COMET W0841 Wireless Iot Thermometer For External Probe Sigfox User Guide

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PRODUCT DESCRIPTION

The transmitters Wx8xx for SIGFOX network are designed to measure temperature, relative humidity and atmospheric pressure of air and CO2 concentration in air. The devices are available in a compact design or with connectors for the connection of external probes.
The transmitters of relative humidity also provide a value of dew point temperature. Internal replaceable batteries are used for power.
Some models can be powered from an external power supply (the internal battery then serves as a backup source).
The measured values and service information are displayed cyclically in three steps on the LCD and are sent over an adjustable time interval via radio transmission in the SIGFOX network to the cloud data store. The cloud allows you to view current and historical data through a regular web browser. The device performs a measurement every 1 minute (CO2 concentration every 10 minutes). For each measured variable it is possible to set two alarm limits. The alarm is signalled by the symbols on the LCD display and by sending an extraordinary message to the

Sigfox network, from which it is to send to the user via e-mail or SMS message.
Device setup is done either locally by connecting your device to the computer with installed the COMET Vision software, or remotely via cloud web interface.

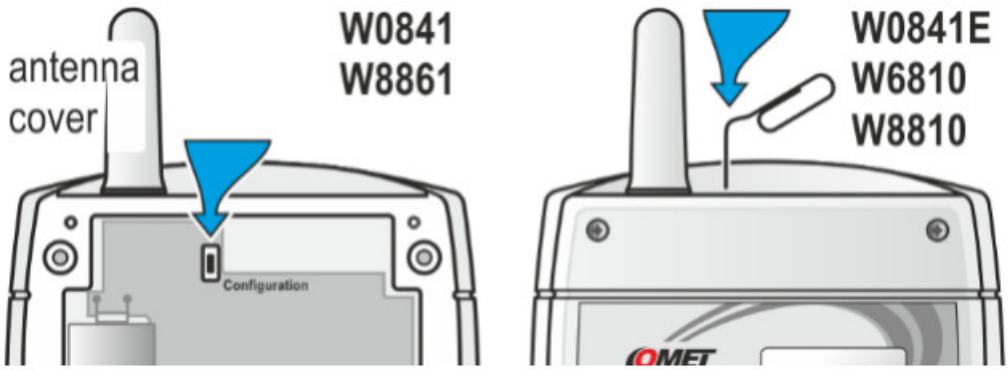
Device type	Measured value	Construction	Power battery	External power supply
W0841	T (4x)	Connectors Elka for four external Pt1000 probes	1 pc	no
W0841E	T (4x)	Connectors Cinch for four external Pt1000 probes	1 pc	yes
W6810	T + RH + CO2 + DP	Internal temperature, relative humidity and CO2 concentration sensors	1 pc	yes
W8810	T + CO2	Internal temperature and CO2 concentration sensors	2 pcs	yes
W8861	T + P + CO2	Internal temperature and pressure sensors and connector for CO2 probe	2 pcs	no

T…temperature, RH…relative humidity, P…atmospheric pressure, CO2… CO2 concentration, DP…new point temperature

MOUNTING

- The device box has holes for fixing with appropriate screws or straps (the holes are accessible after removing the cover)
- Always install the devices vertically (with the antenna cap facing up) at least 10 cm away from all conductive objects
- Do not install the devices in underground areas (the radio signal is generally unavailable here). In these cases, it is preferable to use the model with an external probe on the cable and place the device itself, for example, one floor above.
- The devices and probe cables should be place away from electromagnetic interference sources.
- If you install the device at a greater distance from the base station or in locations where the radio signal difficult to penetrates, follow the recommendations on the other side of this manual

TURNING ON AND SETTING UP THE DEVICE



- The CONFIGURATION button use to switch on the device (see figure). Press the button and release it as soon

as the display lights up (within approx. 1 second).

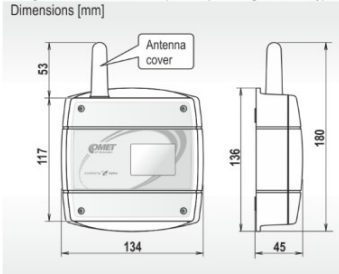
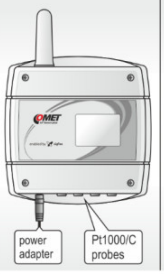
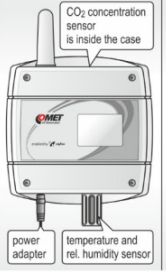
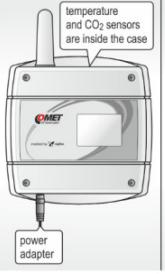
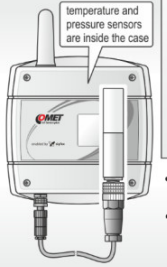
- Cloud is an internet storage of data. You need a PC with internet connection and a web browser to work with. Navigate to the cloud address you use and sign in to your account – if you use COMET Cloud by a device manufacturer, enter **www.cometsystem.cloud** and follow the instructions in the COMET Cloud registration document that you received with your device. Each transmitter is identified by its unique address (device ID) in the Sigfox network. The transmitter has an ID printed on the nameplate along with its serial number. In the list of your device in the cloud, select the device with the desired ID and start viewing the measured values.
- Check in the cloud, whether the messages are correctly received. In case of problems with the signal, please refer to the manual for devices in the "Download" section at **www.cometsystem.com**
- Change the device settings as needed.
- Carefully tighten the cover of the instrument (making sure that the gasket in the housing groove is correctly positioned)

