured values			temperature, relative humidity			temperature, relative humidity bar. pressure
Order no.			W23-503-130	W23-503-140	W23-503-250	W23-503-260
datalogger model			U3120	U3121	U3631	U4130
temperature	internal	range	-30 to +70 °C	-	-30 to +70 °C	-30 to +70 °C
		accuracy	±0.4 °C		±0.4 °C	±0.4 °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
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			



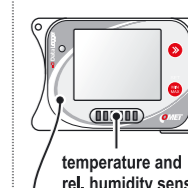
temperature and rel. humidity sensor



the Digi/E probe



temperature and rel. humidity sensor



temperature and rel. humidity sensor
CO2 concentration sensor (inside the case)

* 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

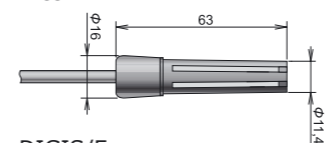
The probe is interchangeable with calibration certificate. The probe line wire must not exceed 30 m.

Ultra thin digital probe.



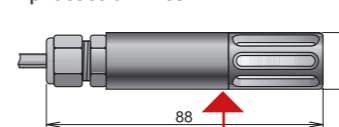
DIGIH/E
(-10 to +60 °C; 0 to 100% RH)

Low cost probe without filter mesh.



DIGIS/E
(-10 to +60 °C; 0 to 95% RH)

Probe with interchangeable protection filter.

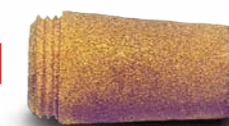


DIGIL/E
(-30 to +105 °C; 0 to 100% RH)

External probe accuracy of sensing element is ±1.8% RH



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.



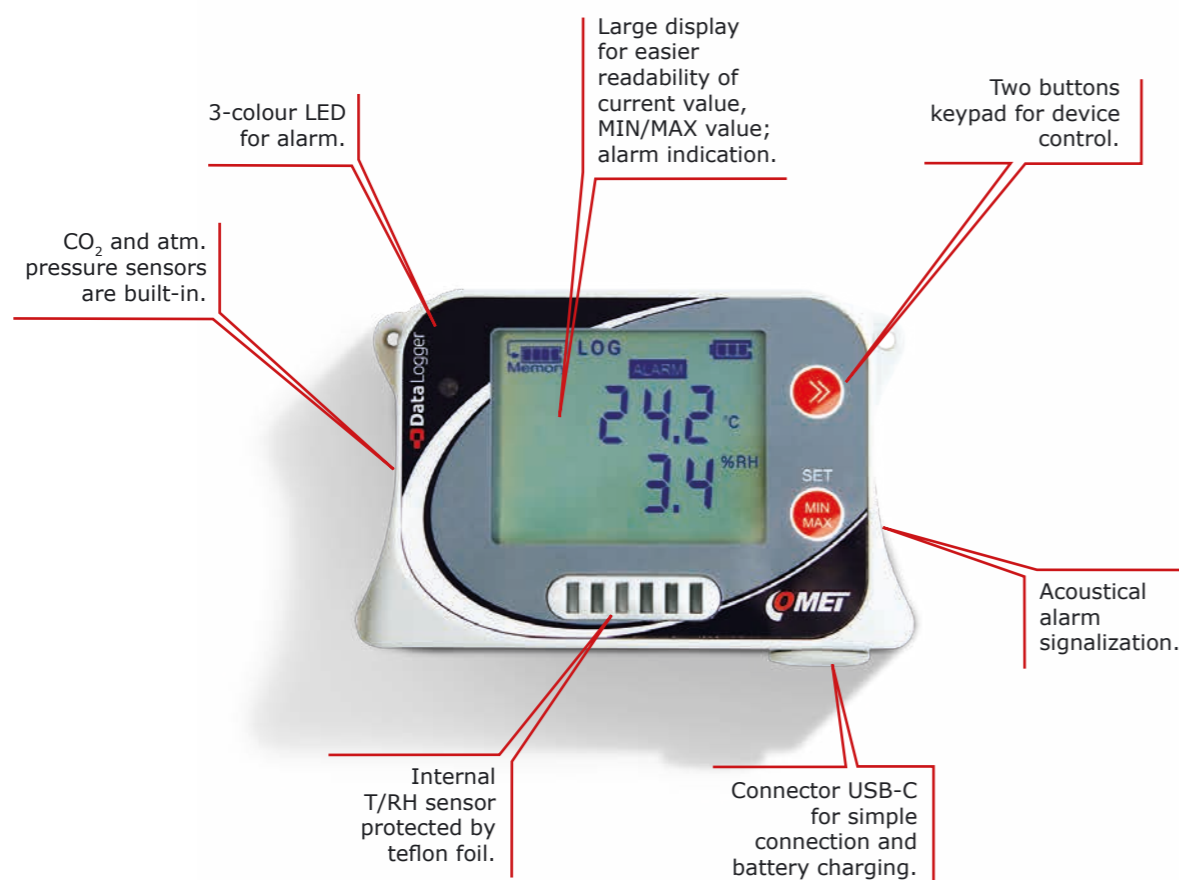
F5200B - sensor cover with filter from stainless steel mesh, suitable for moderately dusty environment.



