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COMET W3811P IoT Sensor Power for the Sigfox Network Instruction Manual

IoT Sensor power for the SIGFOX network
QUICK START MANUAL
W0810P • W0832P • W0870P • W3810P • W3811P

Contents

PRODUCT DESCRIPTION

The transmitters Wx8xxP for the SIGFOX network are designed to measure temperature, relative humidity, and dc voltage. 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. Large-capacity internal replaceable batteries are used for power.

The measured values 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. For each measured variable, it is possible to set two alarm limits. Every change in the alarm status is sent by an extraordinary radio message to the Sigfox network, from which it is sent 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 the cloud web interface.

Device type	Measured value	Construction
W0810P	T	Internal temperature sensor
W0832P	T (1+2x)	Internal temperature sensor and connectors for two external Pt1000/E probe
W0870P	T + U	Internal temperature sensor and input for dc voltage ± 30V
W3810P	T + RV + DP	Internal temperature and relative humidity sensor
W3811P	T + RV + DP	Connector for external Digi/E probe connection
T…temperature, RH…relative humidity, U…dc voltage, DP…dew point temperature		

TURNING ON AND SETTING UP THE DEVICE

The devices are supplied with the battery installed, but in the off state

- Unscrew the four screws at the corners of the case and remove the cover. Avoid damaging the light guide that is part of the cover.
- Press the CONF button for about 1 s. The green indicator LED lights up and then flashes briefly every 10 s.
- Cloud is internet storage of data. You need a PC with an 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.
- Make sure that the seal in the cover groove is clean. Carefully tighten the cover of the device.

Device setting from the manufacturer – message sending interval of 10 minutes, alarms deactivated, the input for voltage measurement is set without user recalculation for the newly registered device in the COMET Cloud and is displayed with 3 decimal places, remote device setup enabled (only for devices purchased with a prepaid COMET Cloud).

MOUNTING AND OPERATION

The transmitter housing is provided with a pair of holes for fixing (for example, with screws or cable ties). The W0810P transmitter can also stand freely on its bottom base without fastening.

- 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 placed 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 is difficult to penetrate, follow the recommendations on the other side of this manual

The devices do not require special maintenance. We recommend verifying the measurement accuracy regularly by calibration.

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 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**
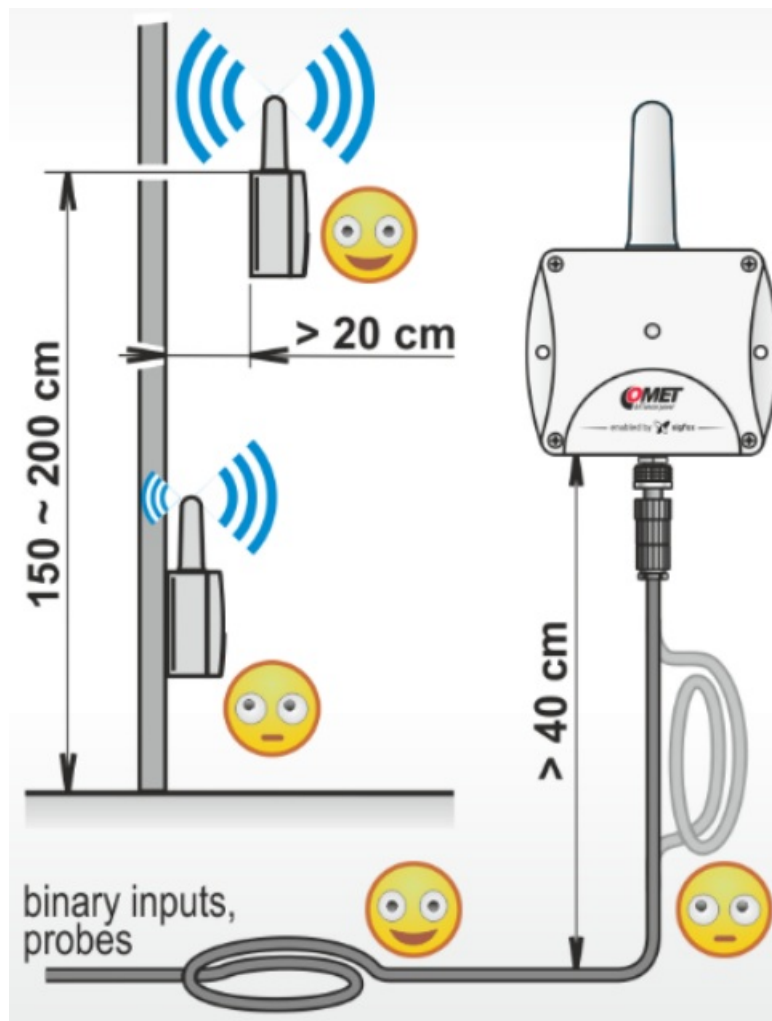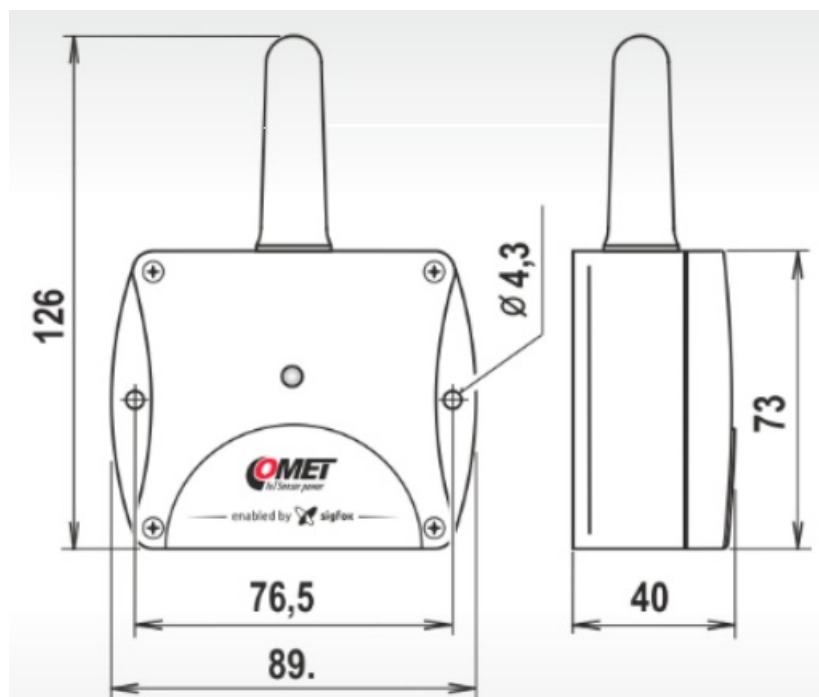
Technical specifications