Device setting from the manufacturer – message sending interval of 10 minutes, alarms deactivated, altitude for pressure measurement is set 0 m, remote device setup enabled

SAFETY INSTRUCTIONS

- Read carefully the Safety information for IoT SENSOR before operating the device and observe it during use!
- Installation, electrical connection and commissioning should only be performed by qualified personnel in accordance with applicable regulations and standards
- 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**

Technical Specification

Device type	W0841	W0841E	W6810	W8810	W8861
Measurement interval	1 minute (temperature, relative humidity, atmospheric pressure) • 10 minutes (CO_2 concentration)				
Sending interval	Adjustable (10 minutes - 20 minutes - 30 minutes - 1 hours - 3 hours - 6 hours - 12 hours - 24 hours)				
RF par of device	Tx frequency 868.130 MHz • Rx frequency 869.525 MHz • Maximum transmission power 25 mW (14 dBm) • Radio configuration zone RC1				
Power battery (lithium 3.6 V ~ 8.5 Ah ~ C size)	1 pc	1 pc	1 pc	2 pcs	2 pcs
External power supply - supply voltage	—	5 to 14 V	5 to 14 V	5 to 14V	—
External power supply - maximum supply current	—	100 mA	300 mA	300 mA	—
Internal temperature measuring range	—	—	-20 to +60°C	-20 to +60°C	-20 to +60°C
Accuracy of internal temperature measurement	—	—	± 0.4°C	± 0.4°C	± 0.4°C
External temperature measuring range	-200 to +260°C	-200 to +260°C	—	—	—
Accuracy of external temperature measurement	± 0.2°C *	± 0.2°C *	—	—	—
Relative humidity measuring range (without condensation)	—	—	0 to 95 %RH	—	—
Accuracy of the relative humidity sensor	—	—	± 1.8 %RH**	—	—
Atmospheric pressure measuring range	—	—	—	—	700 to 1100 hPa
Accuracy of atmospheric pressure measurement at 23°C	—	—	—	—	±1.3hPa
CO_2 concentration measuring range	—	—	0 to 5000 ppm	0 to 5000 ppm	according the probe
Accuracy of CO_2 concentration measurement (23°C • 1013 hPa)	—	—	±(50 + 0.03 x MV) ppmCO_2	±(50 + 0.03 x MV) ppmCO_2	according the probe
Temperature dependence of CO_2 measurement ***	—	—	±(1+ MV/1000) ppmCO_2 /°C	±(1+ MV/1000) ppmCO_2 /°C	according the probe
Dew point temperature measuring range	—	—	-60 to +60 °C	—	—
Accuracy of dew point temperature measurement	—	—	± 1.5°C ****	—	—
Recommended calibration interval	2 years	2 years	1 year	2 years	2 years
Protection class - case with electronics / external CO_2 probe	IP65 / —	IP20 / —	IP20 / —	IP20 / —	IP54 / IP65
Temperature operating range	-30 to +60°C	-20 to +60°C	-20 to +60°C	-20 to +60°C	-20 to +60°C
Relative humidity operating range	0 to 95%RH	0 to 95%RH	0 to 95%RH	0 to 95%RH	0 to 95%RH
Recommended storage temperature range	-20 to +45°C	-20 to +45°C	-20 to +45°C	-20 to +45°C	-20 to +45°C
Recommended storage humidity range	5 to 90%RH	5 to 90%RH	5 to 90%RH	5 to 90%RH	5 to 90%RH
Working position	with antenna cover up	with antenna cover up	with antenna cover up	with antenna cover up	with antenna cover up
Electromagnetic compatibility according to	ETSI EN 301 489-1	ETSI EN 301 489-1	ETSI EN 301 489-1	ETSI EN 301 489-1	ETSI EN 301 489-1
Weight of the device without probes (including one battery)	350 g	350 g	350 g	340 g	340 g
Dimensions [mm]						

* accuracy of the device without probe in range -200 to +100 °C is ±0.2 °C, accuracy of the device without probe in range +100 to +260 °C is ±0,002 x MV (measured value in °C)
** at temperature 23 °C in the range of 0 to 90 %RH (hysteresis ±1 %RH, non-linearity ±1 %RH, temperature error 0.05 %RHPC in range 0 to 60 °C)
*** in temperature range -20 to +45 °C (MV …measured value of CO2 concentration)
**** at ambient temperature T < 25°C and RH > 30 % (for details see graphs at instruction manual)

Documents / Resources

	COMET W0841 Wireless Iot Thermometer For External Probe Sigfox [pdf] User Guide W0841 Wireless Iot Thermometer For External Probe Sigfox, W0841, Wireless Iot Thermometer For External Probe Sigfox, Thermometer For External Probe Sigfox, External Probe Sigfox, W0841E, W6810, W8810, W8861

References

- COMET Cloud
- Manufacturer of Dataloggers, Thermometers, Hygrometers,CO2 meters
- Manufacturer of Dataloggers, Thermometers, Hygrometers,CO2 meters