Premium dataloggers 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.

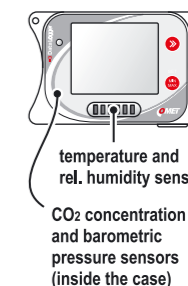
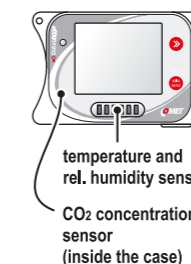
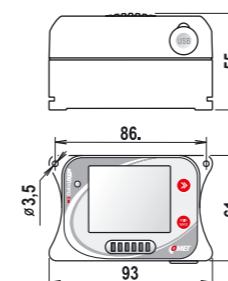


Analytic and configuration software COMET Vision 2.0

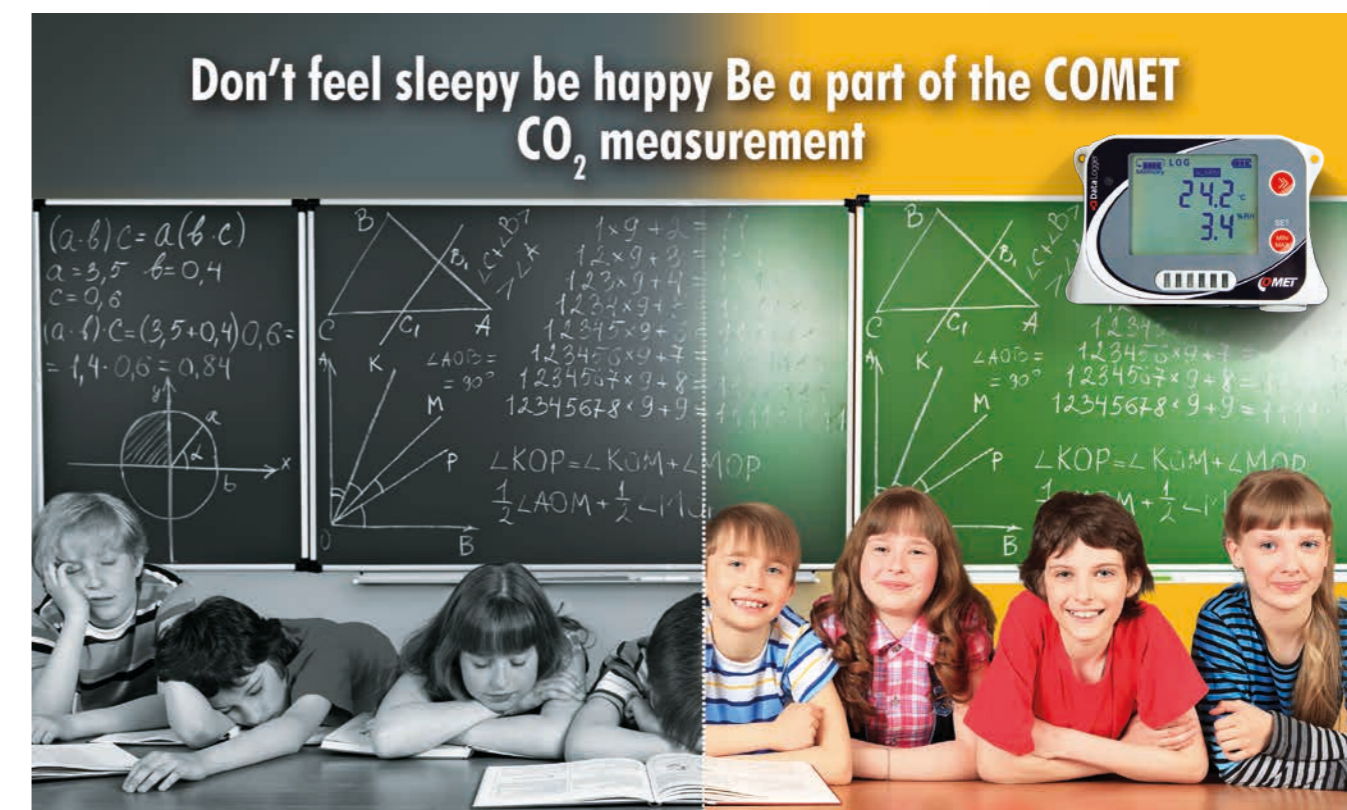
- device settings
- download recorded data
- analyse data in chart or table
- present data
- print out reports

... see page 18.

measured values		temperature, relative humidity, CO ₂	temperature, relative humidity, CO ₂ bar. pressure
Order no.		W23-503-240	W23-503-160
datalogger model		U3430	U4440
temperature	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 CO₂ 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 become all the more evident. High concentrations of CO₂ 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.

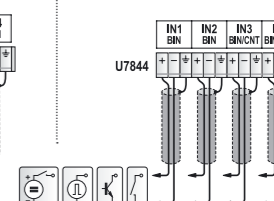
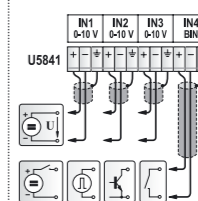
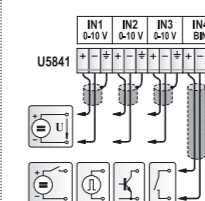
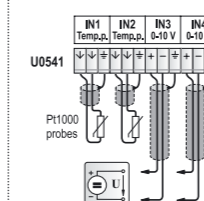
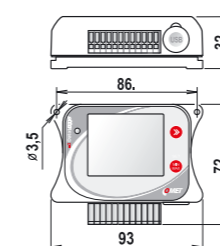


Analytic and configuration software COMET Vision 2.0

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

... see page 18.

measured values		temperature, voltage	voltage, two-state inputs	current, two-state inputs	two-state inputs
Order no.		W23-503-230	W23-503-280	W23-503-280	W23-503-150
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
- download recorded data
- analyse data in chart or table
- present data
- print out reports

... see page 18.

Connector USB-C for simple connection and battery charging.