Device type

- Power batteries
- Adjustable message transmission interval (battery life at operation temperatures from -5 to +35°C)
- Internal temperature measuring range
- Accuracy of internal temperature measurement
- External temperature measuring range
- Accuracy of external temperature measurement
- Relative humidity (RH) measuring range
- Accuracy of humidity measurement
- Voltage measuring range
- Accuracy of voltage measurement
- Dew point temperature measuring range
- Recommended calibration interval
- Protection class of the case with elektronics
- Protection class of the sensors
- Temperature operating range
- Relative humidity operating range (no condensation)
- Working position
- Recommended storage temperature range (5 to 90 %RH, no condensation)
- Electromagnetic compatibility
- Weight

- Dimensions [mm]

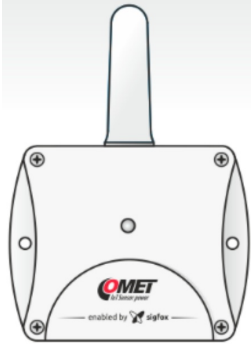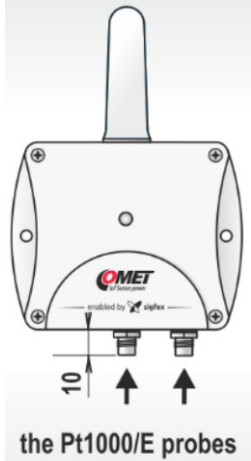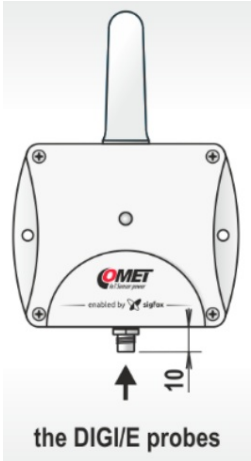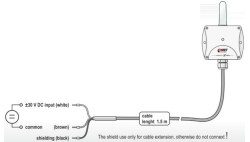The optimal location of devices in terms of radio range

Radio specification

- Operating frequency: 868 MHz
- Max. transmission power: 25 mW
- Sigfox radiation class: OU
- Radio configuration zone: RC1
- Typical range from base station: 50 km in an open field, 3 km in an urban area

* the accuracy of the device without a probe in the range -200 to +100 °C (in the range +100 to +260 °C is accuracy ±0,2 % of measured value)

W0810P	W0832P	W3810P	W3811P	W0870P
Lithium battery 3.6 V, C size, 8500 mAh (recommended type: Tadiran SL-27701S, 3.6 V, 8500 mAh)				
10 minutes (1 year) • 20 minutes (2 years) • 30 minutes (3 years) • 1 hour (6 years) • 3 hours (>10 years • 6 hours (>10 years) • 12 hours (>10 years) • 24 hours (>10 years)				
-30 to +60°C	-30 to +60°C	-30 to +60°C		-30 to +60°C
± 0.4°C	± 0.4°C	± 0.4°C	—	± 0.4°C
—	-200 to +260°C	–	according to the probe	–
	± 0.2°C *		according to the probe	–
–		0 to 100 %RH	according to the probe	–
–		± 1.8 %RH **	according to the probe –	–
–	–	–		-30 to +30 V
–	–	–	–	± 0.03 V
–	–	-60 to +60 °C '	according to the probe	—
2 years	2 years	1 year	according to the probe	2 years
IP65	IP65	IP65	IP65	IP65
IP65	according to the probe	IP40	according to the probe	IP65
-30 to +60°C	-30 to2 +60°C	-30 to +60°C	-30 to +60°C	-30 to +60°C
0 to 100%RH	0 to 100%RH	0 to 100%RH	0 to 100%RH	0 to 100%RH
with antenna cover-up	with antenna cover-up	with antenna cover-up	with antenna cover-up	with antenna cover-up
-20 to +45°C	-20 to +45°C	-20 to +45°C	-20 to +45°C	-20 to +45°C
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

185 g	190 g	190 g	190 g	250 g
	the Pt1000/E probes	φ 18	the DIGI/E probes	

** sensor accuracy at 23 °C in the range of 0 to 90 %RH (hysteresis < ‡ %RH, non-linearity < ±1 %RH)

*** for accuracy of dew point temperature measurement see graphs in the device manual

IE-WFS-N-Wx8xxPower-01

Documents / Resources

[COMET W3811P IoT Sensor Power for the Sigfox Network](#) [pdf] Instruction Manual
W0810P, W0832P, W0870P, W3810P, W3811P, IoT Sensor Power for the Sigfox Network, W38
11P IoT Sensor Power for the Sigfox Network, Sensor Power for the Sigfox Network, Power for
the Sigfox Network

References

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