

## U0110 • U3120 • U3430 • U4130 • U4440 • U8410

## PRODUCT DESCRIPTION

The dataloggers Uxxxx with internal sensors are designed for measuring and recording physical and electric quantities with an adjustable logging interval from 1 second to 24 hours. The measured values, or the average values and min/max values over a recording interval are stored into the internal non-volatile memory. The data logging mode can be cyclic (when the data memory is completely full, the oldest data are overwritten by the new ones), or non-cyclic (the recording will stop once the memory is full). The device also allows for the evaluation of alarm states - exceeding the limit of the measured value or falling below this limit, exceeding the limit of memory filling, technical defects of the instrument or probes. The alarm signalling can be realised visually, optionally by a symbol appearing on the display or by a short blink of an LED, or acoustically. The data recording can be performed continuously or only when an alarm occurs. The devices are powered by internal replaceable lithium battery (U0110, U3120, U4130) or by internal Li-Ion accumulator (U4130, U4440, U8410).

Device setting, recorded data downloading and online monitoring is carried out using the computer with the **COMET Vision** software installed (see [www.cometsystem.com](http://www.cometsystem.com)). The USB interface is used to communicate with the computer.

Device type	Measured values	Construction
<b>U0110</b>	Ti	Internal temperature sensor
<b>U3120</b>	Ti + RH + Td	Internal temperature and relative humidity sensor
<b>U3430</b>	Ti + RH + Td + CO <sub>2</sub>	Internal sensors of temperature, relative humidity and CO <sub>2</sub> concentration
<b>U4130</b>	Ti + RH + Td + P	Internal sensors of temperature, relative humidity and barometric pressure
<b>U4440</b>	Ti + RH + Td + P + CO <sub>2</sub>	Internal sensors of temperature, relative humidity, barometric pressure and CO <sub>2</sub> concentration
<b>U8410</b>	CO <sub>2</sub>	Internal sensor of CO <sub>2</sub> concentration

Ti...Temperature, RH...Relative humidity, Td...Dew point temperature, P... Barometric pressure, CO<sub>2</sub>... CO<sub>2</sub> concentration

## INSTALLATION AND OPERATION

**Fasten the device** on the wall with two screws or insert it into the wall holder **LP100** (optional accessory). Datalogger may be operated as a portable one. In this kind of operation avoid the device falling down. Try to maintain the proper working position.

- Please pay attention to the device mounting. Inappropriate selection of the working position and the measurement location may adversely affect the accuracy and long-term stability of the measured values.
- The device should be located as far as possible from potential interference sources
- Remove the transport protection foil from the front panel of the datalogger with internal relative humidity sensor

## Set-up the device

- Device setup can be performed using the computer with the Windows 7 operational system or higher. Minimum HW requirements are 1.4 GHz processor and 1 GB memory.
- Install the **COMET Vision** software into computer (the program is available free of charge at [www.cometsystem.com](http://www.cometsystem.com))
- Connect the datalogger to the computer. Use a USB cable with USB-C connector (max. cable length 3 m). If the device is connected properly, its current status is displayed in the *Device Home panel*.
- Click on the **Configuration** button. The device configuration will be downloaded and you can change the settings of some items.
- Save the new configuration into the device
- Disconnect the device from the computer and close the USB connector with a closing cap

## Operating the device from the keypad

- Press and hold the lower key. After the light up the row with menu items, release the key and briefly press the upper key.
- Press the upper key to scroll through the menu items (device turning On/Off, deleting the Min/Max values in the device, ...)
- Press the lower key to confirm (SET)

The devices do not require special maintenance. We recommend that you regularly verify the accuracy of the measurement with calibration.

## SAFETY INSTRUCTIONS



- Installation, electrical connection and commissioning should only be performed by qualified personnel in accordance with applicable regulations and standards
- Devices **U3430**, **U4440** and **U8410** are equipped with an internal **Li-Ion accumulator**. Observe the recommended operating and storage condition. Should the battery casing get damaged or should the whole device get destroyed, carry it outside the fire, high temperature or water affected area to a safe fire-protected place. Protect yourself and the environment against escaping gases and against being soiled with the battery electrolyte.
- The accumulator charging of the **U3430**, **U4440** and **U8410** devices will proceed at an indoor temperature ranging between 0°C and +40°C (the device has to be located in an indoor room with a relative humidity up to 85%).
- Devices contain electronic components, it needs to liquidate them according to currently valid conditions
- To **complement the information in this data sheet** read the manuals and other documentation, which are available in the **Download** section for a particular device at [www.cometsystem.com](http://www.cometsystem.com)