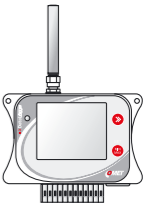
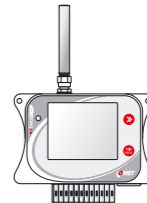
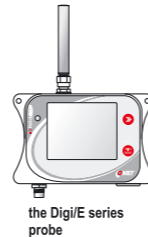
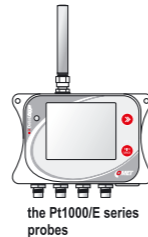
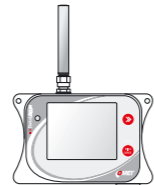
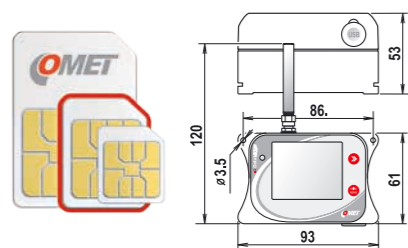


Wall holder for all premium dataloggers.

SMS
W23-503-230



measured values			temperature		temperature, relative humidity			temp., humidity, CO ₂ , bar. pressure	temperature, two-state input	two-state inputs, counters	current
Order no.			W23-502-100	W23-502-110	W23-502-130	W23-502-135	W23-503-230	W23-503-230	W23-503-230	W23-503-230	W23-503-230
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				
	external	range	-	-90 to +260°C	-	-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	according the probe	-	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			



* 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

External probe
 accuracy of sensing
 element is ±1.8% RH
 For more details
 see page 7.



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 spreadsheet software.

... see page 18.

Online display



Graphs by channels

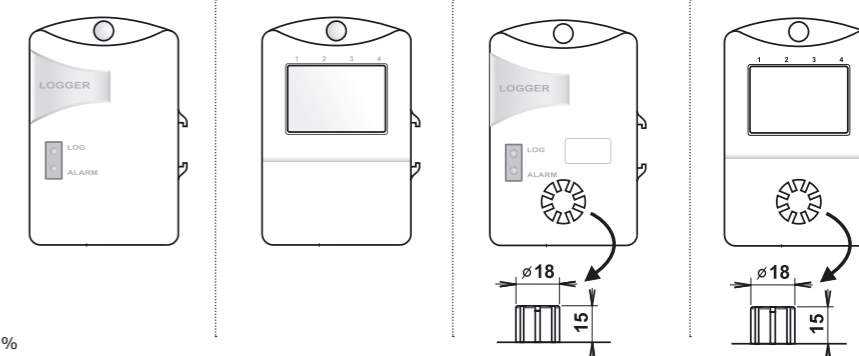


measured values		temperature		temperature, relative humidity	
Order no.		W01-100-105	W02-100-105	W01-100-241	W02-100-241
datalogger model		R0110E	S0110E	R3120E	S3120E
temperature	range	-30 to +70 °C			
	accuracy	±0.6 °C for T < +30 °C ±0.8 °C for T > +30 °C			
relative humidity	range	0 to 100 %RH			
	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.



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

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).

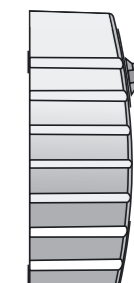
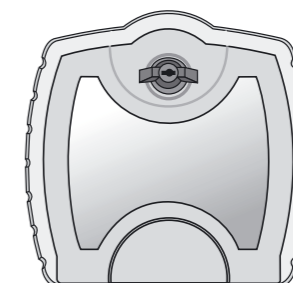
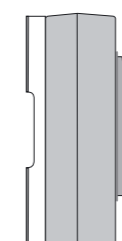
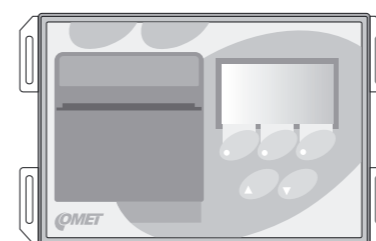
Some of devices (see the table) are equipped with internal GPRS modem and can be optionally equipped with radio sender for wireless alarm unit G9000.



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	Temp.	Temperature, 2 x two-state input				
Order no.	W23-307-190	W23-307-100	W23-307-395	W23-307-405	W23-307-400	W23-307-410
T-print model	G0221E	G0241	G0841	G0841W	G0841M	G0841MW
temperature	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			

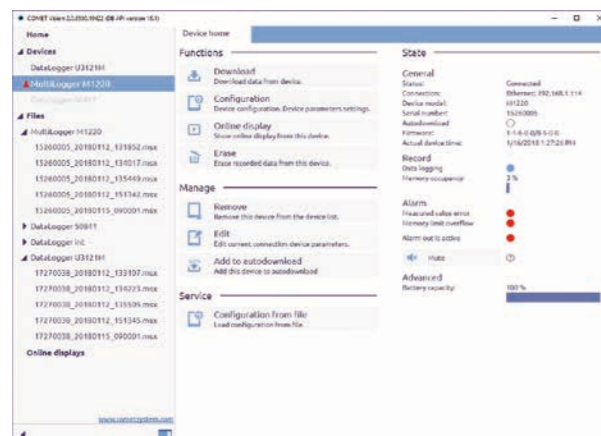


* accuracy of device w/o probe in measuring range of -90 to 100 °C (in range +100 to +260 °C is accuracy ±0,2 % of measured value)





Analytic and configuration software COMET Vision 2.0



Device list and device panel

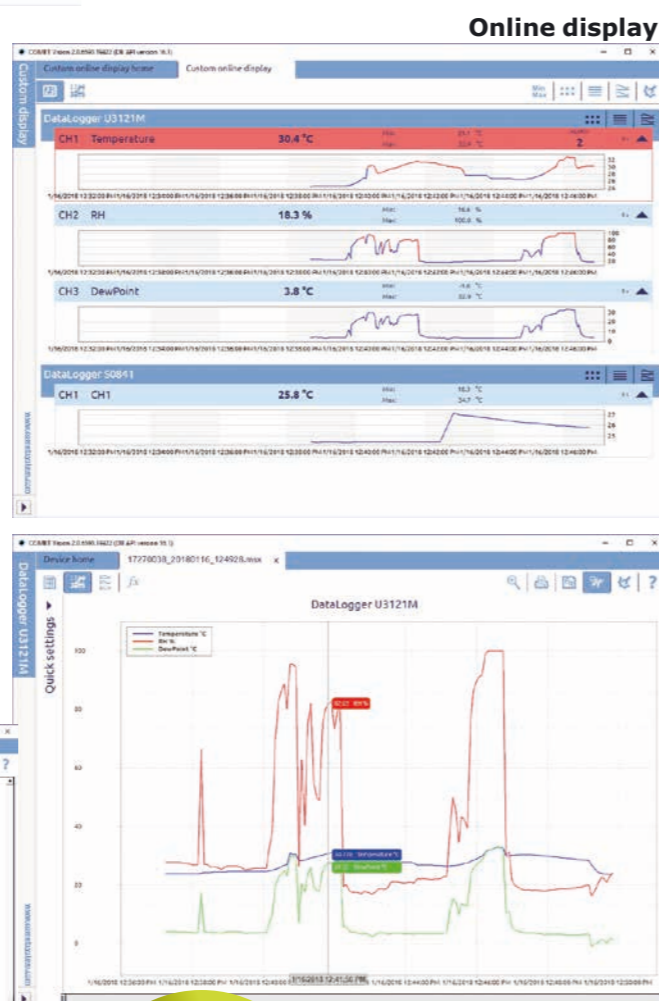


Recorded data

- download
- analyse
- present data
- print out reports

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.