## Technical specifications

Device type	U0110	U3120	U4130	U3430	U4440	U8410
Power batteries	Lithium battery 3.6 V / 2200 mA			Li-Ion accu pack 3.6V / 5200 mAh		
Recording interval	(1 - 2 - 5 - 10 - 15 - 30) s • (1 - 2 - 5 - 10 - 15 - 30) min. • (1 - 2 - 3 - 4 - 6 - 8 - 12 - 24) h					
Memory capacity	500 000 values in non-cyclic record mode • 350 000 values in cyclic record mode					
Temperature measuring range	-30 to +70°C	-30 to +70°C	-30 to +70°C	-20 to +60°C	-20 to +60°C	—
Accuracy of temperature measurement	± 0.4°C	± 0.4°C	± 0.4°C	± 0.4°C	± 0.4°C	—
Relative humidity measuring range (without condensation)	—	0 to 100 %RH	0 to 100 %RH	0 to 100 %RH	0 to 100 %RH	—
Accuracy of the relative humidity sensor	—	± 1.8 %RH *	± 1.8 %RH *	± 1.8 %RH *	± 1.8 %RH *	—
Dew point temperature measuring range	—	-60 to +70 °C	-60 to +70 °C	-60 to +60 °C	-60 to +60 °C	—
Accuracy of dew point temperature measurement	—	± 1.5°C **	± 1.5°C **	± 1.5°C **	± 1.5°C **	—
CO <sub>2</sub> concentration measuring range	—	—	—	0 to 5000 ppm ***	0 to 5000 ppm ***	0 to 5000 ppm ***
Accuracy of CO <sub>2</sub> concentration measurement at 25°C and 1013 hPa ****	—	—	—	±(50ppm +3% of measured value)	±(50ppm +3% of measured value)	±(50ppm +3% of measured value)
Barometric pressure measuring range	—	—	600 to 1100 hPa	—	700 to 1100 hPa	—
Accuracy of barometric pressure measurement at 23°C	—	—	± 1.3 hPa	—	± 1.3 hPa	—
Recommended calibration interval	2 years	1 year	1 year	1 year	1 year	5 years
Protection class - case with electronics / temperature and rel. humidity sensor	IP67 / —	IP67 / IP30	IP54 / IP30	IP20 / IP20	IP20 / IP20	IP20 / —
Temperature operating range	-30 to +70°C	-30 to +70°C	-30 to +70°C	-20 to +60°C	-20 to +60°C	-20 to +60°C
Relative humidity operating range (without condensation)	0 to 100%RH	0 to 100%RH	0 to 100%RH	0 to 95%RH	0 to 95%RH	0 to 95%RH
Working position	any position	USB connector down	USB connector down	USB connector down	USB connector down	USB connector down
Recommended storage temperature range at 5 to 90 %RH	-20 to +45°C	-20 to +45°C	-20 to +45°C	-20 to +45°C	-20 to +45°C	-20 to +45°C
Electromagnetic compatibility according to	EN 61326-1	EN 61326-1	EN 61326-1	EN 61326-1	EN 61326-1	EN 61326-1
Weight	120 g	130 g	130 g	260 g	260 g	260 g
Dimensions [mm]						
		<p>temperature sensor (inside the case)</p>	<p>temperature and rel. humidity sensor</p>	<p>temperature and rel. humidity sensor barometric pressure sensor (inside the case)</p>	<p>temperature and rel. humidity sensor CO<sub>2</sub> concentration sensor (inside the case)</p>	<p>temperature and rel. humidity sensor CO<sub>2</sub> concentration and barometric pressure sensors (inside the case)</p>
				<p>CO<sub>2</sub> concentration sensor (inside the case)</p>		<p>CO<sub>2</sub> concentration sensor (inside the case)</p>

\* at temperature 23 °C in the range of 0 to 90 %RH (hysteresis ±1 %RH, non-linearity ±1 %RH, temperature error 0.05 %RH/°C at 0 to 60 °C)

\*\* at ambient temperature T < 25°C and RH > 30 %RH (for more details see graphs at device manual)

\*\*\* custom range 0 to 10 000 ppm for extra fee, accuracy ±(100 ppm + 5% of measured value)

\*\*\*\* temperature dependence in the range -20 to +60 °C is typ. ±(1+MV/1000) ppmCO<sub>2</sub>/°C, where MV is measured value