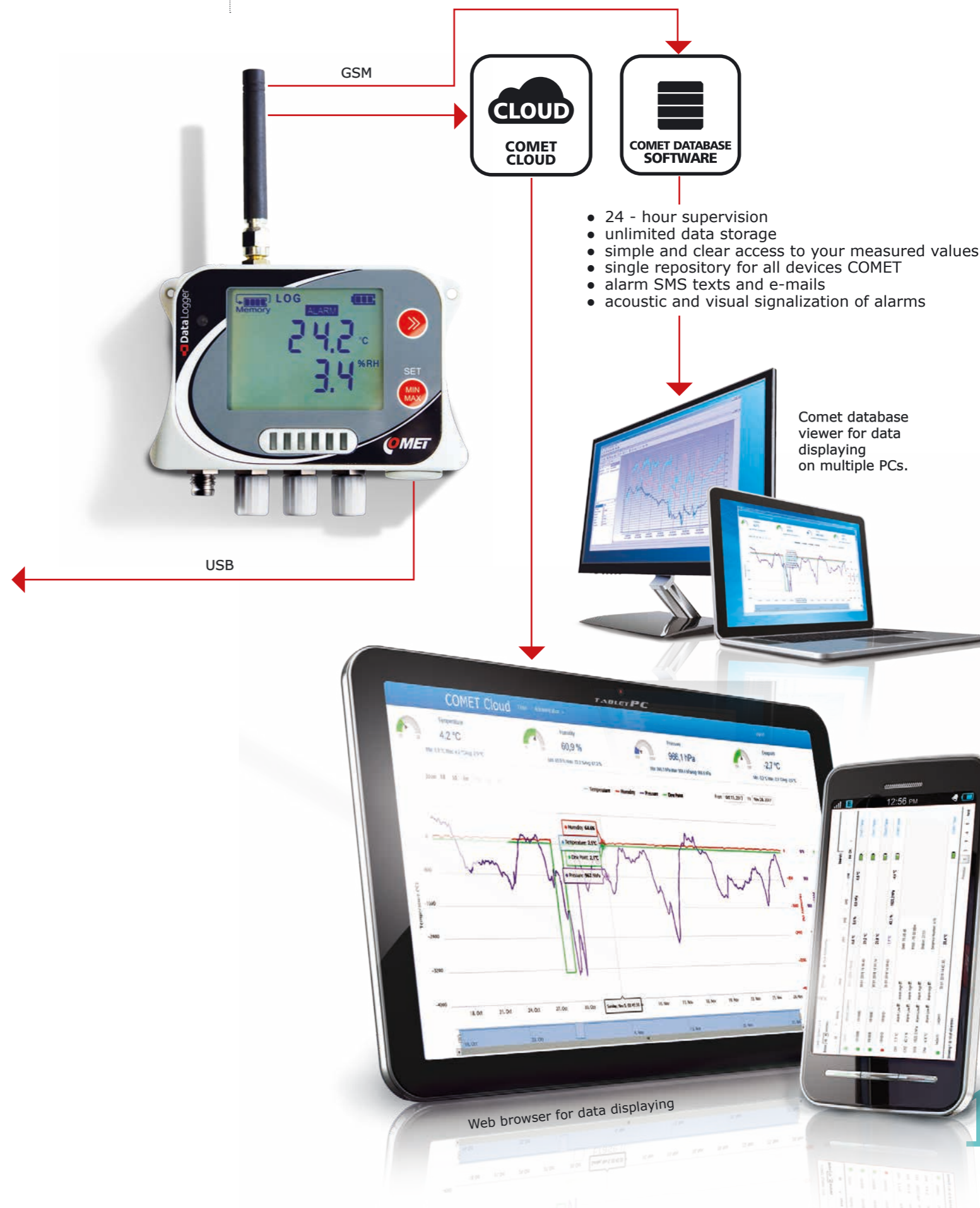


Online display

Graphs by channels



Storage place for all COMET devices COMET CLOUD and Database software



DATALOGGERS

Battery operated recorders of

Temperature | Humidity | Dewpoint |
Bar. pressure | CO₂ | 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.

WUNTRONIC

Mess-, Steuer-und Regelgeräte GmbH

Heppstrasse 30, D-80995 Munich, Germany.

Phone: +49 (89) 313 30 07 **Fax:** +49 (89) 314 67 06

E-Mail: wuntronic@wuntronic.de

Internet: www.wuntronic